Instructional Technology Standard Program Evaluation

Program Evaluation questions:

- How is students' use of technology to learn and solve problems aligned with Missouri School Improvement Program (MSIP) technology-related standards and indicators?
- How is teachers' integration of technology within instructional practices aligned with MSIP technology-related standards and indicators?

I. Program/Service Information

1. Name of Program or Services: Instructional Technology
   Instructional technology is defined as instructional strategies powered by technology that engage students in learning and improve student performance.

2. Personnel Responsible for Evaluation and Program:
   Valerie Whitney, Area Coordinator in Learning and Assessment

3. Demographic Description of Program:
   Location(s): SSD instructional technology staff teaches computer literacy classes to middle school and high school students in the special education schools and plans and implements staff development activities across the special education division and the vocational technical education division.

   Number of full time equivalent staff:

Special Education Division	**Vocational Technical Education Division**
1 Area Coordinator	2 Educational Technology Facilitators, site-based
2 Instructional Technology Facilitators, district-wide	5 Instructional Technology Specialists, site-based
2 Instructional Technology Teachers providing direct student instruction in the 5 Sp Ed schools and Bridges	2 Library Media Specialists, site-based
2 Library Media Specialists (1 for the Instructional Resource Center and 1 for all the special education schools)	

4. Date of Evaluation: February 2006 through September 2006

5. Goal/Objective of Program/Services: "The technology mission statement of SSD is to improve student performance by integrating technology into the curriculum to assist students with higher order thinking skills. Specifically, technology is viewed as a means for students to engage in problem solving, reflective thinking processes, and exploration in the classroom environment." (*Special School District of St. Louis County, Missouri District Technology Plan Single Year Extension 2006-2007*). The goal of the program is to develop students who are technologically literate and to facilitate student learning through integration of computers and technology strategies that stimulate thinking, problem solving, build curiosity, create connections and generate long lasting knowledge.

6. Brief description of relationship between program goals and the SSD Technology Plan; the Comprehensive School Improvement Plan (CSIP); the Missouri Education Technology Strategic Plan – Draft August 2006; the Missouri School Improvement Plan (MSIP) and the No Child Left Behind Act (NCLB), Enhancing Education Through Technology initiative

   SSD Technology Plan:
   In compliance with the Missouri Department of Elementary and Secondary Education (DESE), SSD has developed and submitted to DESE an approved technology plan extension. The Special School District of St. Louis County, Missouri Single Year Extension Technology Plan 2006-2007 is comprised of goals and objectives under five Technology Focus Areas that are aligned with the Missouri Education Technology Strategic Plan - Draft August 2006. SSD Technology Plan Extension goals that provide direction for SSD's use of educational technologies to improve teaching and learning are:

   Goal 1: Improve student performance through the integration of technology in all curricular areas.

   Goal 2: Enhance and strengthen students' choice making, problem solving, research and critical thinking skills by integrating technology into classroom instruction.

   Goal 3: Provide student access to technology necessary to gain information for independent learning and independent living.

SSD Technology Plan continued

Goal 4: Special School District instructional staff will integrate various technologies in all areas of the curriculum, including assistive technology, internet-based research, multimedia presentations, graphic organizers, and telecommunications so these tools are embedded in common instructional practice in order to improve student achievement.

Goal 6: SSD will provide equitable distribution of instructional resources and services in order to ensure that students and staff have appropriate access to technology learning tools.

CSIP:

SSD's CSIP acknowledges the supporting role technology plays in relation to student performance and achievement and ensures teachers are able to integrate technology into the curriculum to improve student achievement. Specific CSIP goals relating to technology include:

CSIP for the Special Education Schools/Court Programs/
Career Training Program:

Goal: The district will utilize technology to improve student achievement

Objective 1: Students will improve their academic achievement through use of technology

Objective 2: All students will demonstrate literacy in technology by the end of grade 8 (NCLB expectation).

CSIP for Vocational Technical Education:

Goal I: Improve Student Performance Levels

Action Plan 5.C: Provide training and instructional material that enhances technology integration into the classroom through the eMINTS program. The staff will learn and develop inquiry based instructional strategies using technology.

