

indiana school for the deaf

Technology Plan



*Soaring Beyond World-Class School
Status Through Technology*

January 9, 2003

Jay Krieger
Director of Technology
1200 East 42nd Street
Indianapolis, IN 46205
317-941-4607 TDD
jkrieger@isfd.state.in.us

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Technology Plan

Soaring Beyond World-Class School Status Through Technology

Welcome

This Indiana School for the Deaf (ISD) Technology Plan has been developed in order to provide a set of guiding principles that can be used by various audiences. They may include:

- ISD Budgeting Team
- Grant writers
- Fund contributors
- Department of Education
- Other schools interested in ISD's technology

A new format is used in this paper such that it does not present actual numbers, dollars, and schedules/timelines usually found in traditional technology plans. This format, in effect, transforms a traditional technology plan into a living document such that changes and updates can be introduced (yearly perhaps) without affecting the paper's final outcome.

Accomplishments and work completions can be transferred from various sections of this paper into "Existing Technologies" section below. New and upcoming technology goals can easily be added into their appropriate sections without affecting the overall technology plan. This will help us avoid the need of rewriting our technical plans as they become obsolete due to the current pace of technology advances.

This paper is not written in a specific format that may be required by DOE, various grants or other sources of income. It is the ISD's intention to use information found in this paper to help determine how the ISD could use the dollars received from various sources allocated to technology.

This document begins by introducing mission statements from the ISD and its four divisions: Education, Student Life, Outreach and Operations. The ISD's vision of how technology can support these missions follows. Sections covering the profile of the school and brief information on what technologies the school has in place are offered. Then, technology goals and strategies for the school and its divisions are outlined. Finally, a discussion of how the ISD can evaluate its progress and success concludes this paper.

Acknowledgements

An email was sent to every single ISD employee with an open call for technology ideas. A number of staff members have responded. Random selections of an additional 30+ staff members from all divisions were selected for individual interviews to collect additional ideas and strategies.

This paper was written based on their input. Many thanks for your time.

Contact Person

Should you have any questions or comments about this technology plan, please feel free to contact the following people for more information:

Jay Krieger
Director of Technology
1200 East 42nd Street
Indianapolis, IN 46205
(317) 941-4607 (TDD)
jkrieger@isfd.state.in.us

George Stailey
Superintendent
1200 East 42nd Street
Indianapolis, IN 46205
(317) 924-8400 (V/TDD)
gstailey@isfd.state.in.us

Mission Statements & Technology Vision

This section introduces mission statements from the ISD and its four divisions. After each mission statement, a brief technology vision attempts to elaborate how technology can be utilized to reinforce their missions.

ISD Mission Statement

The Indiana School for the Deaf Community promotes academic and social excellence for Deaf and Hard of Hearing students through a Bilingual-Bicultural environment.

ISD Technology Mission Statement

The Indiana School for the Deaf will provide access, training and an environment that fosters life-long learning using the latest tools of technology available for academic and social literacy within our Bilingual-Bicultural environment.

Technologies that enable or provide a true bilingual-bicultural environment are needed everywhere on the campus, and should be used all the time. Every opportunity that allow for true, equal access in resources by every single student and staff should be incorporated daily. The school's use of video conferencing, web cams, ISDTV, digital cameras, visual presenters, digital video cameras, and more, enables true, equal access.

Education Division Mission Statement

We, the community of the Indiana School for the Deaf, provide a program that promotes academic excellence and the full emotional, social, intellectual and physical development of our students through a bilingual/bicultural environment.

Both ISD students and staff have various modes of communication and learning; however, a common mode obviously involves vision. Deaf students are visual learners. Their eyes are their primary means of learning. The classroom needs to contain the latest technologies to enable teachers' delivery of instruction visually to students seamlessly and effortlessly. Modern technology via computers provides the opportunity to excel in communications, learning and career development. This technological knowledge, skill and ability from our students and staff will prepare students for a smooth transition from academics to a work

environment. Technology provides Deaf students with full access to learning. ISD must ensure that students can read, write, compute, and perform other basic and higher-order thinking and problem-solving skills as well as manage, use and communicate with the technologies they will encounter as lifelong learners. Failure to succeed in this endeavor could dim the bright hopes and dreams of ISD’s students and future leaders.

