Russian Language Development and Maintenance At a Distance: Methodology and Technology

Major Stanley B. Supinski
Lieutenant Colonel Richard L Sutherland
Captain Susan M. Valentine

December 1999

1. REPORT DATE **DEC 1999**	2. REPORT TYPE	3. DATES COVERED **00-00-1999 to 00-00-1999**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Russian Language Development and Maintenance At a Distance: Methodology and Technology	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **Institute for Information Technology Applications,HQ USAFA/DFPS,2354 Fairchild Drive, Suite 6L16 D,USAF Academy,CO,80840-6258**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT **Approved for public release; distribution unlimited**

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**48**	

ABOUT THE AUTHORS:

Lieutenant Colonel Stanley B. Supinski is an Assistant Professor of Russian and the Deputy for Instructional Technology in the Department of Foreign Languages, US Air Force Academy. He has actively researched and developed methodology in the areas of cooperative learning, classroom use of instructional technology, and distance learning. He has served primarily as an intelligence officer throughout his Air Force career and holds a Ph.D. in Instructional Systems Design from Florida State University.

Lieutenant Colonel Richard L. Sutherland is an Assistant Professor of German and the Director of Research in the Department of Foreign Languages, US Air Force Academy. He has lead the effort in DoD to produce inexpensive, online materials that can benefit language learners worldwide. He has served primarily as an intelligence officer throughout his Air Force career and holds a Ph.D. in Instructional Technology from Utah State University.

Captain Susan M. Valentine is an Instructor of Russian in the Department of Foreign Languages, US Air Force Academy. Her background includes an MA in Foreign Language Education (The University of Texas at Austin, 1999) and a BS in Education (William Jewell College, 1988). Her Master's thesis specifically addressed the concerns and difficulties of providing adequate language support to USAF linguists not currently enrolled in formal language courses, and provided suggestions for improving this support. Her primary career field in the USAF is Space and Missiles.

_____

TABLE OF CONTENTS

ABSTRACT

This project consisted of research on the use of three common educational and communication technologies -- the internet, compact disk, and email -- to study the feasibility of conducting Russian Language maintenance and development in a distance learning mode. Thirty subjects at bases across the Air Force, including several who were deployed or TDY, participated in the 24-week course. The students used interactive courseware obtained primarily from a CD, were guided by a native-Russian course moderator, and interacted with each other in five-person cooperative teams. The course, which was designed to support the Air Force strategy of "Global Engagement" by increasing Foreign Area Officer and other linguists' Defense Language Proficiency Test scores, was truly "virtual" and made optimal use of these technologies while reducing the need to send personnel for expensive in residence courses. Due to the onset of Operation Allied Force during the course, participant attrition was high and changes in linguistic capability could not be adequately measured. However, the technology was tested, revealing that CD and email were very reliable and fulfilled their course material presentation and communications functions. The Internet proved less reliable, primarily due to access problems for military users, and bandwidth restrictions. Also measured were subject attitudes on course participation over the internet, which indicated generally positive attitudes. The article closes with recommendations on developing and conducting distance learning courses for military audiences.

Russian Language Development and Maintenance at a Distance: Methodology and Technology

Introduction

Distance learning (DL) by electronic means has stormed into the educational community for good reason; it potentially offers cost-effective education and training to virtually anyone, anywhere, at any time. Given the need for timely and continuous education in our dynamic national and international working environment, and the development of technologies that permit instantaneous delivery of training to the furthest reaches, DL provides an obvious solution. Furthermore, technologies to support distance education have evolved to a level of usability and availability that even those with elementary technological or computer skills can participate in on-line courses. Lastly, the social impact of the internet on every aspect of our lives has generated interest in the education value it affords (Kitchen & McDougall, 1999).

The military community has identified, in addition to the above, further reasons why DL proffers potential benefit. The growing complexity of military technology demands lengthier and more complex training. Dwindling military resources have forced educators and trainers to seek more efficient and cost effective means of updating and maintaining professional skills. Fewer resources also require that training be conducted without completely removing personnel from their operational units.

Although the potential benefits of DL have already resulted in innumerable courses at educational institutions worldwide, little research has been conducted on the value and feasibility of offering DL courses using the internet, email, and other computer technologies. Even less empirical examination has been done on DL for language education or with target audiences with the unique demands that military life poses.

What research has been done has often shown less than positive results. Although learning and academic achievement have generally been on par with classroom environments (Moore & Kearsley, 1996), many problematic issues have surfaced: attrition rates have been unacceptably high; learner motivation and satisfaction have been low due to lack of socialization and instructor contact; and even technically proficient students utilizing common technologies have experienced technical difficulties.

This study examines the feasibility of conducting language training in a virtual classroom with all students participating from a distance. Thirty military students used a combination of email, CD, and the internet over a 24-week period in a moderated, intermediate Russian language course. Due to both attrition and the operational requirements levied on the subject pool by Operation Allied Force, the effectiveness of this course on language capability could not be determined. However, attitudinal issues were addressed and evaluated, and the conduct of the course was observed and assessed. This report provides a brief overview of DL efforts, to include DL used for language study and by the military; a description of the study methodology, procedures and results; and makes suggestions based on lessons learned for conducting courses of this type in the future.

Background

DL encompasses "any formal approach to learning in which a majority of the instruction occurs while the educator and learner are at a distance from one another" (Verduin & Clark, 1991, p. 8). Although various forms of DL have existed throughout recent history, to include print-based correspondence courses, video-based teletraining, and instructional TV, the onset of the information age and widespread adaptation of the internet have dramatically increased the use of DL. In 1995, the National Center of Education Statistics estimated 750,000 students were enrolled in post-secondary DL courses, and that 81% of higher education institutions offered DL courses. The number

of students enrolled in DL courses through private institutions in 1995 was estimated at 5 million, "and growing rapidly" (Moore, 1995). By the late 1990s, the growth rate continued to accelerate, with some programs growing as much as 130% in a single year (Scanlon, 1999). Additionally, numerous universities have begun offering degree programs in virtually every discipline done completely via electronic DL (Watson & Rossett, 1999).

DL in the Department of Defense

DL in the Department of Defense has become ever more important. On 12 January 1999, President Clinton issued Executive Order 1311, *Using Technology to Improve Training Opportunities for Federal Government Employees,* which directs the Department of Defense "to take the federal lead in developing learning technology standards in collaboration with academia, industry, and other government agencies." As a consequence, the Office of the Under Secretary of Defense for Personnel and Readiness produced the *Department of Defense Strategic Plan for Advanced Distributed Learning* (ADL) delineating a strategy of using distributed learning technologies across the Department of Defense. This document sets forth a plan for providing instruction to maintain military readiness in the information age and embodies the vision of the Secretary of Defense "to insure that DOD personnel have access to the highest quality of education and training that can be tailored to their needs and delivered cost effectively, anytime and anywhere." Such instruction and learning must be distributed (structured without the physical presence of an instructor) and available to learners on demand utilizing appropriate technologies and media (e.g., CD ROM, world wide web).

The aforementioned Strategic Plan for ADL cites efforts undertaken by the military services and by other government agencies. For example, the Army has developed the two-phased Total Army Distance Learning Plan (TADLP). Phase 1 begins to integrate and modernize courseware and to link current facilities with existing satellite

and communication infrastructures. Phase II will complete the implementation of the program and establish interfaces with national and international communication systems.

To date, the Army has also developed a DL infrastructure that "allows synchronous training between students at distant locations and an instructor through Videoteletraining facilities, or collaborative groups—as well as implementation of asynchronous training using CD ROM-based interactive multimedia, web-based interactive multimedia, and collaboration" (DoD Strategic Plan for Advanced Distance Learning, 1999, pg 23). Consequently, the Army's TADLP infrastructure incorporates many of the elements of technology employed in this Air Force study (i.e., collaborative groups as well as CD ROM-based multimedia training).

On the national level, the Air Force has identified trends in the *Air Force 2025 Project* for education and training programs to be delivered to students *anytime, anywhere.* There is also an initiative to create the Air Force Institute for Distance Learning to serve as a focal point for distributed learning that will expand the number of instructional materials available via distributed learning media. As an example, the current Air Command and Staff College curriculum is a hybrid of CD ROM, Internet, and paper with a "Virtual Campus" incorporating bulletin boards, chat rooms with threaded discussion, streaming media and e-mail.

Like the Army and Air Force, the Navy and Marines are undertaking significant DL initiatives. The Director of Naval Training has produced the Navy Distributed Learning Planning Strategy for a distributed learning system to support shore-based centers and ships at sea. The Marine Corps has established MarineNet, providing infrastructure for the advanced distributed learning initiative of the Marine Corps.