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Missouri's 2007-2011 Education Technology Strategic Plan – Draft August 2006:
The state plan promotes the National Education Technology Standards (NETS) and eMINTS (enhancing Missouri's Instructional Networked Teaching Strategies)

- NETS for teachers, students and administrators (NETS-T, NETS-S and NETS-A) is a set of national standards for educational uses of technology that facilitate school improvement.
- eMINTS is a model program sponsored by the Missouri Department of Elementary and Secondary Education and the University Of Missouri Office Of Academic Affairs. This model is based on "instructional strategies powered by technology that engage students in the excitement of learning and enrich teaching to dramatically improve student performance".

SSD's instructional technology programs embrace both the NETS standards and eMINTS methods. The state plan sets the standard that teachers will implement technology-enriched curricula, research-based instructional strategies, and effective integration of technology systems to realize high levels of academic achievement.

Fourth Cycle MSIP Process Standard 6.4
Process Standard 6.4 states, "Instructional resources and equipment that support and extend the curriculum are readily available to teachers and students". New within 4th Cycle MSIP is the use of data from our district's Census of Technology that is reported annually to DESE. Specific SSD Census of Technology data (COT: Hardware and Support, Internet Connectivity-Distance Learning and Technology Usage) will be provided by DESE to MSIP review teams as part of the MSIP accreditation process. MSIP review teams will perform walkthroughs and classroom observations to determine levels of technology use. These levels are based on Bernajean Porter's *Grappling's Technology and Learning Spectrum* and include:

- Level 1: Technology Literacy Uses: technology uses are organized for their own sake. Teachers view technology as something to learn or do.

- Level 2: Adapting Uses: technology uses are adapted/provided but still optional for traditional curriculum goals. Teachers view technology as interesting but optional and not necessary to achieve present curriculum goals.

- Level 3: Transforming Uses: technology uses enable new learning tasks not possible without technology. Teachers view technology as essential for development of higher-order thinking skills.

Fourth Cycle MSIP Process Standard 6.4 continued

The variety of staff development activities and resources offered through the Instructional Technology Program enable teachers to move from Grappling's Level 1 through Level 3.

NCLB's Enhancing Education through Technology
The initiative is three pronged:

- Improve student academic achievement through the use of technology in elementary and secondary schools
- Assist students to become technologically literate by the time they finish the eighth grade
- Ensure that teachers are able to integrate technology into the curriculum to improve student achievement

The aims of SSD's Instructional Technology Program are inclusive of the NCLB initiative.

II. Evaluation Criteria for Programs/Services Offered

Surveys: Administrator perception
Staff perception
Student perception
Census of Technology data
Professional development data
On-line resources usage statistics

III. Description of Stakeholders Engagement in Program Evaluation:

Randal Barnes, Technology Specialist, SSD
Rebecca Gallant, Area Coordinator, SSD
Eliezer Goldberg, Student
Karen Green, Teacher, SSD
Chris Ingram, Technology Facilitator, SSD
Scott James, Technology Facilitator, SSD
Karen Lamm, Parent
Morrie Reece, Apple Computer, Business Representative
Jan Viele, Technology Facilitator, SSD
Valerie Whitney, Area Coordinator, SSD

IV. Results

The 2005 Teacher /Administrator Climate Survey and the 2006 Student/Teacher/Administrator Instructional Technology Program Evaluation Survey were analyzed to provide perceptual data regarding the degree to which varied technologies have increased students' achievement and to determine how staffs' and students' use of technology is aligned with MSIP standards and NETS.

The *2005 Teacher Climate Report*, Question 25: My students' achievement has increased through the use of varied technologies. The following mean scores were yielded where

1= strongly disagree 2= disagree 3= neutral 4= agree 5= strongly agree

Program	Teacher Mean Score	Administrator Mean Score
Total	3.96	3.96
YCDD	4.01	No disaggregated data reported for YCDD
Sp Ed Schools	4.17	4.0
Voc Tec Ed	3.86	4.29
North region	3.84	2.9
South Region	3.99	4.18
West Region	4.02	4.20
Central Region	3.84	4.0

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The 2006 Instructional Technology Surveys for Students, Teachers and Administrators were created and administered. Results were analyzed using the following scoring guide and box plot analysis.

