

MCCE

MCCE NEWS

Montana Council for Computers
and
Technology in Education

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MCCE's Suzie Flentie Presented National Award

Teachers recognized for successfully integrating technology into the classroom

Atlanta, GA—June 27, 2000—TECH CORPS recognized teachers for the creative use of technology during the National Educational Computing Conference (NECC) conference in Atlanta.

Nominees were selected by the International Society for Technology in Education (ISTE), a national leader in supporting teachers and technology, and presented to **TECH CORPS** for evaluation. Using criteria based on creativity, innovation, the broadly



infused use of technology in the classroom, and the mentoring of other teachers, **TECH CORPS** identified two truly outstanding teachers.

“**TECH CORPS** is pleased to recognize the efforts of individuals who have used technology to improve teaching and learning in their classrooms,” said Karen Smith, executive director of **TECH CORPS**. “These award-winning educators have enhanced student performance by incorporating technology into many subject areas, and by expanding technology in K-12

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BTC Facilitates Multimedia Learning

by Vince Long

One day last spring I found a 3-fold brochure in my school mailbox. Mixed in with the usual assortment of junk mail, it could easily have been tossed out, but the picture of our U.S. Senator, Conrad Burns, and the word “multimedia” caught my eye. A closer look showed that it



Location of the Burns Telecommunication Center on the campus of MSU-Bozeman

was an invitation to participate in the “The Multimedia ‘Connections’ Award Program,” sponsored by the Burns Foundation for Scholastic Excellence. The goal of the program is to “develop and promote mastery of multimedia educational technologies in the 4th-12th grades in Montana’s public and private schools.”

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PRESIDENT'S CORNER

BY ANNE STENBERG



Hello and welcome!

Another summer has passed and another school year begins. I trust you weren't too affected by the Montana fires this summer.

Lots of us try to incorporate technology into our curriculum whether it is history, mathematics, science, or whatever. There are several web sites and list serves with useful information for teachers.

- ◆ **BLUE WEB'N:** A searchable library of Blue-Ribbon Web sites categorized by grade level, content area, type, and Dewey number. You can subscribe to this weekly service by going to <http://www.kn.pacbell.com/wired/bluwebn>.
- ◆ **ESCHOOL NEWS:** Information specifically for people in the K12 arena including grants and conferences. To receive school technology news and information, send a blank e-mail to join-k12techwatch@listserv.eschoolnews.com or visit their web site at <http://www.eschoolnews.org>.
- ◆ **K12USA:** Are you using INTEL's FREE gift for schools yet? 38,000 schools got theirs already...Get yours at <http://k12usa.com/esn?1>
- ◆ **JDL TECHNOLOGIES:** A weekly e-news bulletin full of information about technology, grants, and conferences. JDL's National Educational Networking News Service is sent in compliance of the new E-mail bill: SECTION 301, Paragraph (a)(2)(C) of s. 1618. You may automatically subscribe or unsubscribe to this service at any time. Simply send a NEW E-mail message from your address to listserv@jdltech.com (do NOT send a reply to jdlnews@jdltech.com!) with either of the following commands—exactly as they appear below—in the first line of the message body (NOT in the subject line!):
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- ◆ **K12 TECHWATCH:** A free news service providing exceptional school technology resources, special events, and management tools for professional educators. If you would like to subscribe, send a blank e-mail to join-k12techwatch@listserv.eschoolnews.com.

Remember the MEA/MFT Conference in Billings, MT this year from October 19-21. MCCE members can contact me at stenberg@cs.umt.edu for room information. Hope to see you there!

Anne



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Suzie Flentie Presented National Award

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schools within their communities.”

Award Recipients

Susan Hedlun Flentie, 8th Grade Science Teacher, Lewistown, MT has used a great deal of technology in all her classrooms, and she truly believes that successful application of technology in the classroom can greatly enhance the learning process. It was with this idea in mind that she led groups of 3rd and 6th graders from Garfield Elementary School on a cooperative research project for which they collected specimens and data from nearby waterways. The information was then shared and compared with other schools around the country utilizing a web site that Suzie built for the project.