Student Life Division Mission Statement

The Student Life team is committed to providing high quality, student-centered programs that support the student as a whole.

Student Life is an extension of both classroom and home environments. Residential students need to enter their residential halls feeling like they are going home. They should find all the comforts, recreation and education opportunities similar to their home environments. Student Life thrives to “welcome” their parents into their children’s lives, even when they live far away.

Outreach Division Mission Statement

To identify needs and find resources to meet the needs of Deaf and Hard of Hearing children and their families throughout the state of Indiana.

The consumers of the Outreach Division are widely diversified. They range from ISD students on campus to infants still in their parents arms throughout the state. The services provided by this division are varied. Each service requires its own set of technological tools to produce quality and timely information to help lead parents and others toward intelligent decisions for Deaf or Hard of Hearing child. The locations where these services are provided are both on the campus and throughout the state. This division requires technologies that are portable, easy to use, and lightweight without sacrificing speed and power.

Operations Division Mission Statement

To provide operational support and personal service to the students, staff, families and the ISD community to ensure resources exist in which our students can achieve academic and social excellence in a Bilingual/Bicultural environment.

To provide excellent operational support and personal service to the students, staff, families, and the ISD community, the division requires up-to-date systems and technologies within their offices to be able to request, order, purchase, pay for and perform other business processes in a timely manner. Access to resources within the division and within various State agencies need to be quick and seamless. Efficient processing, which includes reduction of paperwork and document imaging and management, need to be used whenever possible.

School Profile

The Indiana School for the Deaf, located in the city of Indianapolis, serves over 300 Deaf and Hard of Hearing students in preschool and in grades K-12. ISD complies with the Individuals with Disabilities Education Act (IDEA) for the entire student body and is a viable educational option for the 1,598 Deaf and Hard of Hearing students statewide. Students come to the ISD from 57 of the 92 Indiana counties as ISD offers a boarding option for students who reside outside of Marion County. Fifty-nine percent (59%) of the ISD student body board on

campus. Of the 2001 graduating class, 45% of the ISD graduates entered four-year institutions of higher education.

The ISD is the only School for the Deaf in the State of Indiana and the largest School for the Deaf in the central states region of the United States. The school is a state operated program governed by the Governor through the ISD School Board. Since ISD is located within the largest Deaf community in the state, students are able to capitalize on a wealth of resources available in the Deaf community ranging from exposure to adult Deaf role models, volunteer work activities and events that promote intellectual, social, physical, communicative and emotional well-being.

Deaf and Hard of Hearing students have opportunities to experience participation in the mainstream of society. Experiences for students may include work in local companies and corporations, classes through distance learning, athletic competition against public schools, and opportunities for participation in activities and events offered to students enrolled in public schools.

ISD is operated by over 280 staff with wide-ranging specialties that include administration, teachers of the deaf, teacher aides, residential advisors, maintenance workers, dietitians, campus police, technical support staff, outreach staff, and many other specialized professionals.

Existing Technology

The ISD has made great technological advances since 1997. ISD has made a solid commitment and significant investments in improving technology. Many students, parents, and visitors from other states recognize ISD as one of the leading schools in technology.

Currently there are over 510 Gateway desktop and laptop computers of various models and types and over 250 Hewlett-Packard Deskjet and Laserjet printers located in all 18 active buildings. All nursery classrooms contain at least one computer and a DeskJet printer. All Preschool through 2nd Grade classrooms contain at least 2 computers and a DeskJet printer. All 3rd Grade through 12th Grade classrooms contain at least three computers and a DeskJet printer. In the residential halls, there are computer laboratories (6 – 10 computers) on each floor. All staff in all divisions, including but not limited to, dietitians, maintenance, health center, and business office staff have access to at least one computer and either a LaserJet or DeskJet printer.

