



Overall Theme 2004

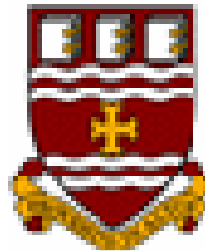
LEARNING TODAY:

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Issues in Broadband-Enabled Learning

Elizabeth Murphy



Memorial

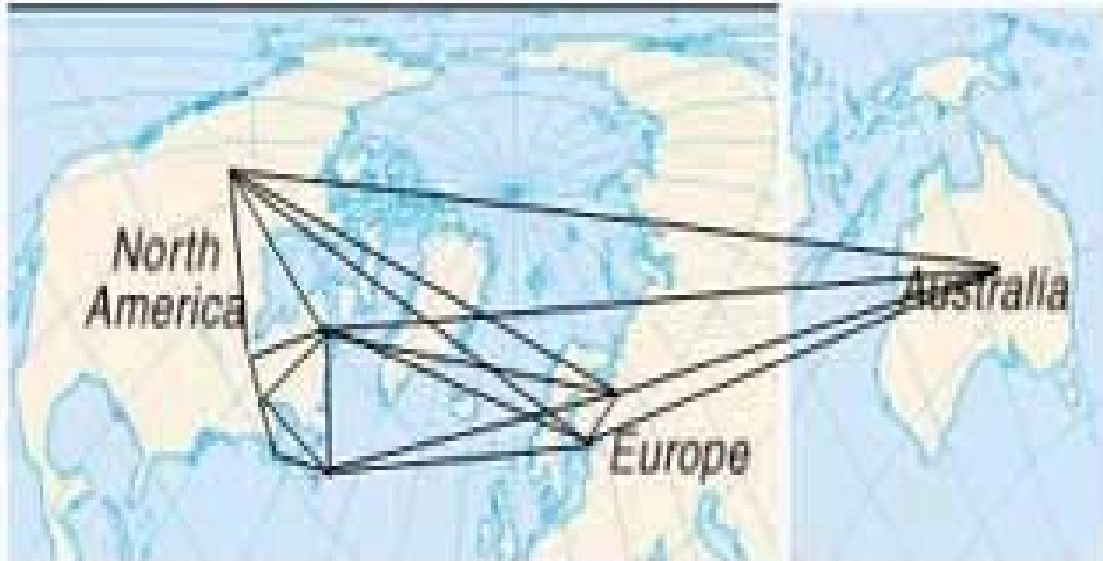
University of Newfoundland

Purpose

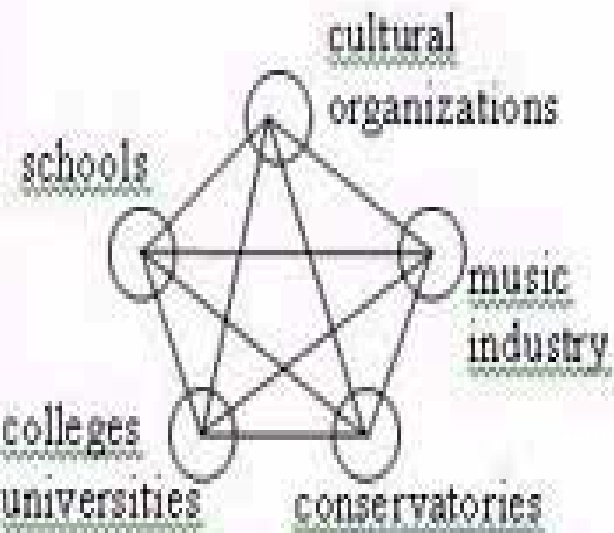
Present one case of broadband-enabled learning through a framework of:

advantages, compatibility, complexity, support.