One of the projects Suzie's 8th grade students benefited from involved research of the Chemical Elements in order to create written reports, presentations, and T-shirt designs. This project was a cooperative effort between Science, English, and Art at the Junior High School. Students used a variety of sources, including the Internet and Encarta to gather their information. They also used a variety of technology tools in the creation of their t-shirts and presentations. Students needed to include the chemical symbol, name, atomic number, and atomic mass on the front of the shirt, and the uses of the element on the back. Pat Hould, Principal of Lewistown Junior High School says of her creative use of technology, “Suzy is truly an exemplary educator in every sense of the word, including her fascinating use of technology within

her curriculum.”

In addition to her work with students, Suzie was recently awarded the MCCE state award, which was the basis for her nomination to the TECH CORPS® Leadership in the Classroom award. She also serves as a Technology Liaison for her school district providing in-service training to teachers in several schools, as well as teaching classes in technology for Community Adult Education, and serving on several technology-related committees.

Industry Partners Honor Award Recipients

Since its inception, **TECH CORPS** has partnered with industry leaders to advance the use of technology in schools. In support of **TECH CORPS**' goals, the following companies have contributed equipment awards for the teachers that included:

- a Cisco Micro Webserver, an Internet appliance that provides an all-in-one web partner, and
- a Compaq Armada® portable laptop computer with integrated floppy and CD-ROM drive.

NECC provides education professionals with an annual forum to learn, exchange and survey the most current advances made in the field of education technology.

TECH CORPS is a national nonprofit organization dedicated to enhancing K-12 education through the effective use of technology in classrooms. **TECH CORPS** is building a national network of volunteers to help schools with technology planning, wiring, computer installation, teacher training, mentoring, and ongoing technical support.

MCCE NEWS

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Next Submission Deadline:
12 November 2000

This and past issues of MCCE News are available on the World Wide Web at:
<http://www.mcn.net/~vlong/mcce.htm>



Computers and Education in the News

The cover story of the September 25, 2000 issue of US News and World Report is on children and computers, picking up on the PR efforts of the Alliance for Childhood calling for a ban on computers in elementary schools.

<http://www.usnews.com/usnews/issue/000925/home.htm>

Candidates for Open Positions on the MCCE Board Speak Out

There will be three new members of the MCCE Board of Directors elected this fall. The election will be held during the annual members' meeting to be held during the the MEA-MFT Educator's Conference in Billings. Meeting time is 7a.m. on Friday, October 20th and will be in Room 121 at Skyview High School.

We have three candidates for the three positions and they have submitted biographical sketches:

Carl Elliott, Polson

My professional education includes a Bachelor of Science degree in Elementary Education with a concentration in Mathematics from the University of Minnesota, and a Master of Arts degree in Learning Technology from the University of St. Thomas.

I have had a variety of experiences as an educator. I worked in the Anoka-Hennepin School District, a large suburban district of 41,000 students north of Minneapolis, MN as a 5th grade teacher, building level technology facilitator, and district staff development instructor. My current position is with Polson Public Schools. I am also presently co-teaching an online class for the University of Montana titled "Multimedia Applications in Education."

I am the technology director for Polson Public Schools in Polson, MT. My responsibilities included providing staff development to district personnel, maintaining

technology infrastructure, working with teachers in their classrooms, and curriculum development. A major part of my work responsibilities involve serving as the site coordinator for the Montana TALES Technology Challenge Grant.

I would be honored to serve on the MCCE board to do my part in facilitating a successful organization that meets the needs of its members.

Allen Severeid, Big Timber

Hello, my name is Allen Severeid. I am the computer coordinator and librarian for the Big Timber Grade School in Big Timber, Montana. This is my second year with Big Timber Grade School. I teach 7th and 8th grade computers, and I teach k-4th grades in the Library. I also teach k-6th grade once a week in the computer lab. I am married and have two wonderful children. We live in Belgrade, MT. I commute back and forth to Big Timber daily, which gives me some quiet time on the road.

I was born and raised in Glasgow, Montana. I attended Montana State University in Bozeman, where I completed my Elementary Teaching Degree. I have minor in Instructional Media/Library and an emphasis in computers.