The ISD offers quite a number of technology accessories that have been distributed to every division. These accessories include, but are not limited to, scanners, digital cameras, LCD projectors, laptop computers, web cams, and a large format printer. ISD has 3 network-enabled B&W and 1 network-enabled color copy machines

All these computers are networked through 10/100-megabit Ethernet Category 5 wiring internally and 1 gigabit Ethernet fiber optic cabling externally (between buildings). All classrooms, residential halls, and offices are wired with one or two data jacks. To extend these data jacks to support multiple computers and devices, all locations use NetGear 10/100-megabit switches (5 or 8 ports).

Over 30 industrial-quality Cisco switches of various types provide all floor and campus networking services. A 1.5-megabit router connects the ISD to the State backbone. The school's Internet access is provided through the State's own Internet contract, with a portion of its costs absorbed by the ISD.

The ISD has two Distance Learning facilities, each with their own 1.5-megabit T3 lines. One ISD staff member provides ASL courses to various public schools for High School foreign language credit.

The ISD has over 350 messageboard signs mounted in practically every hallway and rooms on campus. This messageboard system provides us with visual “public announcement” functions.

The ISD is actively enhancing its campus-wide closed circuit TV through the ISDTV network. The heart of this ISDTV network resides in the TV Studio, which is now being enhanced with leading edge technologies. The TV Studio offers three levels of production environments for students. The programs are broadcast to 35 wall-mounted TV monitors located around campus. ISDTV presents various programs, which include student-supplied news, announcements, public information, classroom demonstrations, and other information. The programs are created either at the professional-grade TV Studio or by staff and students using various tools (such as PowerPoint) from any of the school’s computers.

Our 11 server-based “farm” in the Technology Center drives the ISDNet network environment. This server farm provides services including, but not limited to, Internet filtering, staff and student email systems, file server, CD Tower, intranet server, database server, TV broadcast server, software distribution server and Enterprise Ghost (workstation disk imaging) server.

In addition, ISD offers web content through two platforms, Internet-based www.deafhoosiers.com and intranet-based @ISD web site. The former contains content appropriate for the general public while the latter contains content that is appropriate for students and staff only.

Technology Goals

This section discusses the ISD and its divisions’ technology goals. Implementation of these goals is explained in the next section, entitled Strategies.

General Technology Goals

- Every location and all resources on the campus will be bilingually/biculturally accessible by all people.
- Whenever possible, resources and services will be accessible by students and staff visually; without eliminating the spoken English.
- Public information of any kind will be made available to interested parties through the school’s web site.

Education Division Technology Goals

- Every student will use technology as a tool for learning.
- Technology will be integrated into all courses.
- All students will master technological skills.
 - Identify at what grade or age students should master basic technology skills.

- Students will use technology to create imaginative and innovative solutions to problems.
- Parents' access to their child's schoolwork should be easier.

Student Life Division Technology Goals

- Provide our students with a residential environment that closely resembles their home environment.
- Bring parents closer to their residing students.
- Continue students' learning process beyond their classrooms.

Outreach Division Technology Goals

- Resources for parents and stakeholders are made more accessible.
- Services brought to families and presentations need to be more easily delivered.
- Increase quality of assessment services delivered to the school's consumers.
- Increase and/or enhance the data collection capacities of the Outreach Database system.

Operations Division Technology Goals

- Eliminate as much paper as possible.
- Automate or make online some business processes.
- Increase campus security and safety.

Strategies

This section contains numerous strategies the ISD could implement to achieve its goals from the previous section. Please note that items outlined here are **not** in any specific order nor listed by priorities. Cost and time required to implement these strategies are not included as well. However, should the ISD decide to implement any strategies, a separate project will be required to carefully design, define requirements and plan implementations.