In sum, the military services (and other government agencies) are following presidential guidance and moving out smartly to adapt and integrate DL into education and training programs delivered anytime, anywhere to service men and women

stationed around the world. The savings in costs for DL are compelling; and the technologies for DL (e.g., CD-ROM, the world wide web) pervasive.

Distance learning with language

Little research exists on the efficacy of DL for language acquisition. One such study, however, warrants detailed discussion. Frizzler (1995) recruited sixteen English as a Second Language learners from ten nations to participate in an eight-week course on writing English conducted exclusively via the internet. The students were required to interact with the instructor, as well as the other students, via an electronic bulletin board and e-mail. Although more than half of the students dropped out of the class due to loss of access to the internet or other technical problems, the author noted a number of benefits for the DL class environment. First, asynchronous communication proved viable with students and the instructor living at widely dispersed locations around the world and in various time zones. Second, a highly cooperative learning environment could be established, resulting in little or no pressure or competition between students; elimination of feelings of isolation even without face-to-face interaction, a strong sense of community was established, leading the students to report high levels of motivation. Third, students noted that in their previous language classes they learned predominantly formal communications, whereas via internet interaction with other students they learned to understand and communicate using natural language and could concentrate on content rather than grammar. They also learned to think in the target language and noticed improvement on vocabulary and use of idioms. At the conclusion of the study, the author noted a number of lessons learned, including the need to ensure the students understand the connection between the technology and language learning. Learning tasks must be based on a strong pedagogical foundation with clearly defined goals toward which the students should strive; otherwise, the students may become so involved in the technological aspects of the tasks that learning the language is sacrificed.

Also, due to the lack of face-to-face interaction with an instructor, DL places the burden of learning squarely on the students' shoulders. In order to promote a sense of community and maintain motivation throughout the DL course, interaction among the students is essential. Without this cooperative learning environment, students may become bored or frustrated and lose the self-motivation necessary to complete the course due to feelings of isolation.

Other studies investigating the use of DL, particularly e-mail and discussion groups, have demonstrated significant benefits for foreign language learners. In a two year study involving 124 intermediate Spanish students, Lee (1997) noted that virtually all (92.7%) of the students agreed that email helped them improve their writing skills and more than 80% agreed that practical knowledge of Spanish was gained through internet-based cooperative learning projects. In another long term study, Oliva (1995) found that "virtual immersion" in Italian language and culture helped students improve their skills in a manner similar to in-country immersion training, but with more emphasis on writing and less on speaking. Extensive use of real language for a real communicative purpose in accordance with a content-based instructional style allowed the students to use the target language as a real communicative tool rather than simply as an exercise in grammar or language structure.

Finally, a number of studies have shown that the sense of anonymity experienced in association with DL positively affects performance anxiety, lowering the affective filter (Krashen & Terrell, 1983) and allowing students to communicate more freely and fluently in the target language (Chun, 1994; Kroonenberg, 1994; Warschauer, 1995).

In sum, though few empirical studies have been conducted on the value of DL for second language acquisition with military personnel as the target learner population,

enough research exists to suggest that DL has the potential to be a viable instructional approach.

Methodology

The objectives of this study were to examine the feasibility of conducting a Russian language development course with all students participating from a distance. The three technologies used (CDs, email, and the internet), as well as participant attitudes and motivation, were evaluated. Following is a description of the methodology used.

<u>Subjects</u>

A basic profile of the 30 participants is shown in Table 1. All subjects in this study took part voluntarily. The process for locating volunteer participants consisted first of contacting organizational elements in the AF that utilized or tracked linguists. This initially consisted of several command language program managers, unit commanders, and the Foreign Area Officer (FAO)[1] program office. Each of these elements made their Russian linguists aware of the study and program, and this resulted in recruitment of several of the participants. The next step was to contact the AF Personnel Center, which supplied databases (a separate database for enlisted and officer personnel) of all active duty AF members who had taken the Defense Language Proficiency Test in Russian (see Appendix 1 for a brief description of DLPT proficiency levels). This database was sorted by language level, and was then used to telephonically contact potential subjects. All but two of the potential subjects contacted enrolled in the course, indicating that initial interest in participation was high. Those who declined indicated that they were either changing duty locations or partaking in extended deployments during the study which would preclude devoted participation. It should be noted that there was no simple process available to contact all military personnel that were eligible to participate.

11

Table 1: Subject Profile

Rank	Defense Language Proficiency Test Score (Listening/Reading)	Military Specialty/Job Title
Cadet	2/2+	Foreign Area Studies Major
Cadet	2+/2+	Biology Major
E5	2/3	Airborne Cryptologic Linguist
E5	2/2+	Russian Cryptologic Linguist
E5	1+/2+	Russian Cryptologic Linguist
E6	1+/1+	Russian Cryptologic Linguist
E6	2/2+	Russian Linguist Program Manager
E7	1+/1+	Russian Cryptologic Linguist
E7	2/2+	Russian Cryptologic Linguist/First Sergeant
E7	1/1+	Defense Attaché Support Specialist
02	2+/2+	Intelligence Officer
02	1+/2	Intelligence Officer
02	2/+2	Intelligence Officer
02	1/1	Intelligence Officer
03	1/1	Intelligence Officer
03	1/1	Pilot(C-5)/Political Science Instructor
03	1/1	Strategic Systems Analyst
03	1/1	Intelligence Officer
03	1+/1+	Pilot(T-43)
04	2/2+	History Professor
04	1+/2	Intelligence Officer
04	3/3	Intelligence Officer/Language Instructor
04	1+/1+	Pilot(KC-135)/History Instructor
04	1+/1+	Intelligence Officer
04	2/3	Associate Professor
04	1+/1+	Intelligence Officer
04	3/2+	Intelligence Officer
04	3/3	Pilot (F-15)
04	2+/3	Intelligence Officer
05	3/3	Army/Infantry FAO/Attaché
05	2/3	Intelligence Officer/Language Instructor

The average DLPT score for the group was 2.00 listening and 2.18 reading (1+ and 2+ were calculated as 1.5 and 2.5, respectively). The minimum required score was 1 listening/1 reading. Initially, subjects were sought that were no higher than 2+/2+, however, several individuals at the 3/3 level that learned of the study wished to participate for maintenance purposes, and were allowed to do so.

<u>Pre-study Attitudes</u>

  Data on the participants' level of motivation to study language and basic information regarding their study habits were collected prior to the start of the study. The pre-study survey (see Appendix B) determined attitudes and habits with seven Likert-scale questions, four multiple-option questions, and space was provided for open-ended comments after each question and at the end of the survey. The Likert scale was converted to numbers to permit calculating an average, as follows: Strongly Disagree - 1; Disagree - 2; Neutral - 3; Agree - 4; and Strongly Agree - 5. The questions, results, and relevant comments are shown in Table 2.

  The multiple option questions queried subjects on their desired improvement areas and their present language study habits. The questions and responses are shown in Table 3.

<u>Software</u>

  The software used was developed by the University of Arizona, Sierra Vista (UASV), Department of Language Programs. The CD and internet-based program consisted of eight subjects/modules appropriate for a military audience: economics, geography, military affairs, politics, technology, culture, and general issues. The software was designed for intermediate level Russian linguists (those at DLPT levels 1/1 to 2+/2+), but could also serve as a maintenance tool for those already at the 3/3 level.

Table 2: Pre-study Attitude Survey - Likert-Scale Questions

Question	Average Score	Relevant Comments
1. I would like to improve my Russian Skills	4.53 (agree-strongly agree)	Knowledge of languages a key skill in today's world DLPT and language pay are important Don't want to lose my skills Hate to see initial investment go to waste Language knowledge opens doors
2. The Air Force offers enough opportunities to maintain/improve my Russian skills.	2.46 (disagree-neutral)	Historically, language maintenance programs have lacked sufficient structure and clear objectives to be very useful With the exception of self-study, there are virtually no opportunities There seem to be more opportunities, but the ops tempo prohibits attendance
7. I think that learning is easier when working in groups.	3.40 (neutral-agree)	I learn best on my own; groups slow you down and waste time Group learning has benefits as long as the groups are small You can learn from each other, but depends on the Group
8. I like using a computer for learning.	3.96 (agree)	It allows access to materials otherwise unavailable I do not like staring at a screen or the fact that there is no portability
9. I like using the internet for learning.	3.72 (neutral-agree)	I get frustrated waiting for internet sites If I have a specific topic I'm interested in, I can get more information
10. My AF unit has a good Command Language Program. n=14*	2.63 (disagree-neutral)	There are multiple opportunities available through the CLP, but finding the time and securing leadership support is difficult We have the best CLP, but the tempo doesn't allow us to use it
11. I look forward to participating in this Russian course.	4.76 (agree-strongly agree)	

*n=26, except where indicated. For those questions with fewer responses, the questions were not applicable.