I believe computers are an important tool for education. I have been involved for this last year and a half getting the grade school up and running on our ethernet system, getting each classroom internet ready, and teaching the staff as well as the

students computer technology. I enjoy and appreciate the importance of technology in our schools!

Julie Radtke, Missoula

I've been a librarian at Loyola Sacred Heart H.S. for 10 years and this is my second year as On Site-Coordinator for the TALES grant at LSH.

I've presented to MEA conventions seminars called "Using the Internet for College Advising." I shared an NCCE grant last year for the web page I share with art teacher Jeannie Siegler: "Landscapes - a global project."

Our library Tech Club presented a Student Showcase at the Seattle NCCE Convention in 1998.

Member E-Mail Address Roundup

The list of e-mail addresses that we have for our members is out of date. Many of you have changed your e-mail account since you first became an MCCE member and we sure do not want to lose track of you.

Rather than deluge our Treasurer, Randa Siegle, with e-mail we have set up an account at Yahoo. **ALL MEMBERS**, please send a message to mccenews@yahoo.com and please include, in the body of your message, your full name and current mailing address.

Keyboard Controversy Goes on for 70 Years

by Vince Long

There are some subjects best to be avoided in polite conversation: sex, politics, and religion. These topics can lead to heated debates over subjects about which reasonable people will disagree. We might include technology in that mix too. Whether it be the question of who makes the best personal transportation device (Ford vs. Chevy vs. Toyota), what is the best operation system for a computer (Mac vs. Windows vs. UNIX), or whether drivers should be prohibited from using cell phones, these are topics about which end users disagree and few can back up their positions with much more than anecdotal evidence.

There has been an ongoing, though pretty much ignored, debate over one piece of technology with which most of us interact on a near-daily basis: the keyboard. "The keyboard?" one might ask. "What could be controversial about the keyboard. It just is." It should only be that simple.

We could debate the relative merits of a keyboard constructed from individual mechanical switches located under the keycaps as opposed to the increasingly popular, and less expensive, membrane types. Over we could wax philosophical on the advantages of the key that provides a tactile "click" in response to being pressed, as opposed to one that does not. But no, there is a more vehement battle that has been going on for the past 70-ish years over the best way to arrange the keys on, first, typewriters, and now, computers. And the story has a little something for everyone: conspiracy theories, government decisions made during wartime, and the

economics of the marketplace.

The keyboard layout that comes standard on today's personal computers, developed by Christopher Latham Sholes in 1868, was, according to legend, designed to actually slow down the typists of the day. The levers that moved to strike the letters on the early typewriters could easily become jammed and restricting the typist's speed was seen as the best alternative to this mechanical problem. Named the "QWERTY" after the first six characters in the top row of text on the keyboard, the QWERTY has remained the de facto standard for keyboard layouts, although other layouts have been developed. While the reason for arrangement of the keys might be mythical, no one is arguing that the layout was selected for any ergonomic reasons. Sholes' design was an improvement over the competition, which was using alphabetical arrangements of one type of another. There is a remnant of the alphabetical system in the home row of the QWERTY: D F G H J K L.

About 1930, August Dvorak, a professor of education and expert in time and motion studies, along with his brother-in-law, William Dealey, did a lengthy study about the QWERTY system with intent to improve it. The result was the Dvorak Simplified Keyboard (DSK)

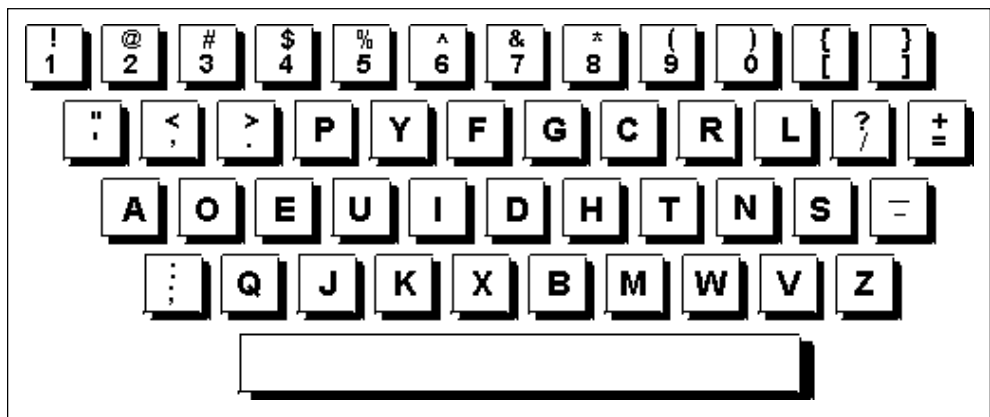
which they promoted to anyone who would listen. They indicated that their design overcame several shortcomings of the QWERTY keyboard which they said did not utilize the home row as much as the upper and lower rows, put most of the work on the weaker hand, and caused the fingers to travel too far. It was said that while a Dvorak typist's fingers might travel one mile in a given typing session, the QWERTY typist's fingers, entering the same data, would travel 16 miles.

