

The Remote Networked School Model: An ICT Initiative To Keep Small Rural Schools And Their Local Community Alive

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The Province of Quebec: A large territory with few people

Surface



Population



Consequences

- Urban concentration, although our rural regions are crucial, in particular for natural resources
- Rural exodus
- Many small schools ($N > 500$) and multi-grade classrooms
 - This is a challenge to sustain a learning environment of quality, considering the importance of peer interactions (Bransford et al., 1999)
- Some schools are threatened of closing, thus threatening the development of a local community
- Community's vitality in danger, considering school-community interdependence (Egelund & Laustsen, 2006; Prévost, 2004)
 - If there is no school in a particular community, which parents will want to establish themselves there?

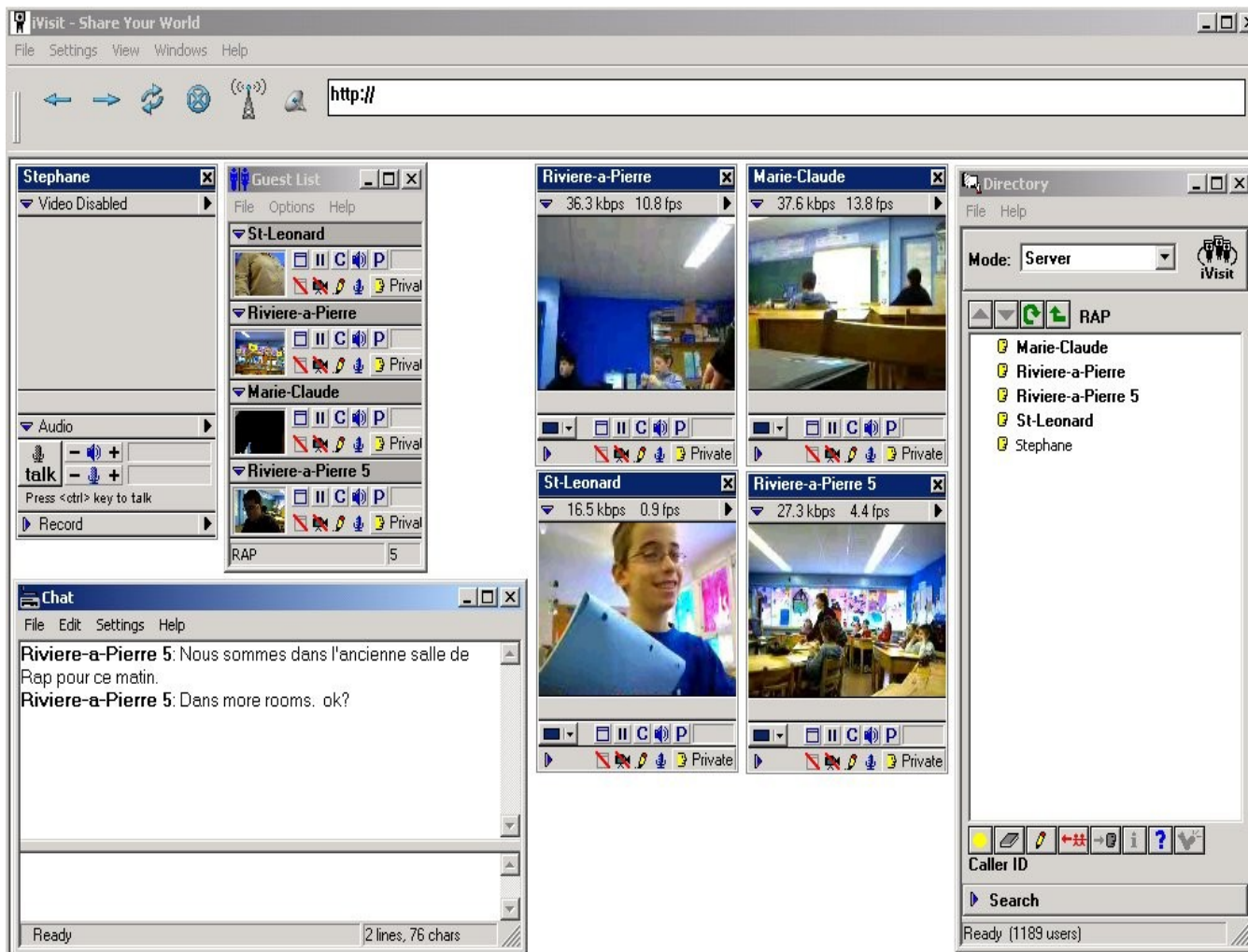
Research question of the RNS initiative

- How to enrich the learning environment of rural schools in order to achieve equal opportunity and school success?
- Our main working hypothesis: the use of collaborative information and communication technologies (ICT) is relevant
- Design research approach (Brown, 1992; Collins, 1992; 1999)
 - To develop a model in collaboration with practitioners and other stakeholders
 - Many cycles of design / data collection / reflection (iterations)

