

Brief to the Minister of Education, Citizenship & Youth Information and Communication Technology in K-S4 Education

The Manitoba Association of School Superintendents appreciates this opportunity to present to the Minister the concerns and issues identified by the membership related to integration of Information and Communication Technology (ICT) in K-S4 programming. This brief has been developed to provide information and recommendations regarding the critical issues that the membership of our organization believes require some action on the part of the government. These issues are as follows:

1. Funding for ICT in K-S4 Education
2. Bandwidth Infrastructure for Education
3. M.E.R.L.I.N. (Manitoba Education Research & Learning Information Network)
4. Professional Development and Literacy with ICT
5. Electronic Information System (EIS) and the Kindergarten to Senior 4 Information Management Advisory Committee (KSIMAC)

Introduction

Today's students require multiple literacies that will allow them to respond to changing ideas, attitudes, and technologies as their communities and their world evolve. The effective use of Information Communication Technology (ICT) is one of those literacies. More specifically, students need the skills and capacity to access ICT to solve problems, improve their personal performance and gain the critical and creative thinking skills necessary to become lifelong literate learners and contributing members of their communities.

Manitoba Education, Citizenship and Youth (MECY) has identified technology (ICT) literacy, communication, problem solving, and human relations as foundation skills to be developed within the context of every subject area from Kindergarten to Senior 4. In the document "Technology as a Foundation Skill: A Model For Implementing and Using the TFS Continuum", (<http://www.edu.gov.mb.ca/ks4/tech/tfs/index.html>), MECY provides a framework of descriptors that portray how students demonstrate their ICT literacy. There are five principles supporting the *TFS Continuum*. They include:

- Constructivist Learning;
- Inquiry
- Higher-level, Critical and Creative Thinking;
- Reaching Deeper Understanding;
- Multiple Literacies for the 21st Century

Funding for ICT in K-S4 Education

School divisions are spending a significant portion of their budgets to support initiatives in ICT implementation in support of teaching, learning and administration. According to 2005-2006 FRAME, school divisions are projecting to spend 25.6 million dollars on ICT, including salaries (7.2 million), services (3.5 million) and equipment (14.8 million). These FRAME budget reports do not include any funding that school divisions provide for instructional support or Professional Development as these costs are reflected in other areas of the FRAME report.

Provincial funding for ICT amounts to 6.9 million or approximately 27% of actual expenditures (not inclusive of instructional support or Professional Development costs). Hence, this level of support is significantly less than the figures reflected in FRAME.

The provincial government should provide adequate funding for ICT in Manitoba school divisions. MECY and the provincial government should base this funding formula on actual costs of implementation of the expectations regarding ICT implementation as outlined. This funding should include provisions for infrastructure, human resources, professional development and instructional support.

Rationale

School divisions in Manitoba are responsible for researching, developing, implementing, maintaining and funding the ICT necessary to support teaching, learning and administration in their jurisdictions. Provincial funding provided to school divisions is significantly under-funded. This under-funding has forced school divisions to re-allocate resources that should be targeted to instructional and operations into ICT.

Recommendation

The Manitoba Association of School Superintendents respectfully requests that:

- The provincial government significantly increase funding to support ICT in education by revising the funding formula for school divisions to address actual expenditures of ICT implementation.

Bandwidth Infrastructure for Education

School Divisions in Manitoba have been responsible for investigating, developing, funding, implementing and maintaining the bandwidth necessary to support their education and administration needs. There has been no provincial coordination related to best practice, pricing, architecture or support of these networks. Educational institutions in Manitoba have developed unique, proprietary networks that utilize varied technologies supplied by individual vendors to deliver curricula created within each division.

Energy, Science and Technology (EST) and MECY should create and fund a province-wide network offering adequate and affordable bandwidth to all schools in the province. They should host centralized, consolidated services following best practice and shared applications while allowing school divisions to maintain the diversity necessary to support unique needs at the school and divisional levels. MERLIN should be used as a liaison between these two government departments and school divisions to support best practice, consistent architecture and maintenance within and between school divisions.

Rationale

School divisions support students in regions that vary geographically and economically. The single greatest opportunity to offer equity is bandwidth. Bandwidth offers connectivity to shared resources, makes tools and teachers available and creates the opportunity to centralize and consolidate services and supports. Equitable bandwidth can provide equal opportunities to all students regardless of geography or economics.