Scale: Strongly Disagree - 1; Disagree - 2; Neutral - 3; Agree - 4; and Strongly Agree - 5

Each module began with a Russian language overview, and was subdivided into five sections, each of which began with an English-language overview/advanced organizer. The instructional design for each section was consistent, with a skill and option bar on the left side of each screen. The skills exercised and the options available, along with a brief description of each, are in Table 4. The length of time required for completing each block of the course was designed to be approximately 15 hours.

Table 3: Pre-study Attitude Survey - Multiple Option Questions

Question	Response/Number of Responses
I am most interested in improving the following skills:	Listening - 25 Reading - 14 Speaking - 16 Writing - 6
I currently use the following to maintain my language skills:	Audio cassettes - 16 Movies/TV Shows - 4 Magazines - 4 The Internet - 7 Conversations - 7
I plan to continue using the following during this study:	Audio cassettes - 10 Movies/TV Shows - 6 Magazines - 6 The Internet - 14 Conversations - 10
I currently spend the following number of hours per week on Russian:	0 hours- 6 1-3 hours - 16 4-6 hours - 2 7-9 hours - 0 10-12 hours - 1 More - 1

n=26

In addition to the above, subjects were provided a Cyrillic font intended to simplify producing and submitting Russian language writing assignments to the moderator. The font, LR_RUSKI, was chosen as it required no background software to run in Windows and Windows applications, and was free to government users. Subjects were also provided with Real Audio Player version 5 and Microsoft Windows Language

Support software on 3.5 inch floppy disks. These programs were available to Windows users at no cost over the internet, but were provided to simplify the installation process.

Table 4: Software Description

Section Title	Section Description
Reading	Typically began with a vocabulary introduction, followed by readings one to two paragraphs in length. Each reading was followed by either a cloze or multiple choice exercise, with feedback immediately available.
Writing	Students were to locate an article or radio broadcast (or one was provided), on a designated, related topic and then prepare a short paragraph paraphrasing or describing the article.
Speaking	Students were to prepare an oral report on a designated, related topic. This section was designed to be used either telephonically with a moderator, or in a video teletraining session. This feature was not used in this study.
Listening	Consisted of a warm up exercise (various types) to confirm vocabulary familiarity, followed by authentic audio, often television or radio broadcasts. Many of the broadcasts were re-voiced--the broadcast was reread by a native Russian speaker at approximately half speed. After listening, students completed exercises or provided narratives measuring comprehension. Most exercises provided immediate feedback.
Grammar	This section is a link (and static hard copy on the CD) to the Bucknell University Russian Grammar web site. The site offers explanations on all key Russian grammar points.
Additional Tools	Provides links to Russian newspapers, web-based broadcast sites, other popular Russian information internet sites, and Russian on-line dictionaries.
Help	This section provided assistance in loading fonts and encoding browsers to enable display of Cyrillic text.
Communicatio n	This feature enabled direct email access to the UASV. This feature was not used during this study.

Course Conduct

Following enrollment, course materials were mailed to each subject 10 days prior to the start of the study to allow time to resolve potential technical problems. The length of time allocated for the course was 24 weeks, three weeks for each of the eight blocks. For five of the students (one team), only two weeks were allocated per block, or a total of 16 weeks; this team consisted of two military cadets that were required to complete the course prior to their graduation, and 3 volunteers that wished to complete it sooner. The

subjects proceeded through the course at their own pace, with the two or three-week block completion time the sole requirement.

Subjects were instructed to proceed through the instructional blocks in any manner they wished, but the initial course instructions (see Appendix C) recommended going through each block and section in the order in which it was designed: reading first, followed by writing, then listening. Subjects were also provided journals/notebooks for use during the course. The journals were divided into 8 chapters to correspond to the instructional blocks, and had 16 pages; 15 for each hour spent, and one page for overall comments on the block. The journal was designed to facilitate note taking and course time keeping, and to assist in course analysis following completion.

Submitting Written Work/Communicating with the Moderator

Each of the five sections in each block required submission of a written assignment to the course moderator. The moderator was a native Russian with approximately 10 years of teaching experience. Subjects were required to complete the assignments using Microsoft Word and the LR_RUSKI font. Once complete, they simply attached the assignment document to an email and sent it to the moderator. The moderator used the editing functions of Word, and emailed the corrected assignment back, normally within 24-hours.

Subjects could also communicate with the moderator by submitting questions via email at any time. Here again, queries were typically replied to within 24-hours. The moderator also maintained "office hours:" two, one-hour periods per week that she was available on-line (via e-mail) if they wished to receive immediate feedback. In addition to the moderator, participants could contact the course administrator (the author) for language, administration, or technical issues or problems.

Cooperative Teams

Subjects were divided into six groups of five students each. The groups were approximately equal in language ability (based on the group's average of DLPT scores), and each group included one individual at or near the 3/3 level. When written work was sent to the moderator, it was also sent to the other team members. They were instructed to read their team members' work, and note to themselves any errors found. After the moderator graded assignments, her comments were emailed to everyone on the team so they could determine how well they fared in detecting errors. The advanced linguists on each team were asked to also provide feedback on written assignments to the entire team. This feature was designed as an additional source of feedback on coursework.[2]

Bulletin Board

Another source of communication between students, the moderator and the course administrator was an electronic bulletin board (EBB). Subjects were encouraged to contact other team members via the EBB to chat (asynchronously) in Russian, ask questions, comment on the course, and obtain course information posted by the administrator or moderator. Subjects were asked to check the EBB at least once per week. The board was to be monitored by the course administrator, and was also to be used to post commonly made errors as additional instruction by the moderator. Subjects were also provided a complete listing of all other subject's email addresses to facilitate and encourage communication.

Results and Discussion

Results and correlating discussion are best separated into three categories: technology and procedural issues, language/software issues, and attitudinal issues.

Technology and Procedural Issues

Although the primary variable at the start of this study was results on the DLPT, equally important was to test the feasibility of conducting DL with existing technological

capabilities. Generally speaking, two of the technologies supporting this effort --
compact discs and e-mail -- worked well. The third, the internet/world wide web, did not
function quite as well.

CDs

Most subjects were able to load and use the University of Arizona program and
its required supporting software, Real Audio version 5, Windows Language Support, and
the Cyrillic font with little or no difficulty. Some experienced delays due to minor
technical glitches (such as setting changes due to use of different browsers and various
versions of Windows), and some unit computer managers were initially reluctant to grant
permission to load the software. There were, however, some notable exceptions:

-Individuals that deployed during the study. At the deployed locations, they were
relegated to using dated equipment that was not capable of playing the audio or video
files.

-Two of the subjects (including one at a deployed location) had computers not
equipped with soundcards, which effectively eliminated their participation.

-Several of the subjects worked in sensitive compartmented information facilities
(SCIF), and were not permitted to remove the CDs for home use once they were brought
into their workplaces. This issue was resolved by simply providing them with a second
copy of the software.

Although the material was also available to the students via the UASV web site,
none opted to use this site. Providing the information via CD proved advantageous
because of reliability and speed of access, as indicated in related literature (Supinski &
Verano, 1999). The sole disadvantage of using a CD, the static nature of the data
written to it, was far outweighed by its low cost (less than $2 per copy) and the other
advantages cited above.

E-mail

        E-mail was the most reliable technological component of this study. The only exceptions were again individuals that were deployed. At one location, a separate computer was designated for email use, and was the only machine available for email for the entire deployed unit. Attempts to run the software on another computer, copy the completed written assignments to floppy disks, then transfer them to the email-designated computer, proved too cumbersome and resulted in the subject's withdrawal from the course.

        Much of the research done in electronic distance learning courses indicates that communication may be what technology serves best (Bennett, 1999). Such was the case in the study by Lee (1997), discussed earlier in this paper, who found that communicative interaction using email was most effective in helping students organize information, and make the transition from practice and drill to real world use. Use of email for authentic communication also addresses a general criticism of education in recent literature that it is often removed from real world experience or actual use (Brown, Collins, & Duguid, 1989).

Internet

        Use of the internet was minimal due to a number of problems. First, the bulletin board, which had to be accessed via its universal resource locator (URL), was placed on a server outside of the USAFA. The USAFA network system prohibited containing the site due to firewalls that restrict access, primarily for security purposes. Many of the subjects, on the other hand, used only government-owned computers that could only access web sites with .gov or .mil suffixes. As a result, since a large percentage of study participants could not access the bulletin board, it was quickly abandoned.

