In Utah, the statewide distance education network (EdNet) enables students from five rural and suburban high schools to learn Russian and earn college credits. Courses in Russian are offered through a partnership involving the Cache County School District, Utah State University, and the Utah State Office of Education. Classes are taught on one high school campus by a university approved teacher and are broadcast to four other schools via EdNet's televised interactive system. The instructor uses the Elmo multimedia delivery system, and students also have access to videotape sequences and interactive computer software. An outline of key elements of distance learning systems lists expectations related to student behavior, motivation, and participation; expectations for teacher training, teacher skills and flexibility, teaching methods, and teacher support networks; and features of the classroom environment. Based on 2 years of operation, findings are outlined for various operational issues: cost, hardware (communication lines and equipment), personnel needs, training and development, instructional delivery, teacher-student communication, linkage with other distance learning systems, and organization of the school day. Also included are a distance learning teacher's detailed description of an instructional sequence, and a summary of course evaluations by first- and second-year students in the Russian classes. (SV)
Abstract

Teaching foreign languages over a distance learning system poses many challenges. These include: designing meaningful interactive instruction, engaging students in dialogue with fellow students who are located in remote locations, and evaluating the effectiveness of the instruction. Students from five rural and suburban high schools in various parts of Utah, have participated in the Russian language program. The elements of the current program will be introduced and future implications of teaching the Russian language over this imposing technology will be discussed.
Introduction

Distance learning has the potential to expand high school curricular offerings by giving students access to programs from an unlimited number of remote locations. The EDNET program, a statewide distance learning initiative, has the goal of placing a two-way interactive fiber optic-based distance learning center in each Utah High School. EdNet literally stands for education network which allows schools to interface, using a televised interactive system, offering classes that would not otherwise be available to students. For the past two years, the Cache School District has pioneered the development of programs offered on the system. A unique partnership has developed that has enabled high school students in Utah to learn Russian, a most important strategic language. This partnership involves the Cache County School District, Utah State University and the Utah State Office of Education.

Two very successful programs are the Introduction to Russian 100 and 200 series. These courses are offered as concurrent enrollment classes through Utah State University. Concurrent enrollment classes give high school students the opportunity to earn university credit for classes taught on the high school campus by university approved teacher. The courses originate from Mountain Crest High School, Hyrum, Utah and broadcast to four other locations in Utah. Plans are to offer the Russian classes statewide during the 1995-96 school year.

A comprehensive instructional sequence has been developed that utilizes the features of the distance learning system. The instructor utilizes the Elmo multimedia delivery system to access overhead transparencies which contain graphic advanced organizers, to highlight important segments of information contained on the transparency, and to switch cameras to focus on student interactions. In addition, videotape and videodisc sequences are delivered to students through traditional delivery systems. During the next school year, CD ROM will be used as a means to deliver multimedia materials such as: slides, video, computer generated graphics, and computer-based instruction. Students will also utilize an interactive Russian software package designed to reinforce the conversational aspects of the language and basic vocabulary. This software will run on either Macintosh or PC platforms.
Elements of Distance Learning Systems

Generally speaking, distance education takes place when a teacher and student(s) are separated by physical distance, and technology (i.e., voice, video, data, and print) is used to bridge the instructional gap (Willis, 1993). Three key elements of distance learning systems must be satisfied in order for successful instruction to occur: student expectations, teacher expectations and classroom environment (Utah Education Network, 1994; Zsiray and Menlove, 1994). Some examples are:

1. Student expectations
   - Students are courteous and polite in the classroom. It is difficult to manage a multi-site classroom.
   - Students are highly motivated and self-disciplined, especially when they are receiving instruction from a remote location.
   - Students participate in class by interacting with the instructor and the students at the other sites.
   - Students work more independently by watching programs and reading printed materials.