General Strategies

- Implement ceiling-mounted LCD projectors at Caskey gym, KRC, auditorium, Elementary & Preschool gyms, library, and Distance Learning labs.
- Auditorium
 - Implement rear-projecting-enabled shim screen
 - Implement a FM sound loop with a number of headsets

- Implement improved visual-communication system between the stage and light room
 - Implement remotely-controlled wall-mounted video cameras
- Web cam (one-on-one) on all of our computers.
- Provide several video-conferencing equipment (many-to-many) in several strategic locations.
- Replace “aging” computers (out-of-warranty 350mhz Gateways and some laptops).
- Rollout Windows XP.
- Set up focus group(s) to bounce off ideas for future technology (teachers, staff, students, and parents)
- Improve Professional Development Training
 - Build Professional Development “room” with resources
 - Mandatory & optional technical workshops for various staff groups
 - Introduce technology into curriculum instruction
- Implement our own web site (deafhoosiers.com) internally, which enables us to expand more web-based services and resources to the public.
- ISDTV
 - Replace our homegrown campus-wide TV cable infrastructure to provide ISD with regular channel lineup.
 - Additional camcorders, tripods
 - Additional video editing equipment (Avio)
 - Closed captioning equipment
 - Ceiling Lighting system
 - Satellite feeds
 - Replace ISDTV monitors with Flat-panel HDTVs
 - Make ISDTV more Bi-Bi accessible (voice overs, etc.)
 - Wire in more power outlets.
- Investigate how to handle incoming Web Cam calls.
- Visit other public and Deaf schools to look for ways to improve technology and applications at the ISD.
- Hire a dedicated technology trainer.

- Provide smart media converters/adapters to all digital equipment holders.
- Acquire additional technology center tools (sniffer, cable tester, etc.)
- Replace Billboard sign with an electronic one.
- Acquire portable Public Access system (to be used in KRC, Elementary/Preschool Gyms, outdoors, etc.)

Education Division Strategies

- Implement “isdClassroom”, our standard set of technologies for all our classrooms. See Appendix A: Standard Classroom Technologies.
- Reevaluate and implement technological objectives for all grades
- Search for a replacement for our inadequate Student Information System (Rediker Admin+).
 - Student/Staff demographics
 - Teacher Licensing
 - Attendance, Visual Student Rosters, etc.
- Set up software review and selection teams either:
 - By Subject Matter (math, science, etc.)
 - By Grade Level (High School, Middle School, etc.)
- Implement a new media-retrieval or distribution system.
- Present school work to parents and/or public through the school’s web site.
- Provide virtual classrooms (web-based or distance-learning based) to students requiring special or advanced courses
- Provide Virtual-Reality classroom (headgear based)
- Provide sets of PDAs to some classrooms (curriculum based)
- Provide a number of E-Books for our library (to loan out)
- Expand our Distance Learning functions to go beyond ASL instruction (e.g., school-to-school classrooms)
- Replace all blackboards and small whiteboards with wall-to-wall whiteboards.
- Provide better ASL-labs in all education divisions:
 - Set of TVs
 - VCRs/DVDs

- Subscribe to Real One Player so staff can access DOE’s Indiana Video Information Network as a source for training and collaboration.
- Identify and implement technology necessary for:
 - Aligning the ISD’s educational programs with Indiana Standards.
 - Assisting teachers in meeting the goals of the ISD’s improvement plan for accreditation.
- High School Art Classroom
 - Apple Macintoshes
 - Large format printer
 - Canvas printer
 - Advanced visual “presenter” to demonstrate art work to students
 - Large size scanner
- High School Science Classroom
 - Scientific Sensors
 - Texas Instruments TI-8x sensor adapters
- Overhaul Middle School Science Classroom.
- Alpha Smarts with Co-Write installed
- Digital Cameras for all athletic coaches.
- Centralized student school work grading system.
- Preschool:
 - Touch Screen Monitors
 - Kiddie keyboards
 - Kiddie mouse

Student Life Division Strategies

- Replace Health Center computers with space saving models (or TabletPCs)
- Implement ceiling-mounted LCD projector in SLC conference room.
- Provide 2 additional portable LCD projectors for use by various residential halls.
- Provide Smartboards.
- Provide more digital cameras.