MUSIC GRID



geocultural & organizational diversity



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MUSIC GRID

- **Pioneer large-scale broadband E-learning**
- **Create broadband music education community**
- **Share knowledge, best practice, culture**
 - **Enable, expand & enrich music programs in rural & remote Canadian communities**

Broadband communication tools

Synchronous



- Video-conferencing
- Point-to-point
- Multi point
- H.323 & Isabel








Asynchronous



- Private video server
- MusicGrid site

MusicGrid: Video Collections / Collection de Vidéos

[Upload a new video / Télécharger un nouveau vidéo](#)

Day and time Jour et heure	Video access Accès au vidéo	Annotations
 Adele violin lessons [16]		
 Barbara Reid [4]		
 Canterbury [12]		
 Canterbury Strings Performance 29Oct03 [3]		
 Geneva 15/16 Oct 03 [12]		
 Get together 31 Oct 03 [13]		
 Hana's Suitcase [2]		

Annotations

This video, and all in the series of titles listed below, are from videoconference lessons between Buckingham and Kangiqsualluq, Quebec. Please give your impression of these lessons, the videoconference medium, and the form in which the lessons is made available to you on the server, i.e. as a sequence of short clips.

Titles in this series (I have listed the large videos; each is also available in small format):

- large_taking_violin_from_case
- large_violin_parts
- large_holding_the_violin
- large_playing_pizz
- large_violin_lesson

03/03/2003
17:24:52

Adele Dufour is a violin teacher in Buckingham, Quebec. She is a broadband pioneer, teaching beginning students weekly by videoconference. Adele is at the Hormisdas Gamelin school in Buckingham, Quebec; the students are in Kangiqsualluq, in the very far north of Quebec, located on Ungava Bay. Two of their teachers, Alain Rochefort and Chris MacPherson, help out with the lessons – they are musicians, but have no experience with violin. The H323 videoconference is transmitted over CA*net4 and the Telesat Multimedia Satellite Trial for Schools satellite network. The project was organized by Michel Mayer and Chris Iles at CRC.

- martin brooks

Methodology

Report #	Period covered	Type of evaluation	Approaches to data collection
1	January 01 - March 31, 2003	Formative	<ul style="list-style-type: none"> •Questionnaires for all participants •Interviews with teachers, technicians and administrators
2	April 1, - June 30, 2003	Formative	<ul style="list-style-type: none"> •Interviews with teachers •Observations of activities and events
3	July 1 st - September 30, 2003	Formative	<ul style="list-style-type: none"> •Analysis of issues raised in pedagogical meeting in relation to issues arising out of reports 1 & 2
4	October 1 st - December 31 st , 2003	Formative	<ul style="list-style-type: none"> •Interviews with teachers •Observations of activities and events
5	January 01, 2003 – March 31 - 2004	Summative All 5 quarters covered.	<ul style="list-style-type: none"> •Focus group session using Isabel with teachers •Observations of activities and events •Questionnaires for teachers •Interviews with technicians •Interviews with key informants / external observers •Quarterly reports for the Operations' component •Content posted to MusicGrid site by participants



00:07:59



Conceptual Framework

Advantages

Compatibility

Complexity

Support

Adapted from Rogers, E. (1995). Diffusion of innovations.
New York: Free Press

Framework questions

1. What advantages were accrued to users by using the technology?
2. How compatible was use of the technology with existing practices, experiences & needs?
3. How easily were users able to use the technology and tools?
4. What types of resources & support were needed?

Advantages

- Eliminate barriers of distance, remoteness and isolation
- Access to quality and equal education programs
- Peer-to-peer interaction and learning
- Access to experts and mentors
- Learning from a wide variety of sources
- Exposure to greater cultural diversity
- Providing points of comparison for students and their teachers

Teacher development

“I’m not a specialist with all instruments and so being exposed to various instruments allows me to remember all of the tips the different people give. Then, when I’m teaching, I can remember their advice and use it to help the students. So these sessions are great for my teaching too in that I get to see a wide variety of instruments and techniques.”

violin_repair_4.mov



File Edit Movie Favorites Window Help



00:03:36



Peer-to-peer learning

“[I]t has given our students the opportunity to meet other students in other schools... just giving them the opportunity to network and to perhaps learn more than what they would get within the confines of this classroom... So, I think what the technology has done is broken the barriers down and just given everybody the opportunity to learn from a wide variety of different sources.”



Cross-cultural interaction

“I find that it has opened up tremendous opportunities to all of our students that we have seen here because every culture they are linked to, they find out something unique. To be speaking to students from the Inuit culture the way they are, presented through MusicGrid, has been tremendous. It opens up the world to these students... and you can really tell it has had a tremendous impact.”



