Annual dues for MACUL membership are $25 per year. MACUL's membership year is May 1 through April 30. Dues include a subscription to the *MACUL Journal*.

The *MACUL Journal* welcomes and encourages letters, articles, suggestions, and contributions from readers. Letters to the Editor should be signed and include author's address and phone number.

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Information is available upon request.

MACUL Journal

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MACUL

**Michigan Association
for Computer
Users in Learning**

Founded 1975

*An organizational member of
The International Society
for Technology in Education*

**MACUL is a 501 (c) (3) non-profit
organization that exists to:**

- provide a state association for educators involved with, or seeking knowledge of, computer-related technology in learning
- provide for the sharing and exchanging of ideas, techniques, materials, and procedures for the use of computer-related technology through conferences, publications and support services
- promote and encourage effective, ethical and equitable use of computer-related technology in learning
- encourage and support research relating to the use of computer-related technology in learning.

Michigan Computer/Technology Users Calendar
2004

Crowded conditions prevail during early morning registration March 11 at 2004 MACUL Conference held at the Grand Rapids DeVos Place.

M A Y

- **May 28:** Copy Deadline for *MACUL Journal* (Fall issue. Theme: Technology in the Content Areas — Math, Science and Health.)

J U N E

- **June 18:** Deadline for MACUL Grant Applications.
- **June 21-23:** National Education Computing Conference (NECC) at New Orleans.

S E P T E M B E R

- **September 10:** Copy Deadline for *MACUL Journal* (Winter issue. Theme: Technology in the Content Areas — Language Arts and Social Studies.)
- **September 21:** MACUL Board Meeting in Lansing (tentative).

O C T O B E R

- **October 19:** MACUL Board Meeting in Lansing (tentative).

N O V E M B E R

- **November 6:** Fourth Annual SIG Gig at Anchor Bay Schools, New Baltimore. For up-to-date information check the MACUL Website at www.macul.org.
- **November 16:** MACUL Board Meeting in Lansing (tentative).
- **November 23:** Copy Deadline for *MACUL Journal* (Conference issue, 2005 issue. Theme: Technology in the Content Areas — Fine Arts and World Languages.)

D E C E M B E R

- **December 10:** Deadline for MACUL Outstanding Technology-Using Educators of the Year Nominations.
- **December 21:** MACUL Board Meeting in Lansing (tentative).

The Michigan Computer/Technology Users Calendar is updated in each issue of the MACUL Journal. Send MACUL activities, dates and related information to MACUL Journal Editor at macul@macul.org.

Make plans now to attend
FOURTH ANNUAL SIG GIG
November 6 at
Anchor Bay Schools
For up-to-date information, check www.macul.org

Numerous suggestions for using technology to effectively differentiate student instruction are available

I am excited that my last column as President of the MACUL Board of Directors is included in an issue of the *MACUL Journal* dedicated to the theme, "Differentiating Instruction Through Technology." I believe that this is *the* area where technology can have the most profound effect upon teaching and learning.

Yes, technology can make us more productive and yes, technology can streamline information processing (grading, attendance, etc.) and yes, technology gives us access to enormous amounts of information, and yes, technology can be used in various isolated ways to enhance teaching and learning. However, it is not until technology is applied as a strategic tool in the design of instruction that is aimed at making the learning goals achievable by individuals with wide differences in their abilities to see, hear, speak, move, read, write, understand English, attend, organize, engage, and remember, that its highest potential can be realized.

In his recent book, *The Predictable Failure of Educational Reform*, **Seymour Sarason**, one of public education's most important and critical voices, stated, "A different way to learn is what the kids are calling for …All of them are talking about how our one-size-fits-all delivery system — which mandates that everyone learn the same thing at the same time, no matter what their individual needs — has failed them. Technology, when used to differentiate instruction, can be a powerful tool in combating the many barriers that are preventing so many of our students from achieving their true potential."