This alternative system had other advantages as well. 70% of the letters typed in common English occur in the home row on the Dvorak versus 31% on the QWERTY. Reaching across rows occurs five times more often on the QWERTY than the Dvorak and users of the newer system have a much lower error rate.

If the Dvorak keyboard was such a superior design why was it not adopted by the business community where efficiency would be of great concern? Part of the reason is that the market was saturated with QWERTY typewriters and with the depression, businesses were wary about acquiring new hardware and

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Dvorak Keyboard



1999 Montana Computer Fair Results

The 4th Annual Montana Computer Fair was held April 10, 2000 in the Adams Center at The University of Montana-Missoula. We had 45 registered entries this past year and hope to double that for this year. The following is a listing of the students, their project, grade, sponsoring teacher, and school to which they belong.

(continued on following page)

Student	Teacher	Project Title	School	Grade
Tim Clark	Mike Zito	Lego Mindstorms Robotics,	Bonner School	06-07
Brandon Holland	Bryce Neilson	Lego Mindstorm Robotics,	Bonner School	08-10
Jason Wies	Drew Hopfauf	Web Hosting Site,	Polson High School	11-12
Jennifer Nerow		Music Composition,		
Sarah Neumayer		Computer Art, Florence-Cariton	Gordon Booth	06-07
Will Booth		Ravalli County Community Atlas.	Gordon Booth	11-12
Donelle Cory		Computer Art, Florence-Cariton	Gordon Booth	08-10
Miles Kinney		Computer Music, Florence-Cariton	Gordon Booth	11-12
Alisha Forwood		Dragonball -z Florence-Cariton	Gordon Booth	08-10
Lindsey Stevens, Sara Helmer, Lacy March		Wolves, Toads, and Horse,	Gordon Booth	06-07
Garrett Scholton		Killer Whales	Lone Rock School	06-07
Chris Webster		Omegacron	Lone Rock School	06-07
Carson Welch & Arthur Krebsbach		Programming Website,	Bozeman High	11-12
Nathan Harris		Bozeman High School	Mr. Cooper	11-12
Ben Wagner		Frenetic Suite	Mr. Cooper	11-12
Lance Russell		Generating Fractals,		
Joey Gannon, Nick Hallgren, Matt Barnes		Nashua School	Laura Wagner	11-12
Clint Colwell, Kyle Nelson, David Hall		The Blue Files	Laura Wagner	08-10
Tanya Gilleard, Tiana Haugen		Lego Mindstorm Robotics,	Judy Karl	06-07
Katharine Key, Tammy Abell		Bonner School	Judy Karl	06-07
Sarah Wilson, Rebecca Key & Lindsey Campbell		Bonner School	Judy Karl	06-07
Nick Hallgren		Rainforest Animals,	Judy Karl	06-07
Ian Mucci		Katherine's Collections,	Judy Karl	06-07
		Chicka Chicka Boom Boom,	Judy Karl	08-10
		Bonner School	Judy Karl	
		Car-Tiberian Sun,	Judy Karl	06-07
		Bonner School	Judy Karl	08-10
		Screensaver, Bonner School	Judy Karl	06-07
			Judy Karl	08-10