        A second problematic issue was access to authentic materials over the internet. Many of the assignments required subjects to locate radio or television broadcasts as

content upon which to base the assignments. Connectivity to these sites was unreliable, data were often very slow to download, and in many cases, the sites ceased to exist all together. Despite the fact that the majority of audio and video material required was provided on the CD, subjects were still frustrated by the lack of reliable access to the authentic materials.

Reliability of the internet and the world wide web have continually increased, but they still often present problems in educational situations. Learning opportunities that occur when students are highly involved and motivated are often lost when frustration occurs (Frizzler, 1995). Students that are highly motivated provide for their own "teachable moments" when proceeding through a computer based program--moments that can be lost due to technical difficulties. While opening up the vast resources of the web and providing dynamic and current material can provide tremendous advantages, keeping the distance learner motivated is more critical. Most of the authentic material web sites used in this study were located in Russian speaking nations; technology in these nations is often not as reliable and the infrastructure to support electronic communications is not up to Western standards. Such will likely be the case for many of the nations where the less commonly taught languages are used. Web sites that are crucial to the instructional program should be copied (or "whacked") and placed on the CD.

Procedures

The procedure developed for completing and submitting assignments, and the general conduct of the course were viewed as satisfactory by students, moderator, and administrator, with a couple of exceptions. The first criticism was that there was too little interaction between the moderator and the learners. Too few assignments required evaluation by the moderator, thus the intervals between receipt of feedback were perceived as too lengthy. A second source of criticism was that the feedback was not of

21

sufficient detail to help the students develop their Russian skills. The assignments were simply corrected, with few explanations of why they were incorrect.

Feedback is a critical component of any instructional program, but more so with DL. Feedback provides the support students require to ensure that they are learning the targeted material, that they are using the materials correctly and that they are on track with the rest of the group. Many universities with established DL programs include on-line tutorials, live help desks, and office hours (as done in this study) to insure feedback is available when needed (Moller, 1998). In terms of the instructional support, the feedback must be specific enough to assist the learner. Research literature indicates that among the most effective forms of feedback is elaborated response, which provides correct answers and the reasoning behind them (Dempsey, Driscoll, & Swindell, 1993).

The lack of feedback problem was partially a result of the moderator handling 30 students. Roberts (1996) indicated that the effort required to conduct a DL course can require a greater time investment than classroom instruction. This stems from several reasons: students with questions often rely on other students, rather than just the instructor, as in this study; responses to questions in a classroom setting are heard by all the students, but must be responded to individually when in a distance mode; and orally providing responses is obviously less time consuming that typing and emailing. During the initial weeks of the course the moderator had difficulty keeping pace with the volume of assignments and questions submitted.

Cooperative Learning

The cooperative aspect of this study was generally ineffective, for several reasons. The foremost reason was that due to complaints early in the study about the difficulty of the lessons, the course administrator was hesitant to introduce additional activities conducive to effective cooperative learning.[3] Additionally, groups members indicated in the post-study surveys that they felt intimidated having an individual of

22

higher level in group. Their inability to keep pace with the more advanced group members may have contributed to the attrition rate.

When instructional delivery systems are specifically designed to support cooperative activities, learners benefit both instructionally and socially (Slavin, 1990). Given the anxiety of working with difficult material and the intimidation factor discussed above, cohesive cooperative groups may have served to develop a commitment to group goal accomplishment. Other research has shown that when cooperative learning is used, attrition rates have been lower and participation more active (Jegede & Kirkwood, 1994).

Language and Software Issues

Overwhelmingly, study subjects found the software well organized, intuitive, and an effective tool for language development. Components of the software that were cited as most effective:

--Listening sections, particularly those with revoiced (transcribed audio re-read at a slower speed) authentic broadcasts. Several subjects also commented that having transcripts available to read while listening in the revoiced mode were particularly beneficial, as were the accompanying vocabulary lists.

--The selection of topics was praised as particularly beneficial for a military audience, and well targeted for improvement on the DLPT.

--The consistency of every block made for easy navigation and permitted learners to target the skills they most wanted to improve.

In addition to the positive comments, there were some criticisms of the software as well. Though the criticisms were minor, they represent some key elements of DL crucial to program success. Three of these issues were related to excessive time required to complete the course. The first and predominant issue was the difficulty of the material. Subjects throughout the range of DLPT levels found the level of effort

23

required ranged from "impossible" (many of those at the 1/1 level) to challenging (those at the 3/3). All subjects agreed that the 15 hours allocated per block was well short of the time actually required. This difficulty level was disconcerting to many of the students, particularly when a majority of the vocabulary in a listening or reading section had to be looked up in a dictionary. This issue contributed to the high attrition rate. The second issue cited by many of the participants was the time required to complete the writing portion of the course. Many had never used a Russian keyboard, and found the process of typing assignments cumbersome. Here again, this was particularly troublesome for those students at the lower DLPT levels. The third issue was the technological problem discussed above, difficulty finding and downloading internet sites required to complete assignments. The purpose of locating these sites was to provide current and dynamic material. When difficulties were encountered, many of the students simply abandoned completing the assignments. Comments in the surveys indicated students would rather have slightly dated material on the CD that could be reliably accessed.

Other criticisms included:

--Written text should have been provided for every listening exercise.

--It was not clear which writing assignments required submission to the moderator.

--The basic screen design was efficient, but too busy; some of the options that were infrequently used, such as additional tools and online help, should not be visible on every screen.

--The course was too long. The course was designed for three hours per day, so that one block could be completed per week, or a total of eight weeks. It was difficult to sustain interest and motivation for a 24 week period (8 weeks longer that a typical college course).

As noted earlier, attrition and operational commitments incurred during this study prohibited empirically measuring changes in Russian language proficiency. However, five of the subjects that completed a substantial portion of the course and submitted pre- and post-DLPT Scores recorded changes as shown in Table 5. While this small number precludes detailed analysis, there may be a correlation between the number of hours spent and improvement. In the post-study surveys, virtually every subject stated that they believed devoting the required number of hours would have resulted in improved DLPT scores.

Table 5: Pre/post DLPT Scores

	Pre-Study Score	Post-Study Score	Estimated Hours Devoted To Course
Subject 1	1/1	1+/1	90
Subject 2	1+/1+	1+/1	20
Subject 3	2/2+	2+/3	16
Subject 4	3/3	3/3	35
Subject 5	2/2+	2+/3	100

Attitudinal Issues

The overall attitudes of the learners in this study regarding their desire to improve their language skills, their opinions of learning opportunities, and their preferred methods of study changed very little as a result of participating in this course (see Table 6 for a comparison of pre- and post-survey attitudes).

The enthusiasm to participate in this course and the desire to improve language capabilities were very high prior to the start and despite problems encountered during the study, did not diminish. Several of the students commented that the difficulty of the course only served to highlight the weakness of their capabilities, and made them realize that they must devote greater effort. This sentiment may account for the slightly higher post study score on question 1.

Table 6: Comparison of Pre- and Post- Survey Attitudes

Question	Pre-Study Average Score	Post-Study Average Score
1. I would like to improve my Russian Skills	4.53 (agree-strongly agree)	4.83 (agree-strongly agree)
2. The Air Force offers enough opportunities to maintain/improve my Russian skills.	2.46 (disagree-neutral)	2.55 (disagree-neutral)
7. I think that learning is easier when working in groups.	3.40 (neutral-agree)	3.11 (neutral-agree)
8. I like using a computer for learning.	3.96 (agree)	3.88 (neutral-agree)
9. I like using the internet for learning.	3.72 (neutral-agree)	3.77 (neutral-agree)
11. I look forward to participating in this (type of) Russian course.	4.76 (agree-strongly agree)	4.11 (agree-strongly agree)

During the study, however, positive attitudes and the desire to improve language were not enough to sustain the participation of many of the subjects through the length of the course. Attrition was high, with 11 students (37%) dropping, and the overall activity level (based on the number of writing assignments graded by the moderator) gradually tapered off. The subjects that dropped did so for three primary reasons:

--Difficulty of the material. Subjects commented that too much effort was required for them to complete the course considering their present levels of language ability. Watson and Rossett (1999) indicate that it is more crucial in DL courses that the knowledge gap be precisely targeted. When there is an absence of prerequisite ability, "doubt and failure erode confidence, and, concomitantly, persistence (p. 28)."

--Operational commitments and lack of time. Even prior to the start of Operation Allied Force, and coupled with the difficulty of the material cited above, some subjects dropped out due to a lack of time. While some subjects did the coursework at home, many attempted to use the program only during duty hours, which proved untenable. This was the case with two of the deployed subjects who were at their jobs an average of 14 hours per day, six days per week; both stated they simply did not have the energy to devote to Russian after duty hours. Here again, the Watson and Rossett (1999) notion of appropriate fit, which also states that there must be a readiness to engage in online learning, was absent.