The leading proponent of differen-

FROM THE PRESIDENT

PETE MANTEI

tiated instruction is **Carol Ann Tomlinson**, of the University of Virginia. In a 1995 article, "Differentiating Instruction For Advanced Learners In the Mixed-Ability Middle School Classroom," when describing what the "differentiated classroom"

> ## The key to a differentiated classroom is that all students are regularly offered choices…

is and is not, Carol states, "A differentiated classroom offers a variety of learning options designed to tap into different readiness levels, interests, and learning profiles. In a differentiated class, the teacher uses (1) a variety of ways for students to explore curriculum content, (2) a variety of sense-making activities or processes through which students can come to understand and 'own' information and ideas, and, (3) a variety of options through which students can demonstrate or exhibit what they have learned."

Tomlinson further notes, "A class is not differentiated when assignments are the same for all learners and the adjustments consist of varying the level of difficulty of questions for certain students, grading some students harder than others, or letting students who finish early play games for enrichment. It is not appropriate to have more advanced learners do extra math problems, extra book reports, or after completing their 'regular' work be given extension assignments. Asking students to do more of what they already know is hollow. Asking them to do 'the regular work, plus' inevitably seems punitive to them."

The key to a differentiated classroom is that all students are regularly offered *choices* and students are matched with tasks compatible with their individual learner profiles.

Curriculum should be differentiated in three areas:

- **Content — Multiple options for taking in information**
- **Process — Multiple options for making sense of the ideas**
- **Product — Multiple options for expressing what they know.**

Ways in which technology can provide multiple options for taking in information

- **Accessibility Options** are important considerations for students with visual, hearing or motor difficulties.
- **Text.** Besides traditional reading intake, digitized text can be manipulated onscreen for easier reading.

Text fonts can be reformatted and resized.

a. On-line resources such as *Project Gutenberg* offer classic literature in digitized form. Most *Project Gutenberg* e-texts are public domain. You are allowed to print them, distribute them, convert them to other formats for inclusion in your lessons and projects or re-post them on your Website.

b. The *Avalon Project* offers a wealth of primary source documents in the public domain.

c. Traditional textbooks provide static information, while the Internet can provide up-to-the-minute resources for current events, weather reports, stock market, etc. The WWW versions may also include multimedia components that cannot be found in the print version.

■ **Visuals**

a. Maps, charts, graphs, diagrams, concept maps

b. Video (enable close captions when available)

1. The REMC Association (www.remc.org) has two collaborative projects of which schools can take advantage — **MITV** (Michigan Instructional Television) and **RSVP** (REMC Streaming Video Pilot)

2. **C-Span** (www.c-span.org) offers a video library of news events

3. **Cable in the Classroom** (www.ciconline.com) offers many educational resources.

c. Photographs (www.pics4learning. com/) and drawn or computer generated images.

■ **Sound**

a. A text reader can help English language learners as well as students with visual difficulties. It would also be useful to regular ed students with reading difficulties. *Read Please*, a text to speech program allows the reader to manipulate the size of the text and the reading speed. It can also read several languages. Download a free version of the text reader at http://www.readplease. com/rpfree.php

b. Recorded readings of various literary genre. (This could be a project

for more advanced students to make content available for students with lesser reading abilities.)

c. Talk Technology can train deaf students to speak. (http://abclocal. go.com/kabc/health/talk_technology. html).

■ **Manipulatives** work well for kinesthetic learners.

a. Computer simulations and educational games

b. Internet interactivity with on-screen manipulatives for language, math or science learning

c. Commercial courseware programs such as **Waterford** or **Plato** that grow with the student, keep track of students' individual progress and build progressively upon their skills.

■ **On-line dictionary/thesaurus** offers immediate access to unfamiliar words.

■ **Virtual Field Trips** afford students a chance to visit and learn about far-away places.

Ways in which technology can provide multiple options for processing information

■ **A** *WebQuest Project* (http:// webquest.org/) can be constructed for any grade or curricular area. It challenges students on various levels to inquire and construct new meaning from the information they glean and culminates with a project for students to demonstrate what they have learned.

■ **Cooperative Learning Groups** can be formed with each student having specific tasks to perform based upon his/her own strengths or need for skill development.

■ **Thinking Maps** (www.nileshs.k12. il.us/west/skills/skills/thinkingmaps. pdf) really do make kids think! The development of a thinking map serves to deepen the thought process. It engenders questioning and evokes higher reasoning powers.