Mean scores $\geq$ 4.0 = strength
Means scores between 3.7 to 3.9 = progressing
Mean scores < 3.7 = challenge

The *2006 Instructional Technology Student Survey* was administered to 256 full-day 10th and 11th grade students in the vocational technical education schools and to a total of 100 seventh /eighth graders and high school students in the five special education schools and Bridges.

Strengths	Progressing	Challenges
Know basic keyboarding skills	Create multimedia projects	Use of distance learning
Know how to use the computer	Know how to determine whether information from a web-site is accurate/appropriate	Use of spreadsheets/databases
Use the Internet as a research tool	Use the computer to solve problems outside of school	Publish on a website or newsletter
		Know how to troubleshoot computer problems

The *2006 Instructional Technology Teacher Survey* was administered to teachers in the vocational technical education division and teachers in the special education schools with a 63% return rate.

Strengths	Progressing	Challenges
Aware of professional development activities provided by SSD	Familiar with MSIP resource standard for technology integration	Use of SSD-provided resources (NetTrekker, Atomic Learning and United Streaming)
Access a variety of media and formats including telecommunications to communicate/collaborate with others	Apply technology-enhanced learning strategies	Familiar with NETS for students and teachers
Have access to up-to-date technology resources and equipment	Evaluate technology resources for accuracy and suitability	Facilitate technology-enhanced learning experiences that address state standards and NETS

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The *2006 Instructional Technology Administrator Survey* was conducted in May with a 78% return rate.

Strengths	Progressing	Challenges
Use technology-based management systems to maintain personnel and student records	Familiar with the contents of SSD's Technology Plan	Familiar with NETS for students, teachers and administrators
Use a variety of media and formats including telecommunication to communicate/collaborate with others	Facilitate staff development for sharing work and resources across commonly used formats and platforms	See evidence staff uses SSD-provided electronic resources in support of integration of technology
Secure/allocate technology resources to enable teachers to meet learners' needs	Include effectiveness of technology as criteria within the Teacher Performance Based Evaluation process	Personal technological skill level

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Additional data and statistics from the following sources were also reviewed:

The *2005-2006 SSD Census of Technology* (COT, as reported by building administrators to DESE)

Estimated percentage of teachers in the SSD school buildings at each skill level of technology use (these levels do not correlate to Grappling's Levels of Technology Use. The COT data is gathered from the raters' perceptual perspectives. No clear guidelines were provided by DESE in regards to the ratings).

Building	Beginner %	Intermediate %	Advanced %	% of staff who fully integrate technology into curriculum & instruction
Ackerman	14	53	33	14
Bridges	0	100	0	100
Litzsinger	10	40	50	90
Neuwoehner	5	65	30	70
North Tec High	25	50	25	10
Northview	10	65	25	95
South Tec High	50	35	15	50
Southview	25	50	25	85

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The *2005-2006 Census of Technology* continued

Technology by type within school buildings

Building	Number of classrooms	Number of classrooms with Internet access	Number of classrooms with one or more multimedia computers connected to Internet	Number of classrooms with one or more multimedia computers connected to Internet, access to printer and a dedicated (digital) projection device
Ackerman	22	22	22	2
Bridges	4	4	4	0
Litzsinger	19	19	19	3
Neuwoehner	41	41	27	0
North Tec	49	49	49	1
Northview	28	28	28	3
South Tec	40	40	40	18
Southview	31	31	31	31 (2*)

*Dedicated projection devices are digital projectors. The number provided on the Southview COT was the number of overhead projectors rather than digital projectors. The correct number should have been 2.

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The *2005-2006 Census of Technology* continued

Estimated percentage of district 8th graders who are technologically literate

The percentage of 8th grade students in our SSD special education schools/programs who are technologically literate is 13% (14 out of 110 students). This percentage is inclusive of 8th grade students who participate in the Missouri Assessment Program (MAP) and the Missouri Assessment Program-Alternate (MAP-A).