- Provide additional messageboard signs in the new SLC offices.
- Implement 2 new ISDTV monitors for SLC offices and Orioles Snack Bar.
- For KRC:
 - Implement sound system.
 - Implement stage light system.
 - Implement large shim screen.
- Provide theater system (sound, large TV, DVD, etc.) for the Orioles Nest (co-ed lounge).
- Select and install recreational software.

Outreach Division Strategies

- Implement “isdOutreach”, our standard set of technologies for our traveling PIP and Outreach staff. See Appendix B: Standard Traveling Outreach Technologies.
- Implement “isdCaseConference”, our standard set of technologies for our case conference rooms. See Appendix C: Standard Case Conference Technologies.
- Acquire a vehicle such as a van or a recreational vehicle to be fully self-contained but mobile Outreach “office” with various available services and resources we need to be made available remotely from the ISD.
- Implement Multisensory Sound Labs (sound-immersion listening centers).
- Increase special-accommodation (assistive) technologies for our students.
- Implement Phase II on Outreach database.
- Acquire better computer-based voice programs/systems.
- Search for tools to teach ASL.
- Purchase and keep current Cochlear Implant mapping programs.
- Acquire Baldi software, FM loops and specific audio equipment for Audiologists.
- Make more resources available on our web site (pamphlets, literature, videos, etc.)
- Provide more pagers.

Operations Division Strategies

- Implement “isdBusinessOffice”, our standard set of technologies for all our business offices. See Appendix D: Standard Business Office Technologies.
- Implement IP-based (or alternative) security cameras around the campus with viewing capabilities from various locations.

- Implement keyless door locks (or replace our lock systems).
- Implement key tracking system.
- Improve entrance/exit gate system.
- Reporting from internal accounts (e.g., SRF, etc.) made available on ISD intranet.
- Investigate ISDNet Remote Access services.
- Implement Smartboard and LCD system in a room for their business conferences.
- Place more requests and forms online.
- Acquire digital camera for record keeping.
- Implement inventory systems (food, supply, etc.).
- Reevaluate our Telephone and Voice/TDD mail system.

Evaluation

The evaluation of the Technology Plan will be based on student and staff performance. Student performance will be measured through teacher and parent assessments as well as student performance on standardized tests included in the Stanford Achievement Test for Hearing Impaired (SAT-HI) and the Indiana Department of Education's ISTEP+ and IASEP. Teachers will also incorporate portfolios, especially electronic portfolios that demonstrate student competencies. These competencies will be based on IDOE standard proficiencies for each subject area. The Principal, Curriculum Director, and Supervising Teachers will be responsible for evaluating student performance annually. The entire staff will assist with the evaluations.

The immediate supervisor with annual technological goals to be established jointly by the employee and his/her supervisor will evaluate staff performance. Staff performance will be evaluated by utilizing measurable criteria such as the number of training workshops attended, level of student performance and level of curriculum integration.

The Technology Center will survey students, parents, and staff on the success of technological implementation at the ISD. The ISD and the technology center will utilize this information along with student and staff performance to improve the existing plan.

Appendix A: Standard Classroom Technologies

This section outlines technologies that should exist in each and every classroom on campus. There are 6 Preschool, 18 Elementary, 15 Middle School, and 25 High School classrooms.

It is recommended that we select a panel of teachers to brainstorm an accurate list of technologies they agree should be included in a standard classroom. To date, the following items have been identified.

- Smartboards
- Visual Presenters
- LCD Projectors
- Digital Cameras
- Web cams
- Laptops
- Wall-mounted 27 inch (or bigger) TVs with VCRs and DVDs
- Replace classroom desktop computers with Mobile Wireless Labs (carts with wireless laptops)
- Space-saving and age-appropriate computer furniture in all classrooms.

Appendix B: Standard Traveling Outreach Technologies

A number of Outreach staff travels frequently to remote locations in the State of Indiana as well as across the country to perform their duties. These duties include, but are not limited to, meeting with parents of Deaf children, hosting workshops for service providers, providing assessment services. The traveling staff will need to be armed with the following items to be productive and effective.