The RNS model

- The classroom as a hybrid learning environment (Laferrière, Breuleux & Lamon, in press)
 - Combining face to face and online interactions
 - Enforcing social interactions by allowing classrooms from different regions to work and learn together
- Telecollaboration
 - 30% of time online
 - Verbal (videoconference) and written discourse (electronic forum)
- Knowledge building pedagogy, and especially Bereiter & Scardamalia (2003)
 - Collective idea improvement from authentic problems
- The initiative began in 2002 with 3 school districts and now implemented in 24 school districts and approximately 149 schools (primary and secondary levels)

Verbal discourse with iVisit



Verbal discourse with Via

[Via]

ÉÉR - RÉUNION DE RECHERCHE

Activité Audio - Vidéo Documents Options Aide Connexion

ACTIVITÉ

Animateur actif: Hamel, Christine
15/12/2009 - 09:49.03
Temps écoulé: 00:54.23

OPTIONS PERSONNELLES

PARTICIPANTS (5)

- Laferrère, Thérèse
- Allaire, Stéphane
- Gaudreault-Perron, Julia
- Hamel, Christine
- Turcotte, Sandrine

CLAVARDAGE

Christine Hamel (Tous les utilisateurs) > Stéphane pourrais-tu essayer d'intégrer un document de ton côté ?
Christine Hamel (Tous les utilisateurs) > Ça me donne un message d'erreur, on se demande si le problème est pas ici à l'interno...
Stéphane Allaire (Tous les utilisateurs) > veux-tu essayer de nouveau christine? tu es l'animatrice active
Christine Hamel (Tous les utilisateurs) > bizarre, ça marchait pas avec l'outil dans la page web

Thérèse Laferrère Christine Hamel Julia Gaudreault-Perron Sandrine Turcotte Stéphane Allaire

Options vidéo

Évolution des conditions d'innovation présentes dans le discours de l'ensemble des intervenants

Condition	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Insatisfaction face à la situation actuelle	18%	30%	18%	18%	45%
Connaissances et habiletés requises	28%	20%	25%	25%	18%
Disponibilité de ressources	28%	20%	25%	25%	18%
Disponibilité de temps	10%	5%	10%	10%	15%
Participation aux décisions	2%	2%	2%	2%	2%
Incitatifs	2%	2%	2%	2%	2%
Engagement des administrateurs	2%	2%	2%	2%	2%
Leadership	2%	2%	2%	2%	2%
Engagement des intervenants	2%	2%	2%	2%	2%

Image 1 (1 / 1) 00:54.03 / 02:42.38 Documents à télécharger 100%

Written discourse with Knowledge Forum

The screenshot displays the Knowledge Forum software interface. The main window shows a network of nodes connected by blue arrows. The nodes include:

- reponse pêche à la morue - Émie G.
- Question Philippe V.
- La pêche de la morue Iréponse - Angélic D.
- La pêche à la morue Zackary A.
- la pêche à la morue Dylan F.
- pêche Arnaud G.
- la pêche à la morue Zachary G.
- La pêche à la morue Zackary A.
- la pêche à la morue Zackary G.

Three note windows are open, each with a 'Note' tab selected. The windows are:

- Note: Question - Philippe V.**
 - Problem: J'ai besoin de comprendre Où les Français faisaient-ils la pêche à la morue?
- Note: La pêche à la morue - Zackary A.**
 - Problem: Nouvelle information La pêche à la morue est fait à Terre-Neuve.
- Note: la pêche a la morue - Dylan F.**
 - Problem: J'ai besoin de comprendre Pourquoi les Français faisaient la pêche à la morue ?
 - Keywords: pêche à la morue

The interface also features a toolbar on the left, a status bar at the bottom showing '0 of 34 selected', and a window title bar at the top reading 'View: Agriculture, commerce et industries'.