--Technical difficulties. Two of the subjects dropped due to the technical difficulties cited earlier (lack of a sound card and inadequate computer capabilities at a deployed location).

A high rate of attrition has been typical of DL programs and associated research. Verduin and Clark (1991) reported that attrition rates for distance students were higher than for in residence students prior to recent technological advances and the explosion of technology based DL courses in the 1990s. The attrition rates since have increased, with some universities, such as Boise State, reporting rates as high as 44% (Chyung Winecki & Fenner, 1999). Research has found numerous causes for these high drop-out rates -- causes which also apply to this study.

Perhaps the foremost reason for attrition is a lack of socialization or community development (Moller, 1998).   Moller notes that the potential for learning in an asynchronous distance environment can only be realized when learners feel social support and social pressure similar to that found in a classroom environment. The lack of support, to include recognition of tasks completed and additional sources of information (in the form of other students), prevented learners from gaining self-esteem or a sense of accomplishment. Such a sense is required to prepare and motivate

students to learn (Maslow, 1954). Some support was provided by requesting the students send biographies of themselves to cooperative team members at the beginning of the study, and by the moderator in comments included in returned written assignments. Additionally, the EBB was intended as a forum for student socialization and discussion. However, since it's use discontinued soon after the study began, there was no socialization from fellow students and a sense of community was never established.

DL Lessons Learned and Recommendations

Despite problems with attrition and the reduction of activity due to operational commitments, sufficient experience was gained to make recommendations for conducting this type of distance course and providing military linguists with other forms of technology-based language training. What is most clear is that a combination of advanced technologies alone does not necessarily provide a more interactive or effective learning environment (Knapczyk & Chung, 1999). As with the results discussed above, recommendations will be categorized by technology and procedural issues, language/software issues, and attitudinal issues.

Technical/Procedural Recommendations

The technologies used in this study -- CD, e-mail, the internet -- when combined provide for the entire array of instruction, instructional support, and communication necessary to successfully conduct a DL language course. A few minor changes are recommended to insure all participants have fast and complete access to all facets of the course. First, for government users, internet accessible materials must be made available on sites that can be accessed from any location (not restricted to .mil or .gov addresses). Second, materials required for assignment completion should be included on issued CDs to avoid access problems. Third, personnel that will deploy during

courses must have access to equipment of sufficient capability. A solution to this problem may be to issue laptop computers.

In terms of procedures, there are three recommendations. First, the span of moderator control over students must be reduced to ensure sufficient time is available to devote to each student, particularly to ensure adequate feedback is provided. Second, rather than compose assignments with separate word processing software, the model used by UASV for submitting assignments should be followed. UASV students log onto the program at the UASV site via the internet, but use the materials from the CD. For written work, they select the Cyrillic font, prepare their assignments and submit without having to exit the language program.[4] The last recommendation is to fully develop cooperative groups and cooperative activities. As discussed earlier in this paper, achievement in language would likely increase and attrition decrease.

Language/Software Issues

The critical issue in terms of language software is that it must be more precisely targeted to the level of the language learner. The template/format of the UASV program worked well, but each of the exercises should be labeled with a level so that learners can determine their level, then use only those portions of the software that match that level. This may also be accomplished by using a variety of instructional software that is more narrowly focused to language level. White (1995), in a study of autonomy and strategy for foreign language learners in DL courses recognized that "distance learners are not able to regulate the degree of complexity of the material presented to them (p. 217)." As this function is typically done by a teacher when face-to-face to the student in the classroom, it is crucial that levels, and appropriate learning and instructional strategies, be presented to the students to the extent possible.

A second issue is that language maintenance and language development must be separated. Language development requires more time and requires significantly

greater effort. Development should be conducted using the approach recommended by this paper with the modifications proposed. Additionally, based on recommendations from the subjects in this study, the UASV software should be made available in a completely self-paced, unmoderated mode. Although this may appeal only to highly motivated learners, it would provide a learning resource of opportunity.

Maintenance, however, can generally be done with less overall effort, and requires smaller chunks of time for each session.   With this in mind, maintenance could be accomplished by providing brief daily language tasks that would require linguists to use their language and possibly learn some new vocabulary, but be brief enough not to overtax their time. Such exercises should require minimal effort to access. A possible approach would be to push, electronically, brief instructional modules to the learner on a periodic basis. The theme-based modules would consist of brief readings, audio or video passages, vocabulary lists, and associated exercises, and would require no more than 15 minutes of time. Linguists would receive the modules by subscribing to a list serve, and could complete the modules when received or archive for future use. Such an approach has been shown to be effective in other disciplines.

A third issue is to develop activities that engage students in authentic communication with each other to supplement interaction with the software. With students at a distance from each other in the DL environment, research clearly shows that authentic communication fosters foreign language acquisition (Fischer, 1998). This communication could take the form of discussion forums in a chat room or specific assignments to discuss targeted topics with other students or members of a cooperative group.

Attitudinal Issues

As this study has shown, maintaining student motivation to continue learning

30

is perhaps the key factor in the success of any DL program. Learning individually at a distance requires more initiative than is required in the classroom, and "immediate priorities can easily crowd individual development off the list of priorities" (Watson & Rossett, 1999). To achieve program success and lessen attrition requires evaluating and determining adequate motivational influences and rewards, and developing a sense of community among the learner population along with establishing an effective learner support system.

When learners cease to perceive instruction as interesting and relevant to their goals, their motivation to continue learning dissipates. Numerous researchers (Chyung, Winecki, & Fenner, 1999; Watson & Rossett, 1999) recommend using Keller's ARCS model (Keller, 1987) to determine specific motivational strategies. The model is comprised of four factors: attention, relevance, confidence, and satisfaction. *Attention* is achieved by providing novel and stimulating material that maintains student interest. Course content and supporting material must be reliably accessible. *Relevance* derives from directly relating material to the requirements of the military linguist by using appropriate topics, authentic examples, and clearly stated goals. *Confidence* is gained by providing students with opportunities to use their newly gained knowledge, and by receiving frequent feedback. The final factor, *satisfaction*, comes from opportunities to use their new knowledge and receive recognition for completed efforts. Considering the ARCS model, the following are specific recommendations for improving motivation in moderated DL language courses for military members (in addition to those already listed in the preceding section):

--Provide more frequent feedback by using blocks of instruction that are shorter in length, and increase interactivity. Murphy, Cathcart & Kodali (1997) recommend three types of interactivity: students with content, students with instructors, and students with other students.

--A combination of "carrot" and "stick" type of rewards should be utilized. These include: providing course credit (perhaps through the Community College of the Air Force) or award certificates of completion; have students sign contracts for course time or completion prior to enrolling; gain unit commander or training manager involvement.

Students must be placed into appropriate level courses; they must possess the necessary foundation required to take the course, both in terms of language and technical capability.

Ensure fast and easy access to required hardware and software.

Conduct courses with the support and assistance of command language programs. CLPs can provide technical assistance, social support, and additional content and material targeted to unit and individual requirements.

The second critical motivational issue is to better socialize learners by build a learning community and providing for learner support. The power of the worldwide web and its rapid expansion is often explained by its community building potential (Kitchen & McDougal, 1999). When learners are part of a community they feel a greater sense of ownership of and responsibility to that community, which foster success in DL programs (Wagner & McCombs, 1995). Moller's (1998) approach for community building is recommended. Effort should be focused on building academic support (interaction and feedback on the content of instruction from teachers, students and others), intellectual support (the opportunity to put into practice or to "situate" the target content), and interpersonal (to provide emotional and motivational support and assistance). The combination of these three types of support should result in a community that provides for social reinforcement and information exchange. Military members have a common bond by virtue of serving in the military, a fact that should facilitate learning community development. See Table 7 for a summary of recommendations.

Conclusions and Recommendations for Further Research

Distance learning offers a viable approach to help maintain and develop language capabilities of military personnel. For the USAF, It is provides a relatively low cost option to support the myriad of languages required by personnel assigned worldwide who support the Global Engagement mission.

When designing a technology-based DL program, we must remember that "by itself, technology in education is a benign force; it is not the answer" (Moller, 1998, p. 121). As with any educational endeavor, sound instructional designs are required when developing software, selecting methodologies, and establishing procedures. We must however, recall that not every student is captivated by technology-based learning, and for those who are, it is not automatically motivating. The novelty effect has been recognized as providing the gains realized in academic achievement, but it doesn't last long; high quality content, effective instructional strategies, and motivation enhancing methods are required to make a lasting effect. Teaching at a distance may be challenging, but with creativity and fortitude, it can be very rewarding to both instructor and student.