- Wireless Laptops
- Lightweight LCD projectors
- Wireless PDAs
- Digital Cameras
- Digital Video Cameras
- Portable Printers
- Wireless Internet Access
- Pagers

Appendix C: Standard Case Conference Technologies

ISD has three Case Conference Rooms that are used heavily all year around. These rooms are used to host case conferences, triennial conferences, discuss assessment findings, and many other functions. Participants for these sessions are widely diversified such as LEAs, Teachers of Record, parents, Audiologists, and so forth. There are a number of times where it is not possible for every participant to be present in the case conference room, so ISD wishes to include them, regardless, through the use of technology.

- Mounted LCD projectors
- Smartboard
- Better space-conscious furniture
- PCs
- Visual presenter
- Increase access to Case Conference Rooms
 - Web Cams
 - Video conferencing
- Increase digital recording equipment (video and picture) to record student progress to demonstrate to parents and other case conference participants.

Appendix D: Standard Business Office Technologies

The business office differs from other ISD staff offices as they use many more systems (e.g., PeopleSoft, Alchemy, QuickBooks) and handle a lot more paper. Therefore, the Business Office requires additional resources.

- High-powered Desktop computers
- Black & White LaserJets
- Professional and high-volume document scanners with automatic document feeders
- Label makers
- Web Cams

Glossary

Smartboard

The SMART Board interactive whiteboard turns your computer and projector into a powerful tool for teaching, collaborating and presenting. With a computer image projected onto the board, you can simply press on its large, touch-sensitive surface to access and control any application. Using a pen from the SMART Pen Tray, you can work naturally at the board to take notes and highlight important information. Whenever you meet, teach, train or present, the SMART Board interactive whiteboard helps your group save time, increase interactivity and improve communication.

Switch

A switch manages the network traffic more intelligently so that multiple separate conversations can occur simultaneously (rather like a telephone system). Any two ports on the switch can have a dedicated connection between them while another two ports can have the same. This gives a considerable increase in performance.

Mobile Wireless Laboratory

A fully networked, wireless computer lab sets up anywhere, and has the quality, security and reliability of a conventional wired lab. You can create a perfect one-on-one computer-to-student ratio while saving space and meeting your budget fully networked, wireless computer lab sets up anywhere, and has the quality, security and reliability of a conventional wired lab.

Label maker

A device that prints on self-adhesive paper that can be used as mailing labels, folder tab labels, and other labeling needs.

Scanner

A device that reads paper documents and converts them into electronic files.

LCD projector

A device that can be connected to a computer, a VCR, a DVD, and other video equipment and projects the image onto a screen.

Visual presenter

A device that uses a video camera against a document or objects and sends the image to a TV or LCD projector for display to an audience.

Web cam

A device, usually mounted on a computer monitor, captures real-life video and transforms the image electronically for transmission.

Large format printer

A printer that has the ability to print banners, large paper sizes, and posters.

Ethernet

A network protocol used by computer networks to communicate with each other.

Category 5

A type of cabling that contains 8 copper wires. Typically used for phone and computer network applications. A category 5 cable can carry computer signals for a total distance of 325 feet.

Fiber Optic

A type of cabling that contains thin and flexible glass “wires”. Typically used for high-bandwidth phone and computer network applications. A fiber optic cable can carry computer signals for a total distance of 30 miles.

Router

A router links a local network to a remote network. This can be via the Internet, LAN-to-LAN connections over a wide area intranet (WAN), high-speed remote access for a user or branch office over an ISDN line, or broadband access using an ADSL or Cable Modem.

E-Book

A device that can download books in electronic format. Users can then read books using this device.

Touch screen monitor

Special adapted computer monitors that allow “mouse” functions through finger touch on the computer monitor screen itself.

Alphasmart

The AlphaSmart 3000 allows you to enter and edit text, then send it to any computer for formatting or directly to a printer. Its portability allows students to use it anywhere and anytime - in the classroom, at home, or on field trips.

Canvas Printer

A special printer that has the ability to print on canvas-like paper.