2. Teacher expectations
   - Distance learning courses have the same academic content and student outcome requirements as regular high school or college (on-campus) classes.
   - Significant training efforts are needed to bring the teacher.
   - Teachers customize and adapt instruction to not only meet student needs but to facilitate efficient delivery of instruction over the distance learning system.
   - Teachers expect students to be high motivated. Students must be able to sometimes function as independent, self-directed learners, especially if the system is down.
   - Teachers must have a solid support network established which includes the school and district administration, department heads, technical specialists, and parents.
   - Teachers must be flexible due changing high school schedules, expecting sites to be connected at different times. This translates to students entering and leaving the class according to the schedule at the various receiving sites.
3. Classroom environment

- Teachers must be familiar with the technology employed in the electronic classroom.
- Students need to know how to use microphones properly.
- Students talk with the instructor during class using microphones, telephones, faxes, and other communications tools.
- Cameras and microphones in the classroom - generally operated by a site facilitator or the instructor.

Operational Issues

After two years of operation, some preliminary findings regarding the use of the system are reported. We are presenting an ideal system and one that hope to implement this next school year.

To operate an efficient distance learning program, the following criteria must be considered:

- Cost

  It is extremely critical that funds be expended to adequately teach the content material to students. The following hardware is representative of a minimal system.

Communication Lines

To date, US West Communications are providing the communication lines through an agreement with the Utah Education Network.

Equipment

- fiber optic or microwave transmission system
- electronic visual presentation system (in our case the Elmo system)
- (2) 27" television monitors
- large screen data/video projection system
- Pentium-based or Power PC system with multimedia capability
- direct telephone line for FAX and Internet connectivity
- room modification for air conditioning
- tables for the rooms
- fax / copy machine
- videotape player
- videodisc player
Personnel

- An adequate compensation system must be developed for teachers to allow for planning time and for increased numbers of students that are in the program.
- A classroom aide is needed in the receiving electronic classroom to assist the teacher in classroom management.

- **Training and Development**
  
  More comprehensive programs are needed to train teachers. Teachers in the Cache School District have developed a training manual for prospective teachers (Obray, Zsiray, & Menlove, 1994). We need to continue to develop responsive teacher training needs.

- **Instructional Delivery**
  
  A mentor teacher program needs to be established to allow the veteran EDNET teachers assist the new teachers in preparation of class materials, and methods of instructional delivery.

  Regional teacher development centers must be established to give teachers formal training and support opportunities to develop expertise in the use of distance learning technologies to support effective instruction (Zsiray and Wilde, 1994).

- **Interactive**
  
  Additional studies are needed to determine the needs of teachers and student to better communicate with each other in the electronic classroom. Issues such as hardware requirement - number of microphones, monitor size, and presentation software will be investigated.

- **Linkage with Microwave-based EDNET**
  
  There is a need to offer courses and programs simultaneously through both systems and through some other services such as TI-IN.

- **Organization of School Day**
  
  Schools need to communicate bell schedules, mini schedules, and assembly programs to other participating receiving sites in the system. It becomes extremely difficult to maintain instructional continuity without knowledge of schedules.
Description of an Instructional Sequence (or, a day in Marina's class)

The first minutes of instruction on the EdNet system are always spent getting all the sites coordinated and organized. So, I have to make sure all schools involved are online. We greet each other, and I start the class. Students from the other sites show me their homework and we discuss problems and questions faced by the students in completing the assignment. This is a highly interactive process. After homework issues are resolved, I usually explain the new material using the Elmo projection system to show the new words, and to explain new grammar usage. When a student asks a question, I place the camera on the person who is asking the question. Then I usually use the slides in structuring my response to the students. It is convenient to store information in the system. This would also include line drawings and other overheads, video and other forms of media. All it takes is just to select the visual and send it to the monitor. It can be seen from all the sites, and I can point to anything I want on this slide and discuss it with the students. So, it works like an overhead projector, but easier, and each site can see the visual well. If I need to show any videotape on a particular day, I can select the "video" camera on the system, and send the video to the monitor in the classroom and through the system to make it visible for students at each site. After I am done with the explanation, we do a few quick written exercises, then some oral drills, taking turns with all the sites. At the end of the class, we usually have free conversation in Russian which is centered around the new topic of the day. I let students talk to each other, fantasize situations where they would use the new words, or constructions. This way they can see how important it is to use what they learned today, and also appreciate the system which allows them to interact with their friends from different parts of Utah, and learn the language better.
Evaluation of Russian Program