■ Various other **Graphic Organizers** (www.graphic.org/goindex.html) and concept maps assist students in organizing their work for production.

a. Tools such as *Mind Manager* (http://members.aol.com/mrmr tipper/mindman/mmanindx.htm) or *Inspiration* (www.inspiration.com/ freetrial/index.cfm) can be used to create thinking maps and graphic organizers. A free trial version can be downloaded from their respective Websites.

■ **Process Guides** will help students through various tasks. (http:// projects.edtech.sandi.net/staffdev/ tpss99/processguides/index.htm).

■ **Project templates** help students in planning the production of their final product of a unit.

■ **Interactive programs and Websites** grab students' attention and help keep them focused on their assignments. Examples are:

a. *I Think… Therefore… MI* (http:// surfaquarium.com/MI/intelligences. htm)

b. *Cool Math Sites* (http://cte. jhu.edu/techacademy/web/2000/heal/ mathsites.htm)

c. *Math Gizmos* (www.explore learning.com/index.cfm?method= cResource.dspResourceCatalog)

d. *Energy Quest* (www.energy quest.ca.gov/index.html)

e. *Health Calculator* (www.ivillage. com/diet/tools/healthcalc/?arrivalSA= 1&arrival_freqCap=2)

f. *Exploratorium* (www.exploratorium. edu/explore/handson.html)

g. *Periodic Table of Elements* (www.webelements.com/)

h. *Community Discussions* (http:// ddonline.tomsnyder.com/community/ index.cfm)

i. *Essay Punch* (www.essaypunch. com/)

j. *Magnetic Poetry* (www.magnetic poetry. com/magnet/index.html)

k. *Magnetic Boards* (for ESL Students) (www.manythings.org/mb/)

l. *The Interactive Body* (www.bbc. co.uk/science/humanbody/)

m. *Major Music Signatures* (www. shortsongs.co.uk/teacher/keys.htm)

n. *English for All* (for ESL Students) (http://myefa.org/).

■ **KWHL Charts** call upon students to access their own prior knowledge of a topic, plan their inquiry and assess what they learn from the

process. (www.graphic.org/kwhl.html).

- *IntelliTools* **software** (www.intellitools.com/) assists students with reading, writing, and math concepts as well as special accessibility. It gives auditory responses to student input, very useful for English Language Learners, auditory learners, as well as students with visual difficulties.

- An **on-screen keyboard** can assist students with motor difficulties. (www.microsoft.com/enable/training/windows2000/fontkeys.aspx).

- Have students follow **on-screen "how to" instructions** — try Oriland (http://oriland.com/learning/learning.asp).

- A **speech to text conversion program** such as *ViaVoice* would be good for students with motor difficulties as well as dyslexic students. It can also be used by anyone who does not have good keyboarding skills and needs to input information quickly. This technology enables students to take notes as they read, view, or listen to information. (www-3.ibm.com/software/speech/)

- **Calculators**
  a. An onscreen calculator comes with the computer operating system (listed under Accessories in the *Windows* Operating system or under the Apple menu on a Macintosh).
  b. There are free calculators on-line for every purpose imaginable at www.martindalecenter.com/Calculators.html.

- **Commercial programs** such as *Intelli-Mathics* can help students build and express their knowledge and understanding of math concepts. (www.intellitools.com/products/intellimathics/home.php).

- *Digital Sensors* can be used to gather data for all kinds of scientific experiments. (www.directindustry. com/?&l=En&google=1&cat=140).

- Various other **scaffolding strategies and tools** at www.lausd.k12.ca.us/Lincoln_HS/literacy/scaffolds.htm and **Assistive**

Technologies (www.microsoft.com/enable/at/types.aspx) may be applied to help students through the learning process and maintain the academic rigor of the assignment.

Technology can provide multiple options for expressing information — Writing

- **Word Processed Document**
  A word processor program allow for spell and grammar checking by the students. Revision and editing is quick and easy as writers can change and move text around within the document. Teachers or peers can add comments or clarifying questions to the document to guide the student further in the drafting/revision/proofreading process. Works can be collected in a book. (www.sff.net/people/Brook.West/bind/bindit.html).

