文部科学省　メディア教育開発センター
公開研究会

The Search for Pedagogy to Integrate Physical and Virtual Classes in Atlantic Canada

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National Institute of Multimedia Education (NIME)

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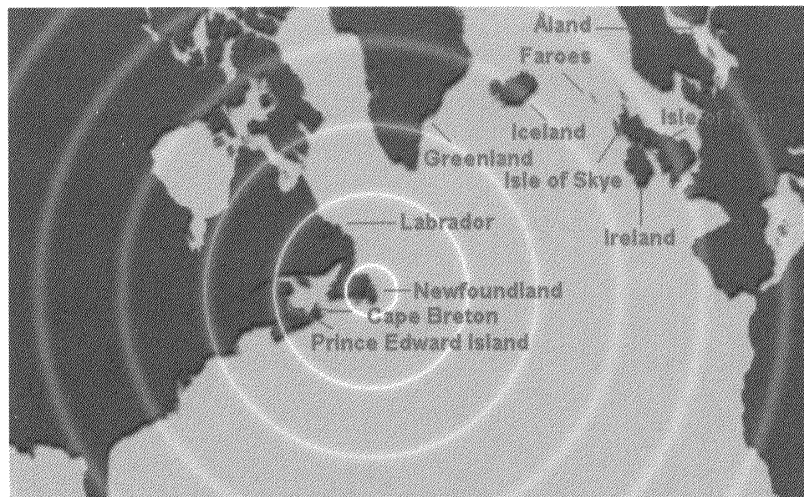
Ken Stevens
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Memorial University of Newfoundland
Canada

TeleLearning

- Integration of Physical & Virtual Classes
- Reconsider the way we Teach
- Reconsider Organization of Learning
- Digital Re-organization of Education
- Re-thinking the Nature of Schools
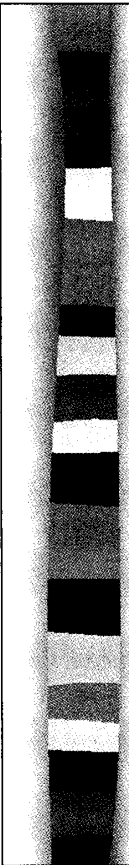- Educational Policy Implications

Newfoundland & Labrador

- Geographic Isolation
- Distinctive culture & history
- Sparse population settlement
- Many rural communities
- Unemployment
- Out-migration
- Networking/ telelearning

Small Rural Schools

- 391 schools in N'fld-Lab
- 260 (66%) officially rural
- 122 of these (31%) "small rural"
- 75 schools have less than 100 students
- 70 schools are K-12 (all-grade) and offer a senior high school program
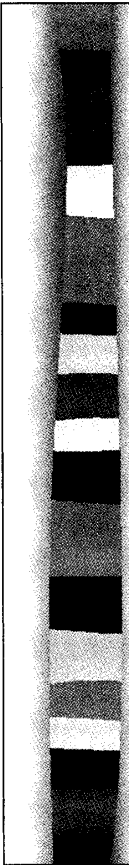
The Vista School District

- 7000 square kilometres
- 35,000 people (approx)
- Fishing, forestry, mining, aquaculture, tourism
- 18 Schools
- Range from 40 to 650 students

Closed & Open Schools

- Own students; own teachers
- Community schools
- Duplication of Teaching
- On-site and on-line classes
- Digital Intranets & Virtual Classes
- Academic & Administrative Interface
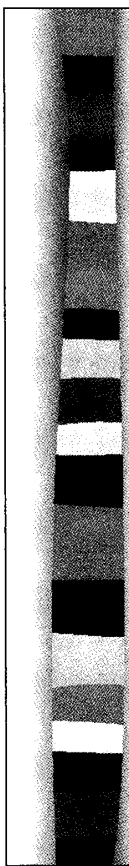- ICT to share and move resources

Closed Model - Teaching Science Using ICT

- Traditional teaching (lectures, assignments, books, face to face)
- Co-operative teaching (Website for resources, collaboration, less direct teaching)
- Internet/computer teaching (work individually using ICT and Web)

Closed Model: Outcomes for Biology

- Student preference for combination of strategies
- All groups noted reliance on single strategy not beneficial
- Students need training in IT
- Frustration with lack of computer and Internet skills

Open Model of Teaching Science - A School District Intranet

- The 4x 4 model of Web-based course development

- Re-organization of classes into a Digital Intranet.