Table 7: Summary of Recommendations for Future DL Language Courses

Technical/Procedural
- Insure course internet sites are accessible to all participants (not restricted to .gov or .mil URLs)
- Include all required course material on course CDs
- Insure all enrolled students have access to adequate computer equipment
- Simplify written assignment preparation and submission procedure
- Provide an electronic bulletin board and chat room accessible by all
- Limit moderator span of student control
- Develop and implement effective cooperative group practices and procedures
Language/Software
- Target language software to narrow levels of language capability
-- Provide a wide array of software and instructional program choices
- Offer the UASV in a stand alone (un-moderated) mode
- Separate language development from language maintenance
-- Utilize brief, periodic, language maintenance exercises "pushed" to linguists via a list serve
- Facilitate authentic communication between learners
Attitudinal

- Use Keller's ARCS Model (<u>A</u>ttention, <u>R</u>elevance, <u>C</u>onfidence, <u>S</u>atisfaction) to determine requirement for and maintenance of motivation
  -- Use shorter instructional units to increase frequency of feedback
  -- Award credit for completed coursework (possibly through CCAF)
  -- Award course completion certificates
  -- Insure students are placed into appropriate level courses
  -- Conduct courses with CLP support

- Develop a learning community
-- Provide for academic, intellectual and interpersonal support
- Establish a learner support system

This report provides an initial research foundation for developing an on-line distance learning system to support military linguists. However, numerous other strands of research must be pursued before such a system can be put in place. First, additional investigation is required of synchronous and asynchronous discussion tools that foster student-to-student interactivity. This includes tools that were inoperative in this study (e.g. electronic bulletin boards and chat rooms), as well as MOOs (multi-object oriented interfaces) and MUDs (multi-user dimensions) (Valentine, 1999). Second, recommendations for helping linguists maintain their language, with short, easily

accessible tasks pushed to linguists via a listserv, require testing and evaluation.

Finally, an analysis of the financial, resource and personnel assets required to construct

and maintain such a system must be conducted. Suitable evaluation and empirical

investigation of these factors, along with a thorough review of similar research, should

establish a solid basis for designing, developing, and implementing an electronic

distance learning system for military linguists.

Notes

[1] The USAF Foreign Area Office web site describes the program as follows: "The USAF Foreign Area Officer (FAO) Program is designed to cultivate a pool of officers with foreign language proficiency and international experience. The goal of the FAO program is to place officers versed in political-military affairs, who are familiar with regional or country specific cultures and proficient in the appropriate language, into embassy, diplomatic, DoD and MAJCOM posts. FAOs must be fully qualified in their primary AFSC, to include satisfactory completion of operational experience and PME.

FAO duty is a career broadening experience. A wide variety of positions require international expertise. Some of these duties include attaché officers, security assistance organizations, personnel exchange program (PEP), Unified Commands, Joint Staff, Office of the Secretary of Defense Staff, Defense Intelligence Agency, Air Staff, MAJCOMs, and Service Schools.

In order to meet the challenges of global engagement and the Expeditionary Aerospace Force (EAF), a FAO must be language proficient, have an area studies background, and in-country experience. The cornerstone of the FAO program is language proficiency. FAO officers are required to take the Defense Language Proficiency Test Foreign Language Proficiency Pay (FLPP) up to $100 is available depending on the language and level of test results.

Further details on the FAO program may be found at http://www.hq.af.mil/af/saf/ia/afaao/fao/overview.htm.

[2] The notion of using advanced linguists was not a component of the original methodology of this course. It was decided upon after the search for subjects yielded several that were already at or near the 3/3 level.

[3] Johnson and Johnson (1990) have concluded that simply placing learners together in a group does not promote cooperation or more efficient learning. It is only under prescribed circumstances that cooperative learning can result in productivity gains over individual effort. Cooperative learning can thus be defined in terms of these circumstances, which involve the interaction that occurs within a group, and the goal structure of the group. Interaction requires considerable promotive, or discussion, time among cooperative group members, which involves providing assistance, aiding the processing of information, providing feedback, and supporting motivation for mutual benefit. Another requirement is that the reward or goal structure for the cooperative group's effort be tied to both the individual and the group. Group members must be positively interdependent, meaning that all members of a group receive a common reward, such as a grade, but the contributions of each member must have an impact upon the group reward. A metaphor may drawn to a baseball team: a victory or loss is for all on the team, although individual members may have hit home runs or struck out. Considering these requisite group features, cooperative learning can be operationally defined as students working together in a group small enough that everyone can participate on a collective task that has been clearly assigned.

[4] This method was not used in this study due to the lack of technical capacity to do so.

Bibliography

Bennett, J. (1999). <u>Incorporating the internet in the classroom</u>. Paper presented at the EdMedia Conference, 21-25 Jun 98, Seattle WA.

Brown, J., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. <u>Educational Researcher</u>, 18(1).

Chun, D. M. (1994). Using Computer Networking to Facilitate the Acquisition of Interactive Competence. <u>System</u>, 22(1), 17-31.

Chyung, Y., Winiecki, D., & Fenner, J. (1999) <u>Evaluation of effective interventions to solve the drop out problem in adult distance education</u>. Paper presented at the EdMedia Conference, 21-25 Jun 98, Seattle WA.

Dempsey, J. V., Driscoll, M. P., & Swindell, L. K. (1993). Text-based feedback. In Dempsey, J. V. & Sales, G. C. (Eds.) <u>Interactive instruction and feedback</u> (21-54). Englewood Cliffs, NJ: Educational Technology Publications.

Fischer, G. (1998). Toward the creation of virtual classrooms: Electronic mail and cross-cultural understanding. In Moeller, A. (Ed.) <u>Celebrating Diversity in the Language Classroom</u>, Lincolnwood IL: National Textbook Company.

Frizzler, K. (1995). <u>The Internet as an educational tool in ESOL writing instruction</u>. Unpublished Master's Thesis, San Francisco State University, San Francisco.

Jegede, O., & Kirkwood, J. (1994). Student anxiety in learning through distance education. <u>Distance Education</u>, 15(2).

Johnson, D. W., & Johnson, R. T. (1990). Cooperative learning and research. In Shlomo, Sharan (Ed.) <u>Cooperative Learning Theory and Research,</u> (23-37). New York: Preager.

Keller, J. (1987). Development and use of the ARCS model of motivational design. <u>Journal of Instructional Development</u>, 10(3).

Kitchen, D. & McDougall, D. (1999). Collaborative learning on the internet. <u>Journal of Educational Technology Systems</u>, 27(3), 245 - 254.

Knapczyk, D. and Chung, H. (199<u>9) Designing effective learning environments for distance education: Integrating technologies to promote learner ownership and collaborative problem solving.</u> Paper presented at the EdMedia Conference, 21-25 Jun 98, Seattle WA.

Krashen, S. D. & Terrell, T. D. (1983). <u>The natural approach.</u> Hayward, CA: Alemany Press.

Kroonenberg, N. (1994). Developing communicative and thinking skills via electronic mail. <u>Tesol Journal</u>, 4(2), 24-27.

Lee, L. (1997). Using internet tools as an enhancement of C2 teaching and learning. Foreign Language Annals, 30(3), 410-423.

Maslow, A. (1954). Motivation and Personality. New York: Harper and Row.

Moller, L. (1998). Designing communities of learners for asynchronous distance education. Educational Technology Research and Development, 46(4), 115-122.

Moore, M. (1995). American Distance Education: A Short Literature Review. In F. Lockwood (Ed.) Open and Distance Learning Today (pp. 32-41). London, UK: Rutledge.

Moore, M. & Kearsley, G. (1996). Distance education: A systems view. Belmont CA: Wadsworth Publishing.

Murphy, K., Cathcart, S., & Kodali, S. (1997). Integrating distance education technologies in a graduate course. Tech Trends, Jan./Feb., 24-28.

Oliva, M., & Pollastrini, Y. (1995). Internet resources and second language acquisition: An evaluation of virtual immersion. Foreign Language Annals, 28(4), 551-563.

Rankin, W. (1997). Increasing the communicative competence of foreign language students through the FL chatroom. Foreign Language Annals, 30(4), 542-546.

Roberts, J. (1996). The story of distance education: A practitioner's perspective. Journal of the American Society for Information Science, 47(11), 811-816.

Scanlon, B. (1999, Aug. 26). Online courses increasingly popular. Rocky Mountain News, p. 16.

Slavin, R. (1990). Cooperative learning: Theory, research and practice. Englewood Cliffs, NJ: Prentice Hall.

