Instructional Technology
Newsline
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Department of Elementary and Secondary Education

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◆ Instructional Technology Update

New Arrival –
The Instructional Technology section will be without Kelly's services for the next six to seven weeks. On Thursday evening, April 20, Kelly delivered Hannah Sue!

VIDEO Program Funding Update –
Last month we mentioned Senator Bentley added a clause to Senator Caskey's bill dealing with school violence, SB944, that stipulates the VIDEO program "shall include $4 million transferred to the Fund annually". SB944 was passed by the Senate budget committee on April 5, passed by the Senate on April 6, first read in the House on April 6, referred to the House Civil & Administrative Law Committee on April 13, and passed through the CAL committee on April 26. Full text of this bill and its status can be found online at www.senate.state.mo.us/actions/SB944a.htm.

Census of Technology –
A reminder that districts have until May 15 to complete the 2000 Census of Technology. The Census must be completed by districts intending to apply for any Department technology grant program in 2000-2001.

Electronic TAG and VIDEO Applications –

Web-based applications for the Technology Acquisition and VIDEO grant programs are under development! We anticipate having the applications available by August. As a result, please

- do not submit paper copies of these applications, and
- plan to attend an August workshop on when and how to apply online.

Because the online applications won't be available until August, many have asked how can districts get approval to expend funds over the summer. The answer is that, for FY 2001, we will give these grants a July 1, 2000 date of approval. Both of the programs have been in existence for some time, applicants are generally knowledgeable of allowable and unallowable costs, and funds are usually expended on recurring activities that are easily approved. Thus, if your district plans to expend VIDEO and/or TAG funds on activities and expenses that have been approved in the past, we can assume there will be no cause for not approving the activities and expenses this year. However, please contact us if you have any questionable activities or expenses.

Workshops, Past and Future –

In April, staff conducted 10 workshops statewide to discuss program changes for the coming year. Attendance at these workshops totaled 240 people, averaging 24 per workshop. I may be biased, but I believe that our staff give the finest workshops around. However, it is difficult to justify travel expenditures when some workshops are attended by fewer than 20 people. I also find it interesting when applications that require the most staff phone and office time come from districts who did not have someone attend one of the workshops.

With this in mind, I encourage all districts to attend our summer workshops. In August we will conduct workshops to discuss how districts will apply online for VIDEO, TAG, and TLCF grants. Staff are in the process of securing sites. We plan to conduct the workshops the first two weeks in August and will post the schedule in Newsline, on our web site, and through a general mailing to districts later this month.

Technology Plan Approval -

On April 10, 40 Missouri educators drove to Jefferson City to help the Department evaluate and approve district technology plans. The Department began approving technology plans in December 1997 so Missouri districts could participate in the Universal Service Fund's e-rate program. E-rate mandates that any district applying directly or indirectly (via MOREnet's statewide application, for example) for the federal discount program must have a plan that is approved locally and by the state education agency. Approval is good for up to three years, after which time the plan must be revised, approved by the district's local board and approved by the state.

330 technology plans were submitted, and 305 plans received state approval. While most of the submitted plans were well constructed and met the minimum requirements to receive approval for e-rate purposes, more than just a few of the plans were old / out-of-date, underdeveloped, and/or lacked detail enough to help districts wisely plan for, implement, and evaluate the use of technology to improve education.

Instructional Technology staff are examining better ways in which to assist districts in their technology planning. We are in the process of identifying exemplary plans, developing checklists for districts to use when developing or revising plans, creating special web-site links to helpful resources, and arranging future workshops and conference sessions dealing with this topic. Plans are to solicit newly developed or revised technology plans each March and have them reviewed in April – and get everyone on a

three-year schedule.

◆Making Decisions About Assistive Technology

By Jon Harding, Assistive Technology Specialist

No one would doubt the incredible demands placed upon a school administrator in today's educational climate. School safety, improved academic performance, teacher competency, and increased community involvement are a few of the demanding and visible issues facing administrators. Finding a way to address assistive technology (AT) issues in a congested administrative agenda can be a daunting task. Can assistive technology issues be realistically addressed in a school community already burdened with responsibilities? Are there steps a proactive administrator can take to avoid the pitfalls of inappropriate decisions, miscommunication, and/or wasted spending? The answer to these questions is "yes", with consideration, forethought, and action.