The 4 x 4 Web Model

- 4 Lead Teachers
- 4 Recent Science Graduates (with advanced computer skills)
- 4 Education Faculty members (one in each science discipline)
- 4 Science Faculty members (one in each science discipline)

Asynchronous/WebCT

Welcome to Physics 4224

| Lessons | Calendar | Bulletin Board | Private Mail |
| Tests (Quizes) | My Record | Presentations | Chat |

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Asynchronous/WebCT

Synchronous--
Netmeeting/MeetingPoint

Synchronous--Netmeeting/MeetingPoint
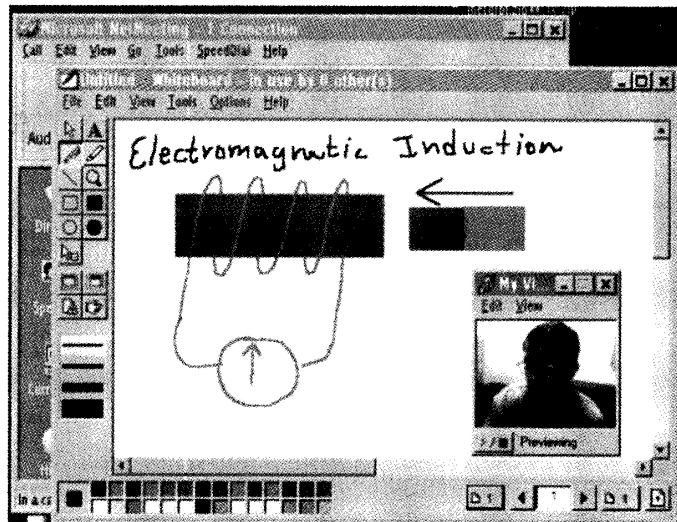
Implications of Move to Open Classes (1)

- Appointed to closed learning environment but teach in open classes
- Open to professional scrutiny
- Web-based AP teachers have a new prominence in the profession
- E-Teachers; M-teachers
- Charter teachers (Scotland)

Implications of Move to Open Classes (2)

- Only Science & Mathematics at first. Disappointment at lack of other options
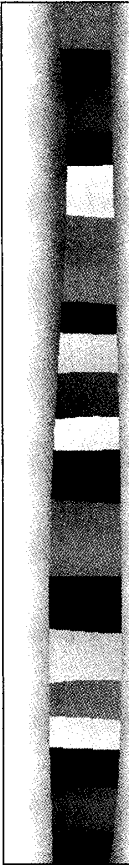- From AP subjects to Other Classes and other areas of the Curriculum.
- From a single school, to a school district digital Intranet, to Province-wide trial in 2001-2002 (44 schools).

Pedagogical Implications

- Appointment of teachers to one site or to multiple sites?
- Emergence of lead teachers
- "Charter Teachers" (Scottish Office)
- TeleTeachers (E-teachers) - New educational professionals
- Challenge to Integrate on-site with on-line teaching and learning

Pedagogical Implications

- Structural Intranets
  - Geographical considerations (eg School District Digital Intranets - Canada, NZ)
  - School size considerations
  - Moving resources between sites
  - Can telelearning in rural classrooms provide pedagogical templates for other classrooms?

Pedagogical Implications

- Personal Intranets
  - New configuration for organization of teaching and of classrooms
  - Independent and non-independent learners
  - New classroom and school management considerations
  - Creation of new teaching and learning pathways

Policy Issues

■ Issues in Macro-Educational Administration and Policy:

- Digital Intranets
- Multiple virtual classes
- Creating organizational structures to meet the proliferation of new opportunities for learners

Policy Issues

■ Issues in Micro-Educational Administration and Policy:

- Matching teaching and learning styles
- Integrating on and off line teaching and learning
- Integrating asynchronous and synchronous teaching and learning (eg local and non-local time zones for on-line learning)

Conclusion

- Use of ICT to increase educational opportunities in small schools
- Awareness of other models: Finland, NZ, Iceland, Russia
- Providing more Education with fewer schools through collaborating sites
- Making small schools large schools in terms of learning opportunities
- From structural to personal intranets?

Collaboration with NIME?

- Multimedia resource development for teachers and students?
- Developing countries with rural populations?
- Common areas for collaborative research between NIME and the Centre for TeleLearning and Rural Education?