Specific study background

- The importance of parental involvement in school activity (Christenson & Sheridan, 2001; Deslandes et al., 2005)
- Parental participation can take many forms (Deslandes, 2004, Epstein, 2002) and many styles (Dornbush, 1988; Steinberg, 2000)
 - Parenting
 - Communicating
 - Volunteering
 - Learning at home
 - Decision making
 - Collaborating with community

Specific study background

- Participation depends on social representations (Abric, 1994; Gilly, 1989)
 - Beliefs, values, perceptions, expectations, needs, attitudes

Objectives of the study

- To present parents' social representations of the RNS model
 - Differences between a RNS and regular school
 - Roles in the child's academic success
 - Involvement in the RNS
 - Expectations towards the RNS initiative

Methods: Data collection and analysis

- Convenience sample
 - N = 12 parents
- Semi-structured interviews
- Data transcriptions
- Content analysis (L'Écuyer, 1990)
 - Emergent themes and patterns (Moustakas, 1990)
 - Unit of analysis: idea
- After coding the data, formal quantification of statements was skipped as our goal was to capture the diversity of social representations

Results: Representations of the RNS vs regular school activities

- **Familiarization with technologies**
 - “Our children, well, they will grow from this experience and practically know how to use a computer hmmm, with their eyes shut.”
- **Connect teachers**
 - “... instead of those teachers being isolated, there is a marked improvement concerning subject matter, by way of team teaching. For him, the RNS is a means of making collaboration between teachers happen.”
- **Connect school communities**
 - “When you’re just the same group of fifteen people well, it’s always fun to “network” when you’re a teenager or even if you’re child, so you can create relationships even if you aren’t visually close, you communicate with that person, you see his or her face, it still creates a relationship, a communication, no matter if it’s by correspondence, by phone, these are relationships that will remain for life...”
- **Expansion of local community**
 - “The hospitals, surely they don’t have the same office as where I work – I mean instead of traveling 1000 km to go to a meeting there, about a conference that we could have with them over there.”

Results: Representations of the RNS vs regular school activities

- **Opening up the world of children**
 - “What I see about the RNS is that it’s a more global approach where the student can consider himself as a citizen of the World.”
- **Survival of the local school and community**
 - “For us, what we can see is that if we can keep our students here, if we can show them that we have the technology that will let them learn as well as, hmm, as adequately as hmm, down south, well that is going to keep people here.”
- **Developing knowledge communities**
 - “It permits the democratization of knowledge and interregional sharing of information.”

Results: Roles in the child's academic success

- Support for homeworks
- Encouragement
- Purchase of a personal computer

Results: Involvement of parents in the RNS

- No resistance was shown to counter its development
- Participation in parents' committee
- Support during field trips (e.g., snowshoe excursion)
- Schoolyard surveillance during recess
- Presentations using the videoconferencing system about their work

Results: Expectation towards the RNS

- The most involved parents want more information
 - "We received some chunks of information about it at the beginning of the school year and, sometimes, during parents meetings; but that's it."
- Some schools held special meetings where they had children showing their parents and local citizens how the RNS tools work and what they do with them

Discussion

- Although most parents don't participate actively in the RNS activities, they are aware of the model
 - Besides the lack of information, low level of concrete participation could be explained by the fact that parents were not often solicited
- Globally, parents' understanding is rich and covers many dimensions addressed by the model: individuals, classroom, school, community
 - This stressed the need to put together all chunks of information to give a more complete portrait of the model that could eventually be the basis to a more active participation

Discussion

- In regards of the classroom dimension, their understanding concentrates mostly on its social aspects, i.e. the possibility for their child to have more friends, rather than its academic aspects
- Most parents still don't connect the RNS with the development of their local community
- More direct work with them could be a path of development – in an action team or a specific partnership program – that could insure that the RNS will not only be an efficient model to enrich students' learning environment, but also a true way to insure communities' vitalization and emancipation
 - Knowledgeable parents could help in this regard, e.g. during information meetings

Conclusion

- Although most RNS don't have a specific school-family-community partnership, we think some important conditions could act as a lever if one were to be established in the future (Epstein, 2011)
 - Parents' conviction about the necessity of having a school in their community and openness to explore ways to keep one
 - Strong school-university partnership
 - Distributed leadership (in some sites) (Hamel, 2011)
 - Teamwork, collegial support and network in place between teachers