Student	Project Title	School	Teacher	Grade
Katharine Key, Tiana Haugen & Tanya Gilleard	Lumberjack Log,	Bonner School	Judy Karl	06-07
Jenny Greil, Nicole Briggeman	Favorite Music	Bonner School	Judy Karl	06-07
Elise Knudsen	Tribute to Charles Schultz,	Washington Middle School	Juanita Moore	06-07
Clay Ehricks	Who Wants to be a Millionaire,	Washington Middle School	Juanita Moore	08-10
Ben Sokoloski	Perfect Squares of 10-20,	Washington Middle School	Juanita Moore	08-10
Aden Dohn	Fredrick the Fish,	Washington Middle School	Juanita Moore	08-10
Sam King	Timmy the Turtle,	Washington Middle School	Juanita Moore	08-10
Ian Bassingthwaight	Yo, Hippie,	Washington Middle School	Juanita Moore	08-10
Mark McCauley	Trivia,	Washington Middle School	Juanita Moore	08-10
Alison Reck, Lauren Hauck, Cody Reck	Big Sky Presentation,	Ennis High School	Hebel	11-12
Lauren Hauck	Lone Mountain	Ennis High School	Hebel	11-12
R. Cody Reck	Skibummin', Standin' On the Hill	Ennis High School	Hebel	11-12
Mark Kegel	Paint & Go!,	Turner Public School	Kay Fjeld	08-10
Cory Duncan, James Livingood	Catching Sight of the Advancing Standard,	Three Forks High School	Felix Lehr	11-12
Crystal Gardipee, Danae Infante	Crystal & Danae,	Box Elder	Melanie Schwartzbach	08-10
Ann Favel	Michael Jordan	Box Elder	Melanie Schwartzbach	06-07
Cole Henderson, Tyler Henry	Box Elder Boys Basketball,	Box Elder	Melanie Schwartzbach	06-07
R. J. Woelich	Electrolysis of Water,	Lolo School	Jeff Crews	06-07
Jolynn Wilton	Jolly Jolynn's Odds and Ends,	Bonner School	Judy Karl	08-10
Nikkole Shaffer	Frogs,	Bonner School	Judy Karl	08-10
Janice Cambra	KOOL,	Bonner School	Judy Karl	08-10
Nathan Mikes, Levi Castonguay, Mike Connell	Dragons,	Bonner School	Judy Karl	06-07
Nicole Stark	Landscapes,	Loyola Sacred Heart	Julie Radtke	08-10
Andreas Torkler	Loyola Sacred Heart	Loyola Sacred Heart	Julie Radtke	11-12
Jeff Lockerman	Alpha Wolf Domain,	Bozeman High School	Mr. Cooper	11-12
Robert Baddeley	Do you see what I hear?,	CM Russell High School	Josie Mclean	11-12
Toby Nelson	Ions,	Poison High School	Dan O'Brien	11-12

This year's fair will be held in conjunction with the Montana State Science Fair in the Adams Center at The University of Montana-Missoula on April 1-3, 2001. Please visit the web site at <http://www.cs.umont.edu/COMPFAIR/wwwpg1.htm> for more details.



BTC Facilitates Multimedia

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To accomplish this goal, the Foundation, through the Burns Telecommunication Center (BTC) located at Montana State University,



The Senior High team gets help from John (left) and Lisa (right)

Bozeman, solicits grant proposals from schools and selects two elementary school teams and two high school teams to spend a week at the BTC learning to use the latest multimedia applications. The selected teams produce a project that focuses on a “historical, geographic, cultural, economic, and/or educational aspect of their school and community” and, if developed as a website, will be housed on the BTC’s webserver.

Having done a fair amount of multimedia development with my students over the last several years, I selected four students who have shown an interest in going beyond what we were doing in the classroom. I asked Michael, Trevor, Ashley, and Sarah, all sophomores in the spring of '99, to meet with me about forming the Billings Senior High Multimedia Team. They were all interested and available for the required week of training to be held in Bozeman in early August. All that

was left to do was to select a topic and write the grant application. Surprisingly, the latter was the easier of the two tasks.