SSD-provided electronic resources: In many instances, a correlation can be drawn between staff that participates in technology-related professional development activities and increased use of district-provided resources (Atomic Learning*, United Streaming* and NetTrekker d.i.*). In collaboration with building administrators who prioritized technology-related strategies for their staffs' professional development, the Instructional Technology Facilitators planned and implemented building/program-specific high quality professional development activities for staff in the Career Training Program, the Court Programs, Litzsinger School, Neuwoehner School and staff involved in eMINTS at North/South Technical High Schools during the 2005-2006 school year. Usage statistics for SSD-provided electronic resources follow.

*Atomic Learning is an on-line resource that provides software training allowing an individual access to thousands of short tutorials on dozens of applications that are focused on answering common questions staff has when learning software. This resource is available for use by all SSD employees.

* United Streaming is a product of Discovery Education described as a digital video-on-demand and online teaching service aligned to state standards. Dial-up connectivity makes usage of this resource virtually impossible. United Streaming is available to all instructional staff across SSD.

* Net Trekker d.i. (differentiated instruction) is an Internet search engine for schools that supports differentiated instruction with standards-based online resources organized by readability level to help every child achieve. It is only available for use by teachers in SSD schools/programs.

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SSD-provided electronic resources continued

Atomic Learning usage statistics**:**

School/District	Number of Atomic Learning tutorial views between 9/1/05 and 5/9/06	School/District	Number of Atomic Learning tutorial views between 9/1/05 and 5/9/06
Ackerman	44	Litzsinger School	326
SSD staff in Affton	1	SSD staff in Mehlville	54
Bridges	14	Neuwoehner School	914
Career Training Program	813	North Technical High	132
SSD Central Office	460	SSD staff in Parkway	130
SSD staff in Clayton	54	Northview School	75
Court Programs	60	SSD staff, Related Services	4
SSD Early Childhood	160	SSD staff in Riverview Gardens	1
SSD staff in Fer/Flo	35	SSD staff in Rockwood	4
SSD staff in Hancock Place	64	Southview	28
SSD staff, Deaf/Hard of Hearing	9	South Technical High	500
SSD staff in Kirkwood	32	SSD staff in Webster Groves	25
SSD staff in Ladue	1	SSD staff in Jennings	3
SSD staff, Learning and Assessment	75		

SSD-provided electronic resources continued

United Streaming usage statistics**:**

School/Program	Number of United Streaming views from 09/01/005 to 05/10/2006
Ackerman	251
Bridges	2758
Litzsinger	1296
North Technical High	25
Neuwoehner	881
Northview	38
South Technical High	279
Southview	325
SSD teachers in Partner districts	1142
Total views	7223

SSD-provided electronic resources continued

NetTrekker d.i. usage statistics

School	Net Trekker d.i. Search Pages* from 08/01/2005 through 05/09/2006	Total Pages*
Ackerman	111	867
Bridges	2,017	13,474
Juvenile Detention Center	0	0
Lakeside	0	0
Litzsinger	647	4,071
Neuwoehner	570	4,081
North Technical High	0	0
Northview	351	2,377
South Technical High	0	0
Southview	380	2,678

*Search Pages represents the number of search results pages produced by netTrekker as a result of any type of search by users.

*Total pages represent the total number of pages of any type displayed by netTrekker for the users. These pages are the result of navigation, searching and all other activities in netTrekker.

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2005-2006 SSD Professional Development (PD) attendance data from SolutionWhere and Instructional Technology Facilitators

	Total PD seats taken by SSD staff working in partner districts	Total PD seats taken by SSD staff working in SpEd schools/programs	Total PD seats taken by SSD staff working in Voc Tec Ed schools
18 Professional Development Activities offered by SpEd Instructional Technology staff	130	181	2
32 Professional Development activities offered by Voc Tec Instructional Technology staff			283