- **Web Page**
  Composing writing pieces as Web pages calls upon students to apply a variety of skills in thinking, reading, writing and designing. The teacher can provide on-line resources to serve as scaffolds for student learning. The student employs the writing process to develop the piece, and may link to resources from which ideas are drawn. Multimedia elements may be added to enrich the presentation. Since the Web is a visual medium, it takes both content and technology standards into consideration. We not only view and evaluate the content and style of the writing piece, but also the design of the page on which it is displayed

- **On-line** *Writer's Window* offers students an opportunity to interact with other students and share their writings (http://english.unitecnology.ac.nz/writers/).

Technology can provide multiple options for expressing information — Drawing, Photography, Animation

- **Any paint or draw program** that comes with the computer operating system can be used to express what a student understands.

- **Hand-drawn student artwork or photos** can be scanned into a computer to add to a project.

- **Digital cameras** allow for quick transference of images into a computer for editing and adding to a project.

- **Commercial programs** such as *MS PhotoDraw, Adobe Photoshop, Macromedia Flash, MS PowerPoint, HyperStudio* or *Intelli-Pics,* or *KidPix* for younger students, that can help students express their knowledge and understanding of a topic.

Technology also provides these options for expressing information

- **Speaking** — Students may have their understanding assessed orally while using a multimedia presentation to demonstrate as they speak.

- **Performing** — Role-play, dance, play an instrument, engage in a sport, conduct an experiment, demonstrate how to build or create something.

- **Recording** — Sound recorders, video cameras and editing software give students access to a wonderful multi-medium for showing what they know.

I hope you find that some of these ideas and resources are familiar and that some are new additions to add to your classroom repertoire. As you read the rest of the articles in this issue of the *Journal,* I hope that the same holds true.

It has been a pleasure and a privilege to share my thoughts and ideas with you through this column and to serve MACUL as the President of the Board of Directors. It has been an experience that will remain a highlight of my career forever. I thank you for the opportunity.

Thank you, Burton H. Brooks: Long-time editor of *MACUL Journal* and *Newsletter* to retire

I t's always tough when legends retire.

Burton Brooks, long time editor of the *MACUL Journal* has announced that the publication you are now reading will be his last. You all know Burton. He's the one behind the ever-present camera, and the guy with the MACUL vanity plate on his car.

Before he slides out of the editor chair to spend more time with his grandchildren, there are a few past MACUL presidents who would like to express their thanks to the person that has meant so much to our organization for many years.

From Rick Dalzell, MACUL President 1992-1993

In every generation a few people make a strong effort to improve the lot of society. Burton Brooks is one of these contributors. He has, by any measurement, made a tremendous impact on education and, by association, on the young people of this and future generations.

As editor of the *MACUL Journal*, he has documented our past, promoted our current activities and encouraged our future development as leaders in the field of educational technology.

Burton worked hard to gather reminiscences from past presidents on the developments that occurred in MACUL during their administrations. He has assisted many of the contributors to the *Journal* as they developed articles dealing with issues and events important to the membership. At Board meetings he has been a welcome contributor as we planned future activities.

Most of the time that we saw him, he held a camera before his face, because he has been the primary

FROM THE EXECUTIVE DIRECTOR

RIC WILTSE
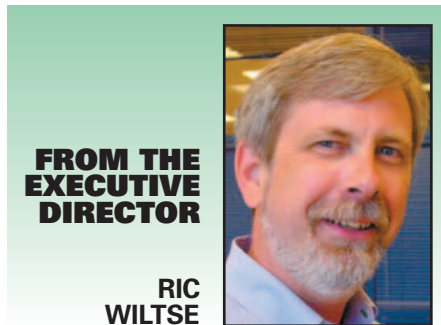
visual recorder of our events.

He has been a great assist to the presidents and the Boards that he has served, but it is the membership at large who has really benefited from the contributions of this marvelous volunteer.

Burton certainly deserves the accolades of this organization that he has served so well.

From Tim Staal, MACUL President, 1993-1994

I have many memories of Burton Brooks at MACUL events over the years. These include gentle reminders from him about columns due for the *MACUL Newsletter*, discussions about trends in education and computing over the years, and reminiscing about retired old-timers from MACUL's past.

One picture that especially sticks in my mind is that of Burton wandering around with camera around his neck at the old Apple Afterglow receptions we always used to hold after the banquet speaker on Thursday night. He was always looking for good candid shots to liven up the newsletters, and while he never drank anything, I could usually catch him at the food table. My suspicions were that Burton and free food had a good close relationship lasting many years.