00:00:11



Access to experts & mentors

“...to have somebody who is knowledgeable in so many areas brings the kids that much more to a higher level”.

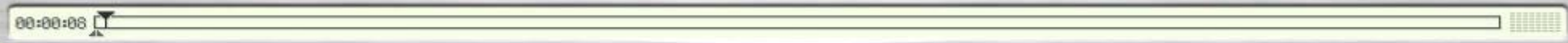
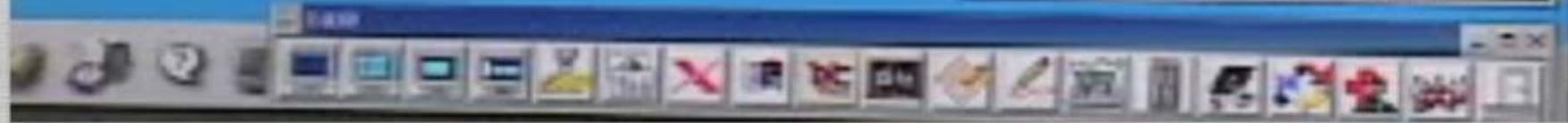
“They’re getting a session with a professional who can coach them in a way that might not necessarily otherwise be available as readily. It’s instant feedback.”

[T]he students are able to see the difference in how he plays versus how they play themselves. He gives them ideas about what they can do better or differently. Then, after this, when they play, they are able to think about what they’ve learned and try and apply it to their own music within the group.”



00:00:28

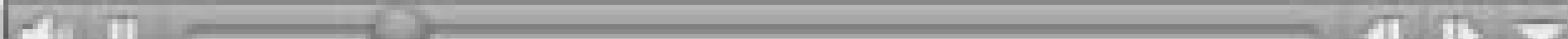




Compatibility

Elimination of geographic constraints
raises issues of:

- compatibility in cross-cultural interaction, communication & learning
- compatibility of synchronous activity across time zones



Compatibility

Children - Inuktitut

Their onsite teacher - Anglophone

Virtual violin teacher is Francophone

All instruction is in English

“The students do not know the tunes of most songs they learn which are French songs”.

“The language barrier is not as large a problem this year as it was last year. It’s not that the kids are better in English. It’s that they are communicating better with the music.”

Complexity

- Steep learning curve
- Tools and technology are new and complex
- Curve can be managed by novice users of the technology
- Technical support necessary in the beginning
- Complexity can be managed by building capacity in the system

Complexity

“Isabel is not that simple...it is a burdening product, a kind of a science project on wheels. More windows open up than you can shake a stick at to make it go”.

“I couldn’t check my email before this. I never bothered to check it because there was no need. I mean if I needed to know anything for school, I had it. There were little notes passed around or whatever.”

“I would recommend Isabel as the tool to use the most because this is the one I’ve become most comfortable with and the one I have the most access to.... We use it everyday now. I’ve found it to be very easy to use. “

Support

- Access to support plays an important role in success of BEL
- Level of support needs to be high in beginning
- Need to build a capacity to provide support at local level
- Other teachers can provide support
- Students can represent an important form of support

Support

“What’s important is the music and not having to worry about the technology. “

“I have a teacher here who helps me with all of the technical support. But when she is not here, like today, I have a student who is able to help me set up the machines. Mostly it’s just setting things up that I need help with. Once that is done, things usually run smoothly with the students playing.”

“...if some time is not allocated to at least become somewhat familiar with the technology and how to turn the machine on and off, how to make the correct microphone settings, get the cameras adjusted, get a background up and all those kinds of things, it can be very, very frustrating.”

Further inquiry

- What is the relationship between speed and context in BEL?

e.g. What speeds are required with what types of networks and for what range of activities?

- What challenges and difficulties are encountered in broadband-enabled, cross-cultural learning experiences and how can these be overcome or managed?

Further inquiry

- How can challenges related to synchronous communication across time zones be managed in contexts of BEL?
- What is the minimum level of technical and temporal support required by users in contexts of BEL?
- What types of BEL tools require the minimum levels of support?

Other issues

How can BEL be made affordable and accessible in remote and rural communities where the broadband infrastructures are not already in place?