Forethought requires administrators to recognize that consideration of assistive technology for every student with an Individual Education Plan is not a "best practice", but rather a mandate provided in federal law. The assumption that assistive technology issues will be addressed only for students with severe impairments or only when a parent or advocate demands it can result in negative repercussions. Proactive administrators recognize that knowledge is a powerful weapon in their repertoire. They acknowledge and accept the fact that AT considerations must be made by qualified teams to satisfy federal law.

Administrators who establish an in-district framework to handle the difficult process of assistive technology assessment and provision are less likely to have difficulties with the previously mentioned "pitfalls". What does this framework consist of? For one, it means trained staff who have a modicum of knowledge and assistive technology issues such as assessment, legal issues, funding, equipment, and implementation. It means staff who can apply and adapt this process to individual students and situations, regardless of disability. It means having the knowledge, training and experienced staff necessary to safeguard against unreasonable demands and inappropriate decisions for students.

When a school leader puts the decision- making process for assistive technology in the hands of his own trained staff, he or she places the responsibility for student success in the hands of people who are the most familiar with and knowledgeable about the student. Contrary to popular sentiment, outside evaluation agencies do NOT always provide the most appropriate assistive technology decisions for children. What they may know about products or devices, they frequently lack in knowledge about the student, the environment, and the educational objectives. It is important to understand that even teachers who have only basic knowledge about AT devices, but who know the students well, may be better suited to make appropriate AT decisions than an individual who is a device expert".

Each level of school personnel plays a unique role in providing AT services to students with disabilities. Teachers know the students, the curriculum, and the classroom configuration. With some training in AT devices, they are then able to match the appropriate technology to help students meet their educational objectives. Administrators, on the other hand, are uniquely able to establish a climate where staff can gather AT information, create AT policies, and establish an AT delivery and monitoring system.

Beyond providing a framework for AT decisions, administrators can consider opportunities for sharing resources with other local agencies and school districts. School leaders have the unique capacity to establish mutually beneficial agreement to lessen the expense of providing AT equipment and services. Smaller districts, in particular, can benefit from the establishment of equipment-sharing programs. Students are better served when agencies and districts are able to share resources. Some innovative schools have been able to coordinate purchasing and loan programs for assistive technology devices. Each district will need to determine how it can best coordinate with others.

What are the costs of establishing such framework? The most obvious costs incurred for establishing a framework are the loss of time for teacher training and the money spent for devices, training and teacher substitutes. Other, less tangible, costs include staff skepticism, the risk of establishing individual "experts" who assume all AT responsibilities, and investing in a process that may not produce tangible results in the short-term future. There is no question that establishing an AT framework incurs some costs associated with time and money.

Conversely, those administrators who have faced litigation as a result of poor preparation might ask, "What are the costs of NOT establishing a framework?" The costs here are more substantial. What is the cost for a student denied a free, appropriate education because of a lack of assistive technology? What is the cost of a district being perceived as uncaring and/or inattentive to student needs? How do you measure the damage wrought by inappropriate assistive technology decisions? Often the price is measured in anger, frustration, animosity, or worse: student failure.

Investing in AT preparedness can be a difficult task considering the number of other legitimate, more "visible" initiatives facing administrators. The costs involved in establishing preparedness may seem inordinate to some, considering the short-term return on investment. Those districts that have failed to prepare can attest, however, to the costs of failing to anticipate the demands of the assistive technology assessment and provision proceeds. Never has the phrase "pay now...or pay later" been more appropriate.