A survey was used as one measure of effectiveness of the program. It was distributed to first and second year students in the Russian 101-103 and 201-202 concurrent enrollment classes. The results follow:

Evaluation Summary

1. General Course attitude - The major strengths or weaknesses of this course are:

Strengths
- Learning the language from a native speaker who is skilled in teaching
- Strong bond between teacher and students, the students wanted to be there
- Enthusiasm and experience of the teacher
- Teacher understanding of the needs of students

Weaknesses
- EdNet delivery system unreliable
- Technology - problems in this area plagued the class
- Precious time was wasted calling SLC or rebooting the system. It is very disappointing to make the effort to get to class at 7 am and not have the system working, especially when you are at one of the remote sites
- Class length needed to be longer (50 minutes)

2. Methods of instruction - Comment on effectiveness or ineffectiveness of such methods as lecture, case study, audiovisual aids, class discussion, EdNet system, etc.

- Creative use of audiovisual aids (video, realia, overhead materials)
- Took too much time from class instruction to have to constantly fiddle with the EdNet system
- Great lectures
- Class length was not long enough to sufficiently cover all of the material adequately.
- The teacher's ability to deliver instruction was impacted by the sloppy EdNet service as it detracted from the learning experience.
3. Student interest and attention - Comment on how well the teacher motivates you to work hard, obtain more knowledge in this area, etc.

- Students were very interested in the subject to start with, our teacher helped us to understand.
- The teacher stimulate us. We were always motivated to study and learn beyond what was required.
- The teacher inspired me. Our teacher worked hard on behalf of the students.
- Her motivation of students was unequaled.

4. Textbooks, etc. - Comment on the quality, level of difficulty, of printed material used in the course

- I enjoyed the old textbooks better than the new ones. The newer books were too easy.
- The textbooks used in the second year were, in my opinion, better adapted to what was needed in the proper order.
- I liked the first book better because the material was presented in a more effective way. I understood the flow of ideas.

5. Instructor - Comment on the teacher's interest in students, attitude towards teaching, communication effectiveness, enthusiasm, fairness, etc.

- The teacher loved her students very much. She cares for her students.
- Students were treated fairly.
- She really wanted to teach us and she always helped us the best she could.
- I think it was the teacher's interest in her students that instilled such a strong desire to work hard and learn more than was required.
- I cannot say enough good about Mrs. Parsegova, her teaching skills and genuine concern for the success of her students. Her helpful insight and kindness are the best.

6. Why did you take the course? Has it been worth your time?

- For reasons apparent only subconsciously, which I cannot elaborate on.
  I have never spent time so effectively or in more worthwhile pursuits.
- No doubt about it, it was more than worth my time.
• I wanted to learn the Russian language. It has most definitely been worth every minute.
• I have had a long interest in Russia. When I heard that this class was being taught, I was very interested and enrolled.
• I can say that time spent in this class was some of the best times I have had in my life.

7. If I had a choice I (would, would not) take the course again, because:

• I would take the class again because it was the only class I really looked forward to going to. It was my favorite class and my favorite teacher.
• This class has been the highlight of every day for two years.
• I think this is pathetic and the answer is intuitively obvious.

8. Other comments

• The class length needs to be adjusted upward.
• The EdNet system needs to be up and running in a reliable manner.
• I loved this class, and the teacher was fantastic.
• An incredible experience I won't ever forget.

The Future

We have the potential of establishing an interactive network of extended learning opportunities for every high school. The Russian language program has given students in rural and suburban areas around the state the experience of taking a class from a native speaker who is skilled in teaching over a distance learning system. Despite some problems in the hardware components of the system, the teacher delivered an instructionally sound program. As a result, thirty more students are planning to take the course during the 1995-96 school year.

It is exciting to develop a responsive distance learning-based high school program that meets the academic needs of our students. Learning to learn in this environment will give students the opportunity to meet challenges posed by a global system of networks and interconnectivity.
References


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