From Jim Bembenek, MACUL President, 1995-1997

I will remember Burton as a firm "task master." As president, one of my responsibilities was to write a column for each issue of the *MACUL Newsletter*. Burton was very firm in relaying the deadlines for submissions. As you may imagine it was not always easy to meet his deadlines or to come up with ideas for the columns.

Burton always seemed to be able to suggest something to write about, which I found very helpful. Even though he set "tight" deadlines, I soon found that he would let me stretch his deadlines, which I greatly appreciated.

I congratulate Burton on his retirement (is this the real one?). He has done much to enhance the image of MACUL during his tenure as *Newsletter* editor. Good Luck, Burton.

From Frank Miracola, MACUL President, 1998-1999

When I think of Burton, I think of two things. The first is the knowledge and history he brought to MACUL. No one did more to keep that history alive than Burton. The proof is in his yearly "Do You Remember" column in the MACUL conference issue of the *MACUL Journal*. His recollections over the last 25 years help everyone to reflect on how much the organization has grown and how much technology has changed.

The second way I remember Burton is how he encouraged others to take a leap and give writing a try. Because of his support, many MACUL members (including myself) took the risk and shared their knowledge in the form of the written word. For many, it was

MACUL Executive Director Ric Wiltse (left) and MACUL President Pete Mantei (right) pose with Burton H. Brooks, *MACUL Journal* Editor during the MACUL awards afternoon reception March 11 at the 2004 MACUL Conference in the Imperial Ballroom at the Amway Grand Plaza hotel in Grand Rapids. MACUL recognized Brooks for his 17 years of service as the editor of the *MACUL Newsletter,* now *MACUL Journal.*

their first foray into this new realm and the professional growth that resulted was immeasurable.

Burton, like many teachers, does not know the impact he made on these new writers. Yet they, like so many other students, know they will never forget and will always appreciate what Burton did for them. Thank you Burton for not only your efforts as an editor but also your efforts as a mentor and teacher.

From Bill Wiersma, MACUL President, 1999-2000

Burton has, for years, been a very important person to the MACUL organization. He is always there with an idea, a suggestion or a "slight adjustment" to the absolute deadline when an article just was not coming together. Burton has taken the pictures, written articles, and basically kept the history of MACUL in the pages on the *MACUL Newsletter* (now *Journal*). I worked with him while I served as MACUL member,

SIG member, SIG officer, Vice President, President, and through it all Burton has continued to pursue quality publications and a positive image for our organization.

I would personally like to thank Burton for all of his efforts over the many years he has served as Editor for the *MACUL Newsletter*. Thanks for all you have done for MACUL!!

From Barb Bartosiewicz, MACUL President, 2001-2002

Burton H. Brooks…what a guy! Having had the opportunity to work with Burton as The *MACUL's Newsletter/Journal* Editor for nearly 10 years was a pleasure to say the least. It is rare to find such an ethical and high caliber professional as Burton.

He continually made every effort to improve the quality of one of MACUL's key communication tools while striving to meet the needs of MACUL's membership in the educational community. Burton will be

missed in his role with MACUL but deserves the very best retirement has to offer. Congratulations, Burton!

From Ricki Chowning, MACUL President, 2002-2003

I started my professional career as a media specialist in the fall of 1971. Shortly after that, I became a member of the Michigan Association for Media in Education (MAME). Between REMC 8 meetings and regional MAME meetings, I quickly grew to know and admire many of the successful, well-known leaders in the media field. Burton Brooks was one of the giants. He had already served as president of the MAME organization.

Four years before, two state organizations, MAVA (Michigan AudioVisual Association) and MASL (the Michigan Association of School Librarians) had merged to create MAME. At the time of the merger, Burton was president of MASL and Lucy Ainsley was president of MAVA. Burton was fond of saying that Lucy

was president of the "AV guys" and Burton was president of the "library ladies." (Author Note: Please excuse the sexist language; this was 30 years ago!) He later served again as president of MAME in 1987.

Burton was the Media Director of one of the most progressive media programs in the state — Grand Haven Public Schools. At different times in our lives, Ric Wiltse and I shared a common career goal to follow Burton as the Grand Haven director of media services.

Along with Burton's undisputed reputation as one of the finest media directors in the state, he also had a reputation as a saver of archaic AV equipment and library paraphernalia. One of his favorite places to purchase extra bulbs and replacement parts was the government surplus warehouse in Lansing! He took a lot of teasing and roasting for this character trait. This propensity for hanging onto to everything, however humorous, was good practice for his roles as unofficial archivist and historian for both MAME and MACUL.

Burton's undergraduate degree was in journalism. His passion and commitment for the *MACUL Newsletter* and his rock-steady dependability have spanned a decade and a half that has seen the *MACUL Newsletter* grow from a four-page newsletter to the award-winning journal we currently have. Thank you, Burton, for enriching our lives.

From Pete Mantei, MACUL President, 2003-2004

The last few years in the life of the *MACUL Journal* have been ones filled with dramatic change. It started by switching from the tabloid format to a magazine format in response to suggestions from members. Then it was decided to also take a different approach to the content of the *Journal* by picking a theme for each issue to be focused around.

With each change that was suggested, Burton was quick to point out both the challenges and the benefits. Even though they stretched and challenged him in many ways, once the decision was made, Burton did everything that he could to ensure that

MACUL Newsletter **Editor Burton H. Brooks, a long-time regular attendee at MACUL Board meetings (often taking pictures), gives a good-bye wave at January 1997 meeting at Kellogg Center on the Michigan State University campus in East Lansing. Though he took thousands of MACUL-related pictures, Brooks appeared in very few.**

they were successful. Through his leadership and guidance during this process of change, the Journal has emerged as a modern publication with content that is valued by members and non-members alike.

Thanks Burton, for your leadership and diligence in helping MACUL transform an already well received publication into one that is quickly becoming a must-read for anyone involved with technology in education!

From Ric Wiltse, MACUL President, 1997-1998

To close my last column edited by Burton, I'd like to express my own words of thanks to the person who has been a long time friend and mentor.

I'd known Burton for several years through our connections with the Michigan Association for Media in Education (MAME) when he approached me in 1988 about writing for the *MACUL Newsletter*. I was flattered that Burton would ask me to start a column for media specialists and quickly agreed. My column, which began in January 1989, evolved over the years as my role in MACUL changed.

My column started out as *Microcomputers and the Media Center* (later *Technology in the Media Center*), changed to the President's column and finally to the Executive Director's column. All totaled, Burton had to edit close to 80 of my columns. That requires a great deal of work due to my challenges with grammar and spelling.

Burton has also been a valued mentor to me over the years. When I considered applying for the newly created executive director position for MACUL, Burton was one of the first people I turned to for advice. At the time, Burton was in a similar job with MAME, and his wisdom and insight into what I could expect were invaluable to me. His encouragement and support helped give me the nerve to change careers and take the risk. It was a decision I've never regretted, and have Burton to thank for his nudging me in the right direction.

On behalf of the past and present leadership and membership of this organization, as well as the educational community of Michigan, thank you Burton for all you have done for MACUL over the last 16-plus years. 🖥

Tips for using multiple intelligences to differentiate instruction in the elementary classroom

Using technology in your classroom is a great way to "differentiate" your instruction. One way to adjust teaching and learning is to address your students' multiple intelligences.

When I am researching a new topic for students, I gather as many resources as I can to present information in a variety of ways. With computers, cameras, software, and the Internet to add to your literature books, magazines, and encyclopedias, you have a diverse assortment of resources at your fingertips! The real trick is sorting through the "pile" and locating just the right motivator for each student.

One way of doing this is to match resources with students' Multiple Intelligences. Start out by hosting a brainstorming session with students. They will quickly lead you to their preferred learning style, and offer you a vast assortment of teaching strategy suggestions.

In this issue's column, you'll find technology-enhanced ways to expand your science curriculum and students' study of Space. Select several activities and watch your students take off!

VERBAL/LINGUISTIC

You know these students. They are the ones we tend to gear most of the day towards — the ones who learn by listening. They have a rich vocabulary (sometimes quite surprising!), can express themselves quite well through their writing and speaking, and enjoy talking to others.