For more information about assistive technology, contact the Missouri Technology Center for Special Education at 1-800-872-7066 or http://techctr.educ.umkc.edu/welcomepage

◆ Missouri Technology Student Association (TSA)

By Doug Miller, Technology Education Supervisor

There is a new and exciting adventure all across Missouri that many students are embracing with enthusiasm: the Technology Student Association. Growing slowly since 1978, TSA is now recognized as one of Missouri's contributing Vocational Student Organizations.

In 1998-99 there were 14 new chapters registered as affiliates with the National TSA and Missouri TSA. By 1999-00, with 13 new chapters joining the team there is a total of 27 chapters and 1463 student members. The National TSA membership recognizes over 100,000 students representing 44 states and one (1) foreign country.

TSA promotes technology education as a means of preparing students for our dynamic world. Our students are invited to become critical thinkers, problem solvers, and technologically literate leaders.

Our world is changing every day at a rapid pace and, if our students are going to keep up, we need to give them every opportunity to do their best. That is what the Technology Student Association (TSA) is all about: providing students with the opportunity to do their very best in leadership development and technological literacy.

TSA promotes technology education as a means of preparing students for our dynamic world. Our students are invited to become critical thinkers, problem solvers, and technologically literate leaders.

Local chapters are encouraged to participate in activities with our state delegation and the national organization. Some of the TSA programs include the following:

- **Competitive Events Program**-with over fifty competitions for various skills and interests. Events range from engineering to promotional communications.
- **Technology Honor Society**-designed to recognize members who excel in academics, leadership, and service to their community and school.
- **Achievement Program**-which recognizes individual students for their efforts over time in four areas: leadership, understanding of technology, school and community service, and career and personal planning.
- **National Conference**-the finale of the Competitive Events Program, held each June and attended by approximately 2,500 students and advisors, including regional and state champions.
- **State and National Service Project**-in which local chapters volunteer their efforts in support of a national cause.
- **The Great Technology Adventure**-a technology literacy program for elementary grades K-6 that integrates with existing curriculum to help teachers bring technology into the classroom.

Start a TSA chapter in your school. Encourage parents to support their child's involvement in their local chapter activities and business professionals to serve as resources by providing practical knowledge and financial support. If you or your Technology Education teacher(s) are interested in starting a TSA chapter, check out our Missouri TSA web site at: http://www.dese.state.mo.us/divvoced/industrialed/TechEd/TSAindex.htm or contact Doug Miller at (573) 751-7764 or by email at dmiller1@mail.dese.state.mo.us

◆Copyright Question of the Month

Question: May a student copy, enlarge, reduce but not alter an UNLIMITED number of images (cartoon, chart, diagram, graph, picture, or drawing), from a print source to create a final print product (e.g., bulletin board/display, brochure, flyer, scrapbook, portfolio, mural, diorama, term paper, etc.)?

Answer: No. Only a LIMITED number of images may be copied, but not altered as long as

- the user adheres to the *brevity* guidelines. Only **one** of the following may be copied from a single book or periodical issue: One chart, graph, diagram, drawing, cartoon **or** picture) *and*
- the source of the image is cited within the product.

NOTE: The final print product must be a class assignment or personal portfolio and the essence of the original image may not be destroyed.

◆Ask the Expert, Be the Expert

"Is distance learning a good avenue to make dual credit or advanced placement courses available? Why or why not?

-Responses submitted by James Tice, Southwest Missouri State University and Sally Burnett, Central Missouri State University

James Tice, Research Associate, Southwest Missouri State University

The answer is unequivocally YES! (Assuming there is not a qualified teacher available.) There are three major factors making this one of the fastest growing segments of the high school curriculum.

First, the technology infrastructure already exists to deliver quality interactive instructional services. Distance learning has been well established for a number of years in a variety of formats. These formats include correspondence courses, courses broadcast over the PBS stations before the regular broadcast day, and more recently by satellite with a telephone line for limited interaction on the part of the students. Only seven years ago the first interactive television (I-TV) clusters were formed in Missouri, and began delivering high school courses between partner schools within the three original clusters. Since that time, over 200 school districts in the state have acquired I-TV capability. Many of these districts are providing dual credit classes through I-TV. Meanwhile, the advent and evolution of the Internet now allows the delivery of instructional services that include I-TV, two-way voice, computer applications, slides, graphics, and links to an infinite number of related web sites for further depth, enrichment, and illustration. All this can be accomplished at a very low cost.