Getting the students to identify some “unique aspect of their community,” as directed by the grant brochure, took some brainstorming and eventually some cajoling. The problem was that it is easy to think that there is nothing unique about one’s community but easy to identify that which is uncommon in other’s communities. As the outsider, I’ve only been in Billings for 9 years, I suggested the large irrigation canal that runs through town, explain-

ing that while other communities may have large canals like this one, ours is unique because it passes through a tunnel bored through the rimrocks. This start of an idea evolved into a look at irrigation and its importance to our region, with a close-up look at the Billings-Bench Water Association (BBWA), owner of the canal.

I called the BTC and talked to Patti Harrison, director of the program, and requested an application. Over the next few weeks, I gathered letters of support and began laying out the project outline, detailing the tasks to be accomplished, and finally submitted my completed application before the mid-May deadline.

In the meantime, I picked up a copy of the “History of the Billings Bench Water Association” from our library and had it reproduced, giving a copy to each member of the team.

This paper, written in the 1930s, covers the first 32 years of the Association in tremendous detail. As irrigation season was about to start, I took some pictures of the canal before it was filled with water.

The week after school was out, I received a call from Patti informing me that we were one of the two high schools that would be coming to the BTC for training. I called a meeting of my team during which we outlined our project, planned what the website would look like, and assigned everyone on the team a piece of background research. I set up space on our webserver and created accounts that we could use to upload and download files. We put our individual summer travel plans on a calendar and exchanged e-mail addresses. Although we continued to work on the project, this was our last face-to-face meeting until the day we left for Bozeman in the first week of August.

During the summer we exchanged e-mails, from all parts of



The Conrad team collaborates on their web project

the country, and continued gathering background information. I picked up photographs and clipping files from the BBWA, scanning and photocopy-

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BTC Facilitates Multimedia

(Continued from Page 8)

ing what I thought might come in handy once we got to work in Bozeman. The team researched



John shows Ashley some video techniques

irrigation issues and visited the BBWA office to obtain captioning information for the photographs.

The real fun began when we went to Bozeman. We reported to the BTC on Monday morning and met John Usher and Lisa Brown who would direct our activities for the next 5 days, and they did not wait long to get us started. After introductions, including meeting the other winning team, from Conrad High, we received a complete tour of the facilities including the various computer labs and distant learning

classrooms. We picked the workstations that we would spend the next few days on in their well-equipped classroom that included a video projection system and Internet access on each station. After lunch we settled in to a series of well-planned classes introducing us to a variety of topics. Although the skill levels of the students varied from novices to experts, John and Lisa did an admirable job engaging all team members as we learned to navigate their network, created places for us to save and share our project materials, and were introduced us to digital photography.

The next several days were a mix of learning new applications, such as Macromedia's Flash animation tool and using these new-found skills on our irrigation project. As a teacher I enjoyed working as a member of the team rather than standing on the sidelines as is normally the case in the classroom. Trevor and I had fun collaborating on the opening animation for our website, shooting files back and forth across the network to each other's workstation as we added more elements to the finished product. In the meantime, Ashley built her own animation of a repairman fixing a leaky irrigation pipe. Sarah and Michael both enjoyed Adobe Photoshop and mastered the art of replacing sections of photographs and applying special effects. Along with learning some HTML, with which

the Senior High team already had some experience, the students learned to use Director, a very power animator tool. Each team also built a PowerPoint presentation that can be used when we make group presentations back at home.

As part of the grant, the BTC provided housing for the teams in a nearby dorm. The accommodations were not exactly Spartan, but the heat wave we were having at the time made the fans we brought a necessity. The hours after training were spent exploring Bozeman and trying to eat out in as many different places as possible, the cost of which



Members of the Senior High team participate in a video interview.

was also covered by the grant. Although it took a day or so, the students from both teams eventually loosened up with each other and the social activities concluded with a Thursday night bowling tournament

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See Patti Harrison's presentation,
Multimedia "Connections" Award Program
at the
2000 MEA-MFT Educators' Conference

Friday, October 20, 2000
9:00 AM, Room 106
Skyview High School

To learn more about The Burns Telecommunications Center and the Multimedia "Connections" Award Program online, visit their website:

<http://btc.montana.edu/>

BTC Facilitates Multimedia

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at the Student Union Building. There was quite a bit riding on the outcome of the game since it had been decided that the losing team was required to sing, and act, "I'm a Little Teapot" in the lab the following morning. I won't disclose the outcome, but let's just say that all participants were gracious winners or losers.