STRENGTHS

Perceptual data and statistical data support improved academic achievement through the use of technology and technology-related strategies. The 2005 Climate Survey shows teachers and administrators feel students' achievement has increased through use of varied technologies. State-wide analysis of MAP assessment scores in 3rd/4th grade reading/math for students in eMINTS classrooms across Missouri has been conducted by the Office of Social and Economic Data Analysis (OSEDA). Their analysis has shown statistically significant differences for students in eMINTS emerged classrooms when compared to students not enrolled in eMINTS classrooms. OSEDA does not provide disaggregated analysis of MAP scores by student, classroom, school or district. Twelve SSD teachers (one in a partner district, three in the special education schools and eight in the vocational education schools) have completed or are currently participating in eMINTS professional development. One Educational Technology Facilitator in the vocational technical education division has been trained as an eMINTS Train the Trainer and is providing professional development for teachers in the vocational technical education division.

Students who were surveyed indicated they know how to use computers, prefer to use computers and use the Internet for research.

A variety of high-quality technology-related professional development activities and online resources are available and offered to staff. Professional development activities are advertised on-line through SolutionWhere. Staff can register on-line and maintain an on-line transcript to document participation in professional development activities. Staff who complete designated professional development activities receive additional hardware and software that directly supports student learning. Technology-related professional development activities have been

Strengths continued

aligned with NETS. All staff with computer connectivity in the special education division and the vocational technical education division has access to Atomic Learning and United Streaming. Staff in the SSD schools/programs also has access to netTrekker d.i.

CHALLENGES:

Analysis of the Instructional Technology Survey for Teachers and Administrators demonstrates a low awareness of the NETS standards and MSIP expectations of technology integration.

Analysis of the Instructional Technology Survey for Administrators shows administrators' overall rating of their personal technological skill level is a relative weakness.

Analysis of the 2005-2006 SSD Census of Technology reveals only 12 % of instructional rooms (29 out of 234) in SSD schools are equipped with multimedia computers connected to the Internet, access to a printer and a dedicated digital projection device.

The 2005-2006 SSD Census of Technology documents a low percentage (13%) of 8th graders in our special educations schools/programs are technologically literate.

Staffs' use of electronic resources (Atomic Learning, United Streaming and netTrekker d.i.) to support student learning and achievement is underutilized in some areas of our district.

Data maintained on staff participation in technology-related professional development indicates low numbers of SSD staff from some schools/districts participate in the varied technology-related professional development activities offered through SSD. While the vocational technical education schools have technology facilitators and specialists assigned on-site to support professional development and integration of technology into the curriculum, the special education schools do not.

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RECOMMENDATIONS:

Improve student performance by increasing administrators' and instructional staffs' technological skills and levels of technology use.

Increase the percentage of students who are technologically literate in the special education schools/programs.

Increase computer hardware (multimedia computers with access to printers and access to digital projection devices) in the instructional classrooms within SSD's schools to support student achievement.

Evaluate the affect that technology-related instructional strategies, eMINTS, have on student achievement within SSD schools. Although MAP data is collected and analyzed state-wide during teachers' second year of participation in eMINTS professional development, SSD's involvement with eMINTS is unique. All students in eMINTS classrooms at Ackerman and Litzsinger Schools require special education services in a separate school facility. Typical eMINTS classrooms have traditionally been established in general education classrooms where students from both general education and special education are mixed. eMINTS classrooms in SSD's vocational technical education schools have been established for high school-aged students. Typical eMINTS classrooms have been established at the elementary school level and not at the high school level. It is recommended that MAP scores of SSD students who have participated in classes taught by SSD teachers who are completing or who have completed their second year of eMINTS professional development are compared to matched group of students in SSD schools who have not participated in eMINTS based classrooms.

Valerie Whitney Date: November 1, 2006

Signature of Administrator Responsible for Chairing Evaluation

Instructional Technology Standard Program Evaluation

APPENDIX

MSIP Observation Sheet
Grappling's Technology and Learning Spectrum
NETS – Students
NETS – Teachers
NETS – Administrators
The 2006 Instructional Technology Student Survey
The 2006 Instructional Technology Teacher Survey
The 2006 Instructional Technology Administrator Survey
2005-2006 Professional Development Data