Second, the economics are already in place. Since the middle 1990s, the legislature has allowed public high schools, state colleges, and universities to count student enrollment simultaneously for state aid. The viability of dual credit courses taught during the school day by a high school instructor has been greatly enhanced by the passage of this legislation. In some instances, the tuition costs for the student at the college or university are less than the full charge, and revenue sharing can be established between the university and the K-12 district. It is a bargain, therefore, for high school students to earn college credit before graduating from high school. With careful and prudent planning, many students can enter college with up to a full semester of college credit already earned and on their transcripts.

Third, the need is critical. Over half of the 524 Missouri school districts have high school enrollments of 325 or less. A very high percentage of these districts are in rural areas. These districts in particular have an urgent need for qualified science and math teachers. Unfortunately, the teacher training institutions are not providing sufficient graduates to replace those lost through attrition, either because they are leaving the profession or moving to larger, better-financed school districts. Furthermore, the Missouri School Improvement Program (MSIP) requirements, DESE's College Preparatory Studies Certificate, and the CBHE's High School Core Curriculum (required by selective universities) call for advanced math and science courses to be offered in all high school curricula. Districts are then faced with the dilemma of having to offer these advanced courses without the requisite personnel.

To support the educational efforts and needs of high schools in its service area, Southwest Missouri State University (SMSU) has created the concept of proximity-based education. This concept will be implemented through the creation of an eHighSchool (http://www.cnas.smsu.edu/e-highschool) operated under the auspices of the College of Natural and Applied Sciences through the Center for Scientific Research and Education. Properly certified teachers will provide course delivery, including dual credit courses, through a variety of formats, including I-TV, asynchronous Internet transmission, and synchronous Internet transmission. Proximity-based education is defined as "high-tech, high-

touch," whereby course work is primarily delivered over the Internet, but site visits are made by instructors, graduate assistants, and pre-service teachers. In addition, high school students visit the college campus for orientation and laboratory activities.

(Technical note: any high school with a T-1 line has the bandwidth necessary to support I-TV, asynchronous and synchronous Internet delivery simultaneously. In some instances, this may cause a reduction in reception speed for other stations within the school. The components necessary to receive and originate I-TV are now available in the marketplace at a cost of less than $10,000. Several vendors have units that can provide point-to-point and multipoint I-TV capability utilizing up to 512 kbps of bandwidth. Point-to-point I-TV may be accomplished over the Internet without incurring additional costs; multipoint I-TV will require an additional investment depending on the number of stations required. Synchronous Internet delivery including two-way voice interaction can be transmitted through a 28.8 kbps modem. Software is also available that allows synchronous delivery of whiteboard, application sharing, including PowerPoint presentations.)

Sally Burnett, Instructional Design, Central Missouri State University

A better question might be "If your school is not currently offering AP or dual credit classes via distance learning, why not?"

Research indicates that **when done properly**, (i.e. using effective and appropriate application of DL technologies to teaching), there is no difference in achievement between students in a DL environment and achievement of students in a traditional classroom environment. In many cases, DL enhances the educational experience. **The caveat "when done properly" cannot be overemphasized.** Poorly executed programs will only result in frustration for all involved. However, for those committed to a quality program, DL is an extremely powerful delivery method by which learners can access educational opportunities that would otherwise be unavailable to them. No longer must students be limited by factors such as geographic boundaries or course offerings restricted by staffing and other budgetary constraints. Another merit of DL is that class sizes in a dual credit/AP scenario are typically smaller than those experienced on a college campus in general ed. courses, resulting in more personalized instruction. High school classrooms also tend to be a more nurturing environment than the college setting, contributing to the success of students. A final point, the fees for dual credit/AP classes are very economical compared to tuition charged for a traditional campus course, making DL courses a financially attractive option for students of limited means.