Although we spent five days working in the BTC lab, we were only able to scratch the surface of what was available to learn there. They have full video-editing capabilities, something to which we were only briefly exposed. Other areas of multimedia design, such as audio editing, were not covered, simply because there was not enough time. However, when looking back, I amazed at how much we were able to build in that short time, something that speaks not only to the strong efforts of my team, but to the well organized activities facilitated by John and Lisa. They provided constant encouragement and humor that made the long hours in front of a computer monitor worth every minute.

Thanks, BTC!

Senior High's project can be viewed at:

<http://senior.billings.k12.mt.us/irrigate/>



Keyboard Controversy

(Continued from Page 9)

retraining their staff. Studies conducted by the Department of the Navy showed that retraining costs would be recovered in just 10 days due to the increase in worker productivity mastery of his layout took appreciably less time that it does to train someone to the same level of proficiency on the QWERTY layout. To reach 40 words per minute it would take 56 hours of training on a QWERTY system and only 18 hours on the Dvorak.

The onset of World War II had some effect on Dvorak's adoption efforts. Pressed for time and not willing to take any chances, the War Department stuck with the QWERTY system as the country mobilized for the war effort. Not only would it have been necessary to retrain the workforce, but also it would be necessary to redesign all those mechanical typewriters, a nearly impossible task.

Once the war was over, the QWERTY was so firmly entrenched that interest in alternative systems waned. August Dvorak continued promoting his layout until he died in 1975, bitter in the end over his lack of impact. It was not until the Personal Computer revolution that interest in the Dvorak resurfaced. With many more workers spending more and more hours at the keyboard, there was a significant rise in repetitive motion disorders, primarily attributed to the use of keyboards. Proponents of the DVORAK showed that their choice was not only faster but was more comfortable as well.

Rather than get lost in the maze of arguments surrounding this issue, those who wish to try out a Dvorak keyboard can do so using the keyboard that they already have. The keycaps on most keyboards pop off if pried up a little so rearranging the keys is fairly easy. If you don't want

to go to that much trouble, a marker could be used to write over the existing keys. The next step is to tell the computer that you have remapped the keyboard. This is easy on Windows 95/98 systems:

1. Click on Start, Settings, Control Panel to open the Control Panel.
2. Open the Keyboard icon by Double-clicking on it.
3. Click on the "Language" tab.
4. Click on "Properties."
5. Scroll through the resulting window until you find "United States-Dvorak" and click on it. Notice that there are other Dvorak options like Left-Handed and Right-Handed.
6. Click on "Apply" and then on "OK."
7. You can now close your control panel window.

You now have a Dvorak keyboard.

The World Wide Web is full, as you might imagine, of information about the Dvorak keyboard. Here are some links that you might find interesting:

A Dissenting View about the Dvorak's Effectiveness
<http://www.pub.utdallas.edu/~liebowit/keys1.html>

Rebuttal to the Dissenting view
<http://www.mwbrooks.com/dvorak/dissent.html>

A great Introduction to the Dvorak Keyboard. Discusses pros and cons, the history, etc.
<http://www.mwbrooks.com/dvorak/>

Dvorak Typing Tutor. This tutor works online with most web browsers.
<http://www.karelia.com/abcd/>



Montana Council for Computers and Technology in Education
Membership Form

Last Name _____ First Name _____

Mailing Address _____
City _____ State _____ Zip _____

Home Phone _____ E-mail _____

New Member _____ Renewal _____

Area of Interest: College _____ High School _____ K-8 _____

Please be an active member by indicating your area(s) of interest:
 willing to be an officer
 willing to submit articles for the newsletter
 willing to be on the Board of Directors
 willing to work on MCCE committees
 willing to be on a committee for a convention

Dues: _____ \$12.00 per year _____ \$30.00 for 3 years

Mail the completed membership form and dues to:

Randa Siegle
6480 Linda Vista
Missoula, MT 59803



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 Billings Senior High
 425 Grand Avenue
 Billings, MT 59101

To: