Using Blended Distance Learning Methodologies/Technologies to Deliver Sustainable Rural Professional Development Programs

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Salem, SD
Presentation Overview

• 29-90 Distance Learning Consortium (29-90 DLC) Background

• Two Case Studies
  – McREL Rural Technology Initiative
  – Precision Teaching & Learning
29-90 DLC Background

• The 29-90 DLC was formed in 1998
  – TIIAP Rural Utilities Service Distance Learning Grant

• 29-90 DLC is connected to the state Digital Dakota Network (DDN)
  – Statewide H.323 based video network

• Each member school district has at least one dedicated distance learning studio
  – Six districts have two
  – Three districts have three
29-90 DLC Demographics

- Hartford, the largest town in the 29-90 DLC, has a population of 1,918
- Eight of the ten towns have populations under 1,000
- High school enrollments range from 61 to 358 students
- Total consortium K-12 student population 4,394
South Dakota State Profile

- 174 K-12 school districts
- 124,988 students
- 308 videoconferencing units statewide
- 130-155 videoconferences per day
29-90 DLC Distance Learning Studio

Tandberg 6000MXP Codec
Gateway E4300 PC
Gateway M275 Tablet PC
NEC N770 Projector
Kamatsu KJ200 AirProjector
80211.B/G Access Point
Crestron MP2E Switcher
Crestron MMS RGB Switcher
Crestron e-Control
Da-Lite 96” Projection Screen
3 JVC 32” Monitors
XGA Document Camera
Tandberg AudioScience Mic.
Audio Technia Instructor Mic.
2 JVC VCRs
JVC DVD Player
2 Sony EV100 PTZ Cameras
2005-2006 29-90 DLC Courses

- Accounting I
- Accounting II
- Agriculture IV
- Art I/Art II
- Algebra (8th Grade)
- AP American History
- AP Calculus
- AP Chemistry
- AP English Composition
- AP English Literature
- Astronomy
- Cisco Academy II
- Cisco Academy III
- Cisco Academy IV
- Consumer Resource Management
- Drivers Education
- French I/French II
- Humanities (Online)
- Parenting
- Physics
- Physics (College Prep)
- Senior Math
REMOTE ACCESS

Rural schools around the nation are expanding students’ options with E-classes

By Alan Karp

E

The idea of learning from home, or distance learning, is not new. Many parents have had to do distance learning during the pandemic. However, the implementation of distance learning has evolved significantly in recent years, thanks to advancements in technology and changes in educational policies. As a result, distance learning has become a viable option for students of all ages and backgrounds, offering flexibility and access to education in remote areas.

One of the main advantages of distance learning is the ability to tailor the educational experience to individual needs. Students can learn at their own pace, facing challenges and overcoming them at their own speed. This flexibility can be particularly beneficial for students who have specific needs or learning styles, as they can adapt the learning process to their own preferences.

Another significant advantage of distance learning is the reduced cost compared to traditional learning methods. Online courses often offer lower tuition fees, and students can save on travel and accommodation expenses, making education more accessible to those who might otherwise be unable to afford it.

Furthermore, distance learning can provide access to a wider range of courses and programs. Students can choose from a variety of courses offered by different institutions, regardless of their physical location. This means that students can obtain a high-quality education from reputable universities and institutions, even if they are not located in the traditional areas.

In conclusion, distance learning offers numerous benefits for students and educational institutions alike. It provides flexibility, access, and a variety of educational opportunities that can help students overcome barriers to education and achieve their academic goals.

For more information or to explore distance learning options, please visit the following websites:

- ED.gov: The official website of the U.S. Department of Education, providing resources and information on distance learning.
- DistanceLearning.org: A comprehensive directory of online learning programs and resources.
- KhanAcademy.org: A free online learning platform covering a wide range of subjects.
- Coursera.org: Offers online courses from top universities and institutions.
- Udemy.com: Provides a variety of courses in different fields, often at a lower cost than traditional courses.

By taking advantage of the resources available online, students can enhance their educational experience and achieve their academic goals from the comfort of their own homes.
K-12 Data Center

The Digital Dakota Network provides many services to both Students and Educators in the K-12 educational community in South Dakota. One of these services is E-mail for the State of South Dakota K-12 Schools including Educators, Staff, and Students. This service provides a state-wide safe and reliable electronic communications system.

We are happy to announce the Web Interface to the State K-12 E-mail system.