Supinski, Stanley B., and Dr. Miguel Verano, CD-based material for beginning and intermediate foreign language students, in Proceedings of the International Association of Science and Technology in Education International Conference on Computers and Advanced Technology in Education (CATE'99) Philadelphia, Pennsylvania, USA

U. S. Department of Defense (1999, April 30). Report to the 106th Congress, Strategic Plan for Advanced Distributed Learning.

Valentine, S. M. (1999). In support of military linguists: Ingrating the Internet into U.S. Air Force Language Programs. Unpublished Master's Thesis, The University of Texas at Austin.
Verduin, J., & Clark, T. (1991). Distance education: The foundations of effective practice. San Francisco, CA: Jossey-Bass.

Wagner, E., & McCombs, B. (1995). Learner centered psychological principles in

practice: Designs for distance education. <u>Educational Technology</u>, March - April, 32-35.

Warschauer, M. (1995). Comparing Face-to-Face and Electronic Discussion in the Second Language Classroom. <u>Calico Journal</u>, 13(2-3), 7-26.

Watson, J., & Rossett, A. (1999). Guiding the independent learner in web-based training. <u>Educational Technology</u>, May-June, 27-36.

White, C. (1995). Autonomy and strategy use in distance foreign language learning: Research findings. <u>System,</u> 23(2), 207-221.

Reading Comprehension

Level 0 (None) No practical understanding of the written language. Understanding is limited to occasional isolated words with essentially no ability to comprehend texts.

Level 0+ (Memorized) Can recognize all the letters in the printed version of an alphabetic system and high frequency elements of a syllable or character system. Able to read some or all of the following: numbers, isolated words and phrases, personal and place names, street signs, office and shop designations. Examples of types of reading passages: weather maps, schedules, programs, menus, numbers, any text in which meaning is conveyed only via lexicon.

Level 1 (Elementary) Can comprehend very simple connected written material in a form equivalent to usual printing or typescript. Examples of types of reading passages: newspaper announcements, sale ads, bulletin board information, invitations, tourist information.

Level 1+ (Elementary) Sufficient comprehension to understand simple discourse in printed form for informative social purposes. Can guess at unfamiliar vocabulary if highly contextualized, but with difficulty in unfamiliar contexts. Examples of text types: see level 1 and level 2.

Level 2 (Limited Working) Sufficient comprehension to read simple authentic written material in a form equivalent to usual printing or typescript on subjects within a familiar context. Examples of text types: factual descriptions, narrative reporting where the author is invisible or neutral, general schema, instructions, directions, materials addressed to less experienced native speakers.

Level 2+ (Limited Working) Sufficient comprehension to understand most factual material in non-technical prose as well as some discussions on concrete topics related to special professional interests. Examples of text types: see level 2 and level 3.

Level 3 (General Professional) Able to read a variety of authentic prose material on unfamiliar subjects within a normal range of speed and with almost complete comprehension.

Listening Comprehension

Level 0 (None) No practical understanding of the spoken language. Understanding is limited to occasional isolated words with essentially no ability to comprehend communication.

Level 0+ (Memorized) Sufficient comprehension to understand a number of memorized utterances in areas of immediate needs. Slight increase in utterance length understood, but must make repeated requests for repetition and requires frequent long pauses between understood phrases. Understands with reasonable accuracy only when this involves short memorized utterances or formulae. Utterances understood are relatively short in length. Misunderstandings arise due to ignoring or inaccurately hearing sounds or word endings (both inflectional and non-inflectional). Distorting the original meaning, can understand only with difficulty even such people as teachers who are used to speaking with non-native speakers. Can understand best those statements where context strongly supports the utterance's meaning. Gets some main ideas.

Level 1 (Elementary) Sufficient comprehension to understand utterances about basic survival needs and minimum courtesy and travel requirements. Can understand simple questions and answers in areas of immediate need or on very familiar topics. Understands simple statements and very simple face-to-face conversations in a standard dialect. These must often be delivered more clearly than normal at a rate slower than normal with frequent repetitions or paraphrase (that is, by a native used to dealing with foreigners). Once learned, these sentences can be varied for similar level vocabulary and grammar and still be understood. In the majority of utterances, misunderstandings arise due to overlooked or misunderstood syntax and other grammatical clues. Comprehension vocabulary inadequate to understand anything but the most elementary needs. Strong interference from the candidate's native language occurs. Little precision in the information understood owing to the tentative state of passive grammar and lack of vocabulary. Comprehension areas include basic needs such as: meals, lodging, transportation, time, and simple directions (including both route instructions and orders from customs officials, police officers, etc.). Understands main ideas.

Level 1+ (Elementary) Sufficient comprehension to understand short conversations about all survival needs and limited social demands. Developing flexibility evident in understanding into a

range of circumstances beyond immediate survival needs. Shows spontaneity in understanding by speed, although consistency of understanding uneven. Limited vocabulary range necessitates repetition for understanding. Understands more common time forms and most question forms, some word order patterns, but miscommunication still occurs with more complex patterns. Cannot sustain understanding of coherent structures in longer utterances or in unfamiliar situations. Understanding of descriptions and the giving of precise information is limited. Aware of basic cohesive features, e.g., pronouns, verb inflections, but many are unreliably understood, especially if less immediate in reference. Understanding is largely limited to a series of short, discrete utterances. Still has to ask for utterances to be repeated. Some ability to understand facts.

Level 2 (Limited Working) Sufficient comprehension to understand conversations on routine social demands and limited job requirements. Able to understand face-to-face speech in a standard dialect, delivered at a normal rate with some repetition and rewording, by a native speaker not used to dealing with foreigners, about everyday topics, common personal and family news, well-known current events, and routine office matters through descriptions and narration about current, past, and future events; can follow essential points of discussion or speech at an elementary level on topics in his/her special professional field. Only understands occasional words and phrases of statements made in unfavorable conditions, for example through loudspeakers outdoors. Understands factual content. Native language causes less interference in listening comprehension. Able to understand facts, i.e., the lines but not between or beyond the lines.

Level 2+ (Limited Working) Sufficient comprehension to understand most routine social demands and most conversations on work requirements as well as some discussions on concrete topics related to particular interests and special fields of competence. Often shows remarkable ability and ease of understanding, but under tension or pressure may break down. Candidate may display weakness or deficiency due to inadequate vocabulary base or less than secure knowledge of grammar and syntax. Normally understands general vocabulary with some hesitant understanding of everyday vocabulary still evident. Can sometimes detect emotional overtones. Some ability to understand implications.

Level 3 (General Professional) Able to understand the essentials of all speech in a standard dialect including technical discussions within a special field. Has effective understanding of face-to-face speech, with normal clarity and speed in a standard dialect, on general topics and areas of special interest; understands hypothesizing and supported opinions. Has a broad enough vocabulary that rarely has to ask for paraphrasing or explanation. Can follow accurately the essentials of conversations between educated native speakers, reasonably clear telephone calls, radio broadcasts, news stories similar to wire service reports, oral reports, some oral technical reports and public addresses on non-technical subjects; can understand without difficulty all forms of standard speech concerning special professional field. Does not understand native speakers if they speak very quickly or use some slang or dialect. Can often detect emotional overtones. Can understand implications.

Russian Language Link Pre-Study Survey
Please circle the words closest to your opinion.
<u>Once completed, please put into the self-addressed/stamped envelope and return.</u>
We look forward to your written comments.

1. I would like to improve my Russian skills.

| Strongly disagree | Disagree | Undecided | Agree | Strongly Agree |

Comments: (e.g., Why would you like to improve your Russian?)

2. The AF offers enough opportunities to maintain/improve my Russian skills.

| Strongly disagree | Disagree | Undecided | Agree | Strongly Agree |

Comments: (e.g., How could the AF help you improve your Russian?)

3. I am most interested in improving the following areas.

| Listening | Reading | Speaking | Writing |

Comments: (e.g., What areas and why?)

4. I currently use the following to maintain my language skills.

| Audio cassettes | Movies/TV shows | Magazines | The Internet | Conversations |

Comments: (e.g., What materials help you with your Russian now?)

5. I plan to continue using the following during this study.

| Audio cassettes | Movies/TV shows | Magazines | The Internet | Conversations |

Comments: (e.g., What materials would you like to have for your Russian?)

6. I currently spend the following number of hours per week on Russian

| 0 | 1-3 | 4-6 | 7-9 | 10-12 | More |

Comments: (e.g., What would help you spend more time on Russian?)

7. I think that learning is easier when working in groups.

| Strongly disagree | Disagree | Undecided | Agree | Strongly Agree |

Comments: (e.g., What has been your experience with learning in groups?)