Recommendations

The Manitoba Association of School Superintendents respectfully requests that:

- The provincial government provide and fund adequate and affordable bandwidth for all schools regardless of geographic location or economic status;
- MECY and EST supply guidance and support for this provincial network through MERLIN;
- The network connect all schools, provide shared services and support best practice throughout the province;
- School divisions be able to leverage this network to build bandwidth based assets like Voice Over IP, Central Administration, Video Conferencing and be scaleable to allow future growth.

M.E.R.L.I.N., (Manitoba Education Research & Learning Information Network)

MERLIN has the following mission:

To support the use of technology in improving educational services to learners.

MERLIN responds to the requests of school divisions. Rural and Urban school divisions are charged the same rates. MERLIN brokers software and bandwidth, designs networks, hosts the Cyberschools portal, programs routers, switches and servers and acts as a liaison between vendors and school divisions.

MERLIN should act as an advisor to organizations that direct school divisions including MASS, MASBO, MAST and MECY. MERLIN should become a central repository of knowledge, best practice, hosted applications and services for educational technology. MERLIN should be a true liaison between MECY and EST. MERLIN should create and maintain white papers recommending best practice and offering direction related to training, acquisition, implementation, maintenance and use hardware and software. MERLIN should initiate and orchestrate meetings of all stakeholders and coordinate projects to demonstrate proof of concept then guide school divisions through implementations.

Rationale

MERLIN is positioned to be both the catalyst to initiate projects and the expert to support the implementation. MERLIN is an SOA of EST and has the following mandate:

- Provide services that support educational institutions in the application of technology tools to enhance and expand program delivery; and
- Provide direction and management in the educational use of networks, acting as a broker of services to meet client needs.

MERLIN has been reactive rather than a catalyst; the MERLIN focus has been on doing what it takes to remain viable rather than predicting future needs and developing strategies to prepare school divisions to meet these needs.

Recommendations

The Manitoba Association of School Superintendents respectfully requests that:

- MERLIN work cooperatively and more closely with MECY to address provincial ICT issues;
- MERLIN demonstrate greater initiative to predict, inform, plan and prepare for and with school divisions rather than waiting to respond to requests;

- MERLIN be given the support necessary from MECY and EST to fulfill its mandate and assume a supportive role with a provincial scope, developing projects, coordinating all stakeholders, brokering vendor offerings and sharing plans for the future.

Professional Development and Literacy with ICT

MECY is currently piloting the Literacy with ICT (Information and Communication Technology) continuum in small action-research groups. The effective implementation of the continuum is dependent on the teachers' ability to infuse technology in the classroom. To do so, teachers will need to have good personal technology and pedagogy skills. With the imminent release of the continuum, school divisions will find themselves responsible for providing training and professional development.

MECY is in the process of creating a train the trainer model, in which the teachers and school administrators in the action research will be responsible for supporting local schools with the implementation phase. These teams will be required to be out of their schools regularly in order to support all local schools with the implementation. Unfortunately, MECY is not providing the action research team with any release time to effectively support the training nor the implementation of the continuum over the next three years.

In addition to supporting teachers with the continuum, school divisions will also need to provide teachers with technology literacy skills training prior to expecting them to infuse technology in the classroom.

All schools should have the necessary resources and professional development to support the successful implementation of the Literacy with ICT continuum. MECY should support school divisions with delivering professional development. Unlike other curricular areas, Literacy with ICT focuses on pedagogy and personal skills. MECY should provide opportunities and release time for teachers to develop these skills during weekends, summer institutes and the school year.

School divisions should also receive a substantial increase in funding to support on-going professional development in the area of ICT, research and assessment.

Rationale

Many divisions will not be able to support release time for teachers to pursue professional development. Classroom teachers will need to develop a thorough understanding of the continuum, pedagogy and technology. If teachers do not receive the training and professional development they require, schools will not be able to implement the continuum effectively and infuse technology. Students' skills will therefore be dependent on the school division's ability to fund professional development. All students deserve the best education in Manitoba. If MECY truly believes in the continuum, then supports and resources should be provided to school divisions, otherwise the implementation will become optional.