Click on the link below, enter your State K-12 Userid credentials and you will be utilizing the State K-12 E-mail system via the Web Interface.

Access K-12 Web E-mail Interface

Please use the following link to try a secured connection to your K-12 e-mail account

https://webmail.k12.sd.us/exchange

It’s a great time to be a K-12 Educator in South Dakota!
Rural Technology Initiative

CREATING virtual learning communities for rural schools

Mid-continent Research for Education and Learning
McREL’s Rural Technology Initiative

Used by Permission From

Howard Pitler, Ed.D.
Director of Educational Technology
Mid-continent Research for Education and Learning
The purpose of the RTI

The primary purpose of the Rural Technology Initiative (RTI) is to field test McREL’s model for online collaborative learning among teachers and administrators as a way to address the challenges faced by rural educators

- geographic isolation
- limited collegial networks
- lack of proximity to higher education
Characteristics of the RTI Intervention

- Face-to-face orientation meeting
- Monthly one-hour online class for teachers/prereading, homework – Classroom Instruction That Works (CITW)
- Monthly facilitated online teacher discussion groups/skills training, homework to apply in the classroom
- Threaded online teacher discussions and debriefing with other teachers in the project – ongoing, monitored
- Monthly online principals discussion group on leadership
- Principals post teacher lesson plan sample for discussion, principals attend teacher sessions
How were schools selected?

- Solicited participation from all region states through state DOE, presentations, McREL Rural News, and McREL website
- 61 schools expressed interest
- 41 schools applied
- 22 school met all qualifications
- Random assignment to study and control groups
## Characteristics: Treatment/Control Schools*

<table>
<thead>
<tr>
<th>School Characteristics</th>
<th>Treatment Schools (7)</th>
<th>Control Schools (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average school size</td>
<td>182 students, 17 teachers</td>
<td>231 students, 18 teachers</td>
</tr>
<tr>
<td>School Title I status</td>
<td>5/7 Title I schools</td>
<td>8/8 Title I schools</td>
</tr>
<tr>
<td>Student SES</td>
<td>48% eligible for FRL</td>
<td>41% eligible for FRL</td>
</tr>
</tbody>
</table>

*Groups are the same on being rural, % minority, and grade levels – all PK - 12
ABBRIEVATED LOGIC MODEL FOR RTI INTERVENTION

Intervention
- Online classes
- Online review sessions
- Online collegial discussions
- Online leader training

Intermediate Outcomes
- Teacher professional Community
- Teachers as effective peer mentors
- Effective classroom Practice
- Teacher efficacy
- Strong principal leadership

Outcomes
- Student achievement
- Teacher retention

August 16, 2005
Copyright @ McREL 2004
## Data Collection and Analysis

<table>
<thead>
<tr>
<th>Construct</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher technology comfort</td>
<td>Teacher Survey</td>
</tr>
<tr>
<td><em>(Scale = 1 to 5, incr comfort)</em></td>
<td><em>Treatment: 2.27  Control: 2.61</em></td>
</tr>
<tr>
<td>Acceptance of technology</td>
<td>Teacher Survey</td>
</tr>
<tr>
<td><em>(1 = hi comfort 5 = lo comfort)</em></td>
<td><em>Treatment: 2.16  Control: 2.36</em></td>
</tr>
<tr>
<td>Instructional Practice</td>
<td>Classroom observations</td>
</tr>
<tr>
<td><em>(McREL, 2001)</em></td>
<td></td>
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<tr>
<td>Supportive school environment</td>
<td>Teacher survey/interview</td>
</tr>
<tr>
<td><em>(Newmann &amp; Wehlage, 1995)</em></td>
<td></td>
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<tr>
<td>Principal leadership</td>
<td>Principal survey/interview</td>
</tr>
<tr>
<td><em>(McREL, 2004)</em></td>
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<tr>
<td>Professional community/mentoring</td>
<td>Teacher survey/Qualitative analysis</td>
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<tr>
<td><em>(Louis &amp; Marks, 1998, NCES, 2001)</em></td>
<td></td>
</tr>
<tr>
<td>Student achievement</td>
<td>Standardized test scores/student work</td>
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</table>
Conclusions to date

- Quality of materials
- Perceived increase in understanding
- Utility of intervention
The RTI website
http://ecampus.learningstreet.net
Precision Teaching & Learning
Technology
Technology Requirements