In an increasingly competitive global economy, we all have a vested interest in a literate and well-educated workforce – DL is a means of achieving this objective.

New to the Instructional Technology web page!

When you can't be everywhere, stay at home and be anywhere you need to be…let distance learning help.

Check out the new Missouri Distance Learning Resource List – a listing of programs and individuals willing to answer questions and offer helpful hints about a myriad of distance learning issues.
http://www.dese.state.mo.us/divinstr/instrtech/statefunded/idl/resourcegrid.pdf

Want to add your name or institution to the list? Contact Claranne at cvogel@mail.dese.state.mo.us

◆ Learning With Technology

Featuring Cooter R-IV, Pemiscot County R-III and Parkway C-2

Cooter R-IV and Pemiscot County R-III

Weather Education and Technology

The "Weather Education And Technology" project is a two-district project designed to increase math and science skills in the Cooter R-IV and Pemiscot County R-III school districts located in southern Pemiscot County in the Missouri Bootheel. This project has placed additional computer equipment into elementary classrooms and middle school science laboratories, allowing students to study weather data. A weather station has been installed at each district, and data generated is used in classroom projects. Internet connections from MOREnet have been utilized as community members and local television stations are able to access this weather information from our district web-sites 24 hours a day.
One of the more interesting aspects of this project is the participation of our local CBS television affiliate-WREG Channel 3 in Memphis, Tennessee, where the data from our weather stations is routinely displayed during the weather portion of the newscasts via the Internet. There is a lot of excitement from the students and community members when they get to see their individual school/community broadcast on television. Another interesting aspect of this project is the ability to place this live data on our district web sites. Anyone wishing to see a working example of our weather stations can visit either one of the district web sites at http://wildcat.cooter.k12.mo.us or http://r3.k12.mo.us. For more information contact Dennis Prince at dennis@southland.k12.mo.us.

Parkway C-2

Professional Technology Development: The Winning Team

With their Technology Literacy Challenge Fund grant *Professional Technology Development: The Winning Team*, the Parkway school district covered all the bases to make technology a useful, effective and constructive learning tool. Interested teachers joined teams based on a curricular area. Each team was led by an individual with a strong curriculum base and had a technologically skilled facilitator. This grouping allowed each team to investigate the role technology could play in their classrooms as they taught that specific subject. Groups could bring in experts, visit sites implementing technology, check the latest literature and try out software to devise the best plan for their subject area. Teachers also had the opportunity to devise lesson plans and curriculum guides to utilize in the classrooms. Involved teachers also agreed to mentor other teachers and make presentations to showcase their plan. The school district partnered with Apple Computers and utilized information from the Apple Classroom of Tomorrow (ACOT) model to formulate a winning game plan. For more information about the project, contact Craig Larson at 314/415-8027 or clarson@parkway.k12.mo.us

◆ Mark Your Calendar

May	
15	Census of Technology reporting deadline
June	
12	VIDEO Advisory Committee Meeting Jefferson Building, 14th Floor, Jefferson City, MO 10:00 - 2:00 p.m.
15	Competitive Technology and Interactive Distance Learning Grants deadline
30	Final day to obligate funds for salaries, benefits, services and travel for the Technology Acquisition and Enhancement, Interactive Television, Competitive Technology and VIDEO Grants.
30	Obligation of funds for materials, supplies and equipment purchases for TLCF Grants

◆ Upcoming 2000 Conferences

May 22-23	Western Regional Educational Conference on Evaluating Technology in Education Denver, Colorado
June 26-28	National Educational Computing Conference "Connecting @ the Crossroads" Atlanta, GA

◆ Monthly Grant Writing Tip

The keynote speaker at the eSchool News Grants & Funding for School Technology conference in New Orleans in January shared a list of the "Top 10" questions that corporate funders want to see addressed in a successful grant proposal. Many of these same questions also relate to our state and federal grant proposals. I encourage you to check out the article at www.eschoolnews.org (April 13, 2000). These tips may help you focus on your instructional technology needs as you write your grants for the next year.