Recommendations

The Manitoba Association of School Superintendents respectfully requests that:

- MECY be responsible for delivering professional development in the areas of Literacy with ICT, and technology-supporting skills training and providing funding to school divisions for the substitute costs incurred to attend the sessions.

Electronic Information System (EIS) and the Kindergarten to Senior 4 Information Management Advisory Committee (KSIMAC)

Schools and school division currently collect information for MECY using the department's EIS (Electronic Information System) program. Several issues have resulted in the use of this system that include:

- Difficulty interfacing between school/divisional Student Information Systems (SIS) and EIS requiring handling of data (potentially) numerous times
- Collection of data that changes yearly requiring manual updates to the EIS program
- Deadlines imposed by the department that are difficult to meet for some school divisions due to size, geography, etc.
- The necessity to collect different pieces of data for different departments in different ways.

KSIMAC hopes to accomplish a number of objectives using a collaborative process for information collection and management including:

- Standards for the information that schools/divisions and government departments share
- A common vocabulary with which to communicate about the data
- Coding protocols to assist with the ease of integrating data between divisions and MECY as well as developing a stable data collection tool
- Develop efficiencies and better effectiveness in data collection
- Streamline the information it collects and preventing duplication of data collection
- Provide data stewards and users with a rationale behind the requests for data and determine a reasonable timetable for collection and updates.

Mandate of KSIMAC

- The KSIMAC Committee will make recommendations on matters pertaining to the functioning of an education information system and the exchange of information between school divisions and the Department.
- Recommendations provided by the KSIMAC Committee do not have to represent a majority opinion. While the Committee will work towards achieving consensus, reports may express a variety of viewpoints on a given issue.
- The KSIMAC Committee will submit an annual report of its deliberations and recommendations to the Deputy Ministers of Education, Citizenship and Youth and Advanced Education and Training.

Recommendations

The Manitoba Association of School Superintendents respectfully requests that:

- Standards for the information that schools/divisions and government departments share and a common vocabulary with which to communicate about the data be developed;
- Coding protocols to assist with the ease of integrating data between divisions and MECY as well as a stable data collection tool be developed;
- Efficiencies and better effectiveness in data collection be developed;
- The information that the department collects be streamlined to prevent duplication of data collection;
- A rationale behind the requests for data be provided and a reasonable timetable for collection and updates be determined.

The Manitoba Association of School Superintendents appreciates this opportunity to discuss the critical issues that have been identified by our membership regarding ICT implementation in K-S4 education.

We are committed to working cooperatively with the government to resolve these issues in the best interests of the students that we serve.

Thank you.

SUMMARY OF RECOMMENDATIONS

The Manitoba Association of School Superintendents respectfully requests that:

1. The provincial government significantly increase funding to support ICT in education by revising the funding formula for school divisions to address actual expenditures of ICT implementation.
2. The provincial government provide and fund adequate and affordable bandwidth for all schools regardless of geographic location or economic status;
3. MECY and EST supply guidance and support for this provincial network through MERLIN;
4. The network connect all schools, provide shared services and support best practice throughout the province;
5. School divisions be able to leverage this network to build bandwidth based assets like Voice Over IP, Central Administration, Video Conferencing and be scaleable to allow future growth;
6. MERLIN work cooperatively and more closely with MECY to address provincial ICT issues;
7. MERLIN demonstrate greater initiative to predict, inform, plan and prepare for and with school divisions rather than waiting to respond to requests;
8. MERLIN be given the support necessary from MECY and EST to fulfill its mandate and assume a supportive role with a provincial scope, developing projects, coordinating all stakeholders, brokering vendor offerings and sharing plans for the future.
9. MECY be responsible for delivering professional development in the areas of Literacy with ICT, and technology-supporting skills training and providing funding to school divisions for the substitute costs incurred to attend the sessions.
10. Standards for the information that schools/divisions and government departments share and a common vocabulary with which to communicate about the data be developed
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13. Efficiencies and better effectiveness in data collection be developed;
14. The information that the department collects be streamlined to prevent duplication of data collection;
15. A rationale behind the requests for data be provided and a reasonable timetable for collection and updates be determined.