- User Friendly
- Audio/Video/Data
- Cost Sensitive
- Collaborative Environment
- Reduced Bandwidth
- Interoperate or Complement Videoconferencing
- Alleviate Studio Scheduling Conflicts
- Allow Short Spontaneous Meetings
Technologies

• PC based video/data products
  – Polycom PVX
  – Polycom Via Video II

• Server based video/data products
  – Marratech Pro/5.0
  – First Virtual Communications Click to Meet

• Web based meeting tools
  – SharePoint Services
  – Windows Messenger
  – Communicator 2005
  – Live Meeting 2005
  – Polycom Office
Characteristics of Innovations

• Relative Advantage
  – Does the individual perceive there to be an advantage?
• Compatibility
  – Is it consistent with existing values?
• Complexity
  – Is it difficult to understand and use?
• Trialibility
  – Can it be experimented with on a limited basis?
• Observability
  – Are the results visible to others?

*Diffusion of Innovations*
Everett Rodgers
Polycom PVX
Polycom PVX and WebCT

2004 29-90 DLC Distance Learning Workshop

Brian Dravecky@kisu.edu
(605) 310-1238

Date: August 2-6, 2004
Time: 8:30 AM-3:30 PM
Location: McCook Central

Overview: The 2004, 29-90 DLC Distance Learning Workshop is a five day program on application of the 29-90 DLC distance learning studio and best practices in distance learning for instructors who are interested in, or who are delivering courses for the first time to remote participants. Participants will become comfortable with the operation of the Polycom PVX videoconferencing system at a WebCT site and take virtual field trips during the five day workshop.

Objectives: A $75 per day stipend will be paid to each participant at the end of the workshop and may register for graduate workshop credit ($40 per credit) through the University of Sioux Falls.

Agenda: Monday, August 2, 2004

8:30 AM Breakfast, introduction, material distribution.

8:45 AM Brian Dravecky, Director, 29-90 Distance Learning Consortium.

Introduction to Polycom PVX Videconferencing Systems

Mr. Dravecky will provide a general overview of the 29-90 DLC distance learning studio. Topics included in this overview are power up, power down procedures, requesting bridges for remote site connections, use of peripherals (PC interface, VCR, DVD, document camera, control interface, networking, Crestron menu functions, camera preset, volume and camera controls, synopoint, and Tablet PC). Participants will be encouraged to actively explore the functions of the system during the introduction to the 29-90 DLC distance learning studio. Mr. Dravecky will also demonstrate the use of the Polycom VideoStation FX and Polycom Via Video II videconferencing systems. The Polycom systems are available to 29-90 DLC Member schools for use in IP based videconferences. The goal of the session is to provide participants the opportunity to gain first hand experience in use of the Polycom 29-90 DLC distance learning studio. It is expected that...
Polycom PVX & SharePoint
Marratech 5.0

Blending Distance Learning Methodologies for Professional Development
Project Background
Why Blend?

- Research suggests face to face and distance learning are equally effective modes of instruction (Moore, 2004)
- There are time/place advantages to asynchronous distance learning methodologies
- Blended learning impacts instruction through the fundamental reconsideration of instructional content using new media choices (Voos, 2004)
- There are sociological advantages to synchronous AV methodologies (Liu, 2000)
  - Visible cues (Facial expressions)
  - Paralinguistic cues (voice frequency)
  - Psychological cues (mood)
- Can we combine these methods to create an even more effective mode of instruction?
"It is likely not the ‘blendedness’ that makes the difference, but rather the fundamental reconsideration of the content in light of new instructional and media choices."

Richard Voos
Support Services

• Collaborative interaction during trial period
• Ready support for trouble-shooting problems
• Shared understandings of new practices

Getting to the other side…

With everybody working together.
New or Improved Practice

Any change in practice tends to be isolated and unsupported

Implementation

Use of innovation weakens over time
New or Improved Practice

Implementation
Feedback/Coaching
Technology Enhancers

Shared Practice

Professional Learning Community
Systemic Change
Capacity Building
Sustainability
Findings

• Anecdotal evidence from this project suggests that blending distance learning technologies provide a more dynamic learning environment.

• This more dynamic environment may enhance professional development in at least five ways:
  – Facilities the convergence of learners and content providers
  – Allows for more frequent communication before, during, and after training sessions
  – Provides a secure means for resource allocation and communication in a user friendly intuitive interface
  – Supports multiple learning styles
  – Requires a reevaluation of curriculum