Executive Summary

Alberta Education SuperNet Snapshot

Prepared for Alberta Education

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Executive Summary

To investigate the impact of SuperNet on the education system in Alberta, Extension Learning Solutions undertook an investigation to provide a 'snapshot' of SuperNet use in several school jurisdictions across Alberta. In collaboration with Jurisdiction Technology Contacts (JTCs), Extension Learning Solutions selected 15 schools to participate in the SuperNet Snapshot. This collaborative process ensured that all schools selected for the SuperNet Snapshot research were actively using the SuperNet in a manner that provided an accurate impression of the system's capabilities. However, the involvement of JTCs in the school selection process could potentially have introduced a source of bias, due to the purposive nature of the sampling technique. Whether or not they aware of it, JTCs might have selected schools within their jurisdiction that were more advanced in terms of technology integration and SuperNet use.

The research instruments used during the SuperNet Snapshot generated an overview of SuperNet use at each of the participating schools. In addition, data gathered at each of the 15 schools provided both a technical and pedagogical perspective of SuperNet use throughout the province. However, the main focus of the instruments was to determine to what degree the International Society for Technology in Education's (ISTE's) "Essential Conditions" (see Appendix) for technology integration were being met.

The overall impact of SuperNet on the schools was positive; all schools appeared to have benefited from access to SuperNet on varying levels, whether they simply used SuperNet's increased bandwidth to access online materials for instruction or whether access to SuperNet allowed them to deliver entire courses via videoconferencing. There was a great deal of variation between schools in terms of the sophistication of their technology integration; however, most of the schools had made advances in technology integration since SuperNet implementation. Although schools had made progress towards a higher degree of technology integration, the type of SuperNet utilization that researchers most frequently observed in the participating schools was basic Internet use (e.g., Google or Wikipedia searches). The range of use within schools in the study seemed to have resulted, at least in part, from varying levels of involvement from the schools' administration. Schools whose administrators had a clear direction for technology integration seemed to be able to better focus the school's resources and provided more effective support for teachers. In addition, variation observed between schools may have been due to the lack of a clear direction for technology integration at the jurisdictional level.

In general, schools had not completely met, but were making the most progress towards, the following Essential Conditions: Shared Vision, Equitable Access, Skilled Personnel, Technical Assistance, Content Standards and Curriculum Resources. Although these conditions were closest to being met, changes could still be made to better enable teachers and schools to successfully integrate technologies into teaching practice and make fuller use of SuperNet's capacity.

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Below are brief descriptions of potential areas for improvement, followed by recommendations to better meet the Essential Conditions.

Shared Vision

- All participants appeared to be supportive of technology integration, although the presence of a clear direction at both the school and jurisdictional level was often lacking.
    - Focus on creating a clear direction for technology integration at the school and jurisdiction levels that is grounded in pedagogy and not driven by access to hardware.

Equitable Access

- Most respondents indicated that they would have benefited from additional access to technology; however, all schools had at least a basic level of computing hardware available and SuperNet provided adequate network and Internet access. In this context, "a ***basic*** level of computing hardware" refers to the typical student to computer ratio of 6:1, which was referenced by participants in almost all of the participating jurisdictions.
    - Increase access to unconventional hardware (e.g., interactive whiteboards and videoconferencing equipment), in order to bring all schools to the same level of access. Focus on technologies with demonstrated pedagogical merit.

Technical Assistance

- Technical support for the purposes of maintaining reliable technical systems appeared to be sufficient; however, end-user support for hardware (i.e., desktops and other "in-class" tools) and software was lacking in a number of schools.
    - Increase technical assistance aimed at end-user support for teachers in the classroom; encourage teachers to take risks with unfamiliar technologies.

Skilled Personnel

- Teachers' skill levels varied greatly with regard to technology integration, ranging from teachers who used SuperNet in very sophisticated ways (e.g., conducting multi-point videoconferences) to teachers had very limited knowledge of SuperNet and online resources. Several respondents also indicated that new teachers did not have the required level of technology training and sophistication.
    - Continue to foster the champion model of technology integration where possible, or obtain external assistance to support teachers.
    - Foster communication and collaboration within and between schools to share skills and knowledge.

Content Standards and Use of Curriculum Resources

- Teachers appeared to be knowledgeable in terms of content standards and curriculum resources; however, a more detailed examination of teaching

practice would be required to better assess this Essential Condition.

- Provide further communication to better publicize what digital curricular resources are available to teachers.

More work will be required in order for schools to fully address the following essential conditions for successful technology integration outlined by the ISTE: Professional Development, Assessment and Accountability, and Support Policies.

Professional Development

- Teachers indicated that they have adequate access to formal professional development (PD) activities focused on technology or tool use; however, they felt that these PD activities did not adequately address the pedagogical application of the tools and did not effectively prepare them to integrate technology into their classrooms. Teachers also indicated that their time to attend PD activities was limited and technology-related PD just one component of their ongoing PD needs.
  - Provide teachers with access to professional development that is differentiated, targeted, and focused on classroom integration.

Assessment and Accountability

- Systematic procedures to assess the effectiveness of instructional technologies were not in place at any of the schools.
  - Increase formal reflection on the effectiveness of technology for learning - during and following technology integration - to guide strategic planning and inform teachers' practice.

Support Policies

- Jurisdictions typically had policies in place to ensure a minimum level of hardware and technical support availability; however, there appeared to be a lack of clear direction for technology integration at this level. In some cases, policies related to filtering software and firewalls actually hindered rather than helped schools' progress in technology use and integration.
  - Emphasize the importance of school- and jurisdiction-wide solutions to issues surrounding SuperNet use and technology integration.
  - Jurisdictional support policies should give equal weight to the often competing needs of supporting technology integration and addressing legal and security concerns surrounding online resource use.