8. I like using a computer for learning.

Strongly disagree	Disagree	Undecided	Agree	Strongly Agree

Comments: (e.g., What has been your experience learning with a computer?)

9. I like using the internet for learning.

Strongly disagree	Disagree	Undecided	Agree	Strongly Agree

Comments: (e.g., What has been your experience learning with the internet?)

10. My AF unit has a good Command Language Program (CLP).

Strongly disagree	Disagree	Undecided	Agree	Strongly Agree

Comments: (e.g., How has your CLP helped with your Russian?)

11. I look forward to participating in this Russian course.

Strongly disagree	Disagree	Undecided	Agree	Strongly Agree

Comments: (e.g., What are you expectations from this course?)

What should the AF do to help you with your Russian skills?
Comments: (e.g., Do you need more time for your language, more materials, etc.?)

General Instructions for the Russian Language Maintenance Program Test, 25 Jan - 10 Jul 1999

To all study participants: Please read through these instructions carefully before you get started! Keep in mind that this is the first time we are doing this, and there may be some glitches. If you have any suggestions or recommendations as we are proceeding, do not hesitate to let me know!

1. Installing the Disk

There is no installation required for the CD itself. However, you must:

A) Insure that the fonts required to read Russian are properly installed on your computer. The program uses Windows Cyrillic 1251 encoding. You must first insure that the multi-language support that comes with Windows 95 is installed and activated. To do so, you must do as follows:

1) Click start (lower left hand corner)
2) Click settings
3) Click control panel
4) Double click add/remove programs
5) Click Windows Set-up Tab
6) Insert disk labeled "language support"
7) Click have disk
8) Click OK
9) Check multilanguage support
10) Check Install
11) Click OK when done, then remove floppy, and click YES to restart computer

After the computer restarts, put the program CD into the drive: click start; then run; then type D:\Russian\main.html (D or whatever drive your computer uses for CDs). This will automatically open your browser and you will see the main screen.

The program will only run properly if you have Microsoft Explorer version 4x, or Netscape version 4x. If you do not have one of these versions, you can get them free from http://www.netscape.com) or (http://www.microsoft.com), or from your original windows disk. **If you can't get these on line for some reason, please let me know ASAP, and I'll send you a CD with this program.**

If your fonts are not in the proper Russian at this time, **For Microsoft Explorer**, open view, then options, then the fonts button in the lower right hand corner. Then choose Cyrillic 1251. **For Netscape**, simply go the view (on the top menu bar) then encoding, then choose the Cyrillic 1251 font.

B) Install **Real Audio 5**. To do so, insert the floppy labeled Real Audio, and:

1) Click start (lower left hand corner)
2) Click Run, Browse

3) Choose the A drive
4) Choose Real Player 5.0.exe
5) Click OK.
6) Go through the default steps in the installation program. Once done, you should be able to view the video and listen to the audio files on the CD.

C) Load the **LR_Ruski** font on your computer. This font will turn your keyboard to the ATSEEL standard Russian keyboard (this is the easiest to use; the keys in Russian correspond to their equivalent sounds in English). I have printed out this keyboard at the end of this document. To install:

1) Click start (lower left hand corner)
2) Click settings
3) Click control panel
4) Double click fonts
5) Insert the Floppy labeled "LR-Ruski"
6) Click File
7) Click Install new Font
8) Select A drive
9) Double click LR_Ruski, click OK, and you are done

This font will allow you to compose documents, which you will send to the course moderator.

Please remember that the materials are also available on-line. The internet addresses are shown on the inside cover of the journal.

Please do the above as soon as you can. I would like to ensure that any computer problems are resolved before the study begins. Once you are done, please compose a test document (as per below) and send to the moderator and Major Supinski.

2. Conduct of the course.

 You will be doing most of this course on your own, but it is a "course" with a teacher, but no classroom. There are really only a few parameters that you need to follow:

       a. **Teams** - You are a member of a team of five, and at least one of the people on your team is a 3/3. When you send out your written work, it will also go to team members. When you get work from your team members, read it, and note to yourself any errors you catch. When the moderator evaluates the work, she will send her comments to everyone on your team so you can see how well you caught the mistakes. I most certainly encourage you make contact with your team members to chat in Russian "off-line." Your team members and their email addresses are on the following page. You may wish to build an email address book with your team members, the moderator and me listed to make it easier each time you send in work.

b. Timing - This course is designed to be self-paced, but *only to a certain extent.* Teams two to six are expected to complete blocks of instruction on the following dates:

	Teams 2-6	**Team 1**
Block 1	14 Feb	7 Feb
Block 2	7 Mar	21 Feb
Block 3	28 Mar	7 Mar
Block 4	18 Apr	21 Mar
Block 5	9 May	4 Apr
Block 6	30 May	18 Apr
Block 7	20 Jun	2 May
Block 8	11 Jul	16 May

Team 1, because two of its members are USAFA cadets with a graduation date in May, will have only two weeks per block of instruction

      c. Proceeding Through the Course - You may proceed through in any manner you see fit. I recommend you go through each block and section in the order it has been designed (this is apparent when you open the program): reading first, followed by writing, then listening. **Note:** Ignore the speaking sections; we will not be using them. Note also that you have grammar help, and a list of web sites that you will have to access on occasion (and can access for additional reading/listening if you see fit.)

      d. Keeping Your Journal - In your packet is a journal/notebook for you to use during the course. Each block has 16 pages; 15 for each hour you spend, and one page for your overall comments on the block. The journal should be a handy place for you to take notes while you study. Also, since an integral part of this study is seeing how much time you spend, please try to carefully keep track of the times you start and stop. When the course is over, I will ask you to send the journals back, but if you wish, I will make copies and send the originals back to you to keep for reference.

      e. Sending Emails to the course moderator. Since we are not using the materials in a strictly on-line mode, you will need to prepare your written work in Microsoft word. When writing your assignments, use the following steps:

1. Determine what the assignment is from the course
2. Minimize the course window, and open Microsoft word
3. Select the LR-Ruski font
4. Write the assignment; insure you indicate your name, block, and section for each written assignment in the body of the text to make it easier for us to track.
5. Save the document
6. Attach the document to an email send to your team/moderator/administrator.

      Note: DO NOT attempt to simply write the assignment in the block within the program as it won't go anywhere. This may sound like a lot of steps, but it is really very simple. As soon as you get started, please type and send a test message to your teammates and us.

      f. Contacting the Moderator/Getting Additional Course Information - If you need an immediate answer to a question, the moderator will hold "office hours." These hours are Mondays, from 1500 to 1600 hours, and Thursdays, from 0800 to 0900. She will be "on-line" and will respond to your requests. Additionally, you should log on to the web site (address is on the inside cover of your journal) at least once per week to see if

there is anything you should be aware of in the course. Additionally, the moderator will post commonly made errors on this site.

g. Final Notes - There are no intermediate grades for this course. You are pretty much on your own. However, both I and the moderator and I will be monitoring your progress, and if you are having problems we will do what we can to help. If at any time you feel overwhelmed, please do not hesitate to call or email.

We have a wide range of people in this class, and we probably won't make everyone a 3/3 in the end. If you feel it's too much, skip some of the portions of the course. You will still make progress, and that is the ultimate goal. **However**, the average scores are virtually equal for each team, and I challenge you to make your teach achieve the greatest amount of progress!

If you have problems getting started, call or email ASAP:

Thanks, and good luck!

LR-Ruski Keyboard

`` ` 1 2 3 4 5 6 7 8 9 0 - = `` (backspace)

(tab) q w e r t y u i o p [ ] \

(caps) a s d f g h j k l ; ' (enter)

(shift) z x c v b n m , . / (shift)

ABOUT THE INSTITUTE

The Institute for Information Technology Applications (IITA) was formed in 1998 to provide a means to research and investigate new applications of information technology. The Institute encourages research in education and applications of the technology to Air Force problems that have a policy, management, or military importance. Research grants enhance professional development of researchers by providing opportunities to work on actual problems and to develop a professional network.

Sponsorship for the Institute is provided by the Secretary of the Air Force for Acquisition, the Air Force Office of Scientific Research, and the Dean of Faculty at the U.S. Air Force Academy. IITA coordinates a multidisciplinary approach to research that incorporates a wide variety of skills with cost-effective methods to achieve significant results. Proposals from the military and academic communities may be submitted at any time since awards are made on a rolling basis. Researchers have access to a highly flexible laboratory with broad bandwidth and diverse computing platforms.

To explore multifaceted topics, the Institute hosts single-theme conferences to encourage debate and discussion on issues facing the academic and military components of the nation. More narrowly focused workshops encourage policy discussion and potential solutions. IITA distributes conference proceedings and other publications nation-wide to those interested or affected by the subject matter.