◆ Internet Sites of Interest

Paperless Grant-seeking tools www.eschoolnews.org/fundingnews1
You can now add the word "eGrants" to your list of eWords. For several years, software programs that allow you to search for funding sources have been available. Now technology is being incorporated into the writing and the application process as well making grant seeking easier than ever.

Teachers Discuss Technology, Other Issues Online www.ed.gov/teachersdiscuss/
What do teachers really think about technology? Find out at Teachers Discuss, an online forum that features teachers' views on a range of issues. Whether you're an educator, policymaker, or citizen, you re invited to read what teachers are saying and post your own views and experiences.

What's Working in the Classroom? www.techlearning.com/content/working/

The" What's Working" section of this site, with its hundreds of educator-authored articles, has been updated to include "Graphically Organizing the "Big 6," project-based learning in the form of WebQuests, graphic organizers, and The Big 6.

It's a great read: American Library Association's 'Libraries and the Internet Tool Kit'
www.ala.org/internettoolkit
American Library Association (ALA) provides a useful set of guidelines that ensure the best use of the internet in libraries as it becomes more widely accessible. The Internal Toolkit provides information for integrating the internet as a library resource for children. It serves as an excellent basis for building an internet strategy for your school libraries.

◆From the Mailbag

Teachers First http;//www.teachersfirst.org
The site provides resources and lesson plans for K-12 teachers. Resources include tips for new teachers and information regarding special student populations, Web tutorials, links to free downloads of browser enhancements, and a place where teachers can share information and ideas.

Tool For Assessing Teachers' Attitudes Toward Technology http://planet.rtec.org
MU's Planet Innovation project has created an online survey to help identify and understand teachers' concerns about educational innovations. Based on the Stages of Concern Questionaire (SOCQ; Hall & Hord, 1987). The output will help you make strategic decisions based on each individual teacher's attitude toward a given technology innovation.

Global Connections Online http://www.nsglobalonline.com
A free, interactive, web-based version of the Global Connections training course focusing on how teachers can integrate the Internet into the classroom. The course is available to anyone with Internet access.

National Student Networking Conference http://projects.terc.edu/satl
Have an Exemplary Computer or Networking Technology Program?

Come to the First-Annual Students as Technology Leaders (SaTL) National Conference

at
MIT and Bentley Colleges, Boston, MA
October 20-22, 2000

(100 Travel Grants Available)

High schools and community colleges from across the country, with academic programs in Information Technology, are invited to participate in the first Students as Technology Leaders (SaTL) National Conference.

Participants will have the opportunity to:
- Interact with IT experts and employers
- Meet IT students and instructors from other states
- Share networking successes and lessons

- Tour MIT and Bentley College -- the most wired campus in the nation
- Hear from national speakers and major corporations
- Attend technology workshops and exhibits
- Learn about IT scholarships, jobs, and funding

Applications to attend and exhibit your exemplary technology program are available at http://projects.terc.edu/satl and will be accepted for consideration until May 8, 2000. Teams selected to exhibit will be notified by mid-May 2000.

Priority will be given to established IT programs that:

- Foster student leadership in both the school and community
- Involve students in computer/networking service learning projects
- Promote IT and related job skills
- Are academically rigorous
- Emphasize hands-on, cooperative learning strategies
- Actively recruit traditionally underrepresented groups in the IT field

Twenty-five top team applicants, selected by a panel of judges, will be invited to spotlight their programs nationally by participating in the conference program. These teams will be provided home stay lodging for one instructor and up to three students and be eligible for travel grants to pay for transportation and meals.

The Students as Technology Leaders (SaTL) National Conference is partially funded by a National Science Foundation grant (pending) and contributions from Nortel Networks™ and other major corporations. It is co-hosted by Mass Networks Education Partnership, Youth Tech Entrepreneurs, and TERC. For more information contact Kevin Glennon: kglennon@massnetworks.org, or Patricia Ward: patricia_ward@terc.edu

Please Post/Forward/Reproduce this Invitation to Apply