You can capture their attention with CD or Internet-based interactive books or books on tape. These are

USING TECHNOLOGY IN THE ELEMENTARY CLASSROOM

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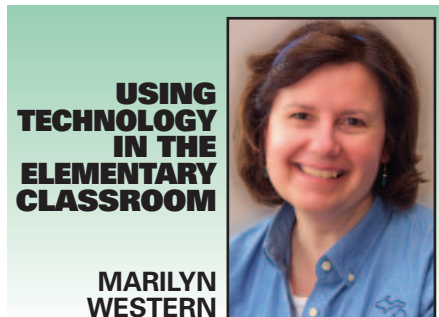
the students that will do well in the official Recorder of Ideas position when you break students into small groups. They'll thrive in your word processing software — coming up with amazing stories, poems, letters

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and scripts for reader's theater or movies. You may want to consider "publishing" the best of these on one of the on-line kids publishing sites. Give them the microphone and let them interview others — staff, grandparents, and other students — for a nice twist in research. If you have access to a video camera, these students will shine as storytellers, interviewers, and news reporters.

In a Space unit, offer students the chance to hear and/or see short videos by way of **United Streaming videos** at http://unitedstreaming.com or **Brainpop** (http://brainpop.com). Give them Space **word puzzles** (or have them make up their own at http://puzzlemaker.school.discovery.com or http://www.greeneclipse software.com/eclipsecrossword.

Linguistic kids would love to gather information about a planet or moon at **Astronomy for Kids** (http://www.astronomy.com/content/static/AstroForKids) and then create a **_Kid Pix_** movie — complete with recordings of themselves reading the slides. If you have a few **Alpha Smarts,** these kids can choose a planet and make a list of what you would need to be able to spend a day there, or brainstorm a list of words describing the Sun and write a poem using those words.

LOGICAL/MATHEMATICAL

These number crunchers are great at problem solving and reasoning things out. They love to collect and manipulate information, whether it's from a science experiment, a survey, or Internet research.

Mathematical kiddoes will gravitate toward your spreadsheet software and have it figured out in no time. They'll proudly display their charts and be able to interpret them. Their sequencing skills will be honed if you give them a digital camera and tell them to put together a step-by-step set of directions for doing most anything. Introduce them to several real-time data Websites and stand back! Logical learners also love using calculators.

As part of your Space unit, make sure you give students an opportunity to collect data on-line at **The Nine Planets for Kids** (http://kids.nineplanets) to make their own spreadsheets and charts comparing the diameters of planets, their gravity, temperature, distance from the sun, and/or their composition. Encourage them to use your spreadsheet software to label maps of the planets, or record the explorations of the Mars Rovers. Encourage students to create a *Kid Pix* slideshow illustrating the phases of the moon or the revolution of a planet around the sun.

VISUAL/SPATIAL

These students think in images. They learn best through color, design, and patterns. You'll recognize them by the doodles in the margins of their papers.

Kidspiration was probably invented by someone with Spatial smarts. Between the organization, color-coding possibilities, and the pictures/symbols available, your visual kids will think they've gone to heaven! Visual students also love to use paint programs and multimedia software, like *PowerPoint* or *Kid Pix*.

These kids will amaze you with their ability to create short Claymation movies illustrating the rotation / revolution of all of the planets (use **Claymation** software or *PowerPoint*).

Or give them a set of Legos and have them create "moon buggies." They can take **digital pictures** of these models, insert into word processing software, and create an advertisement based on their models, complete with explanations for their particular vehicle accessories. They can also use *Kid Pix* to draw and compare proposed space colonies on each planet for a great slideshow.

MUSICAL/RHYTHMIC

These students are quick to pick up auditory patterns. They love to have music playing as they study and often hum or sing to themselves. They can learn multiplication tables if they can sing them, tap them out, or whistle a melody. Give Rhythmic students a pair of headphones and they'll be singing aloud to your whole class! They are the hummers — the ones you're sure will end up on stage in the latest musical.

Musical learners would benefit from Websites that let them create their own music or story CDs that read the words with a musical background. Give them the words to a song you sing often in class and let them illustrate in *Kid Pix*, then record themselves singing the song as the slideshow plays.

Play The Planets Suite by Holst and let students choose a way to interpret the music for each planet via *Kid Pix* drawings, poetry, a brainstormed list of words, or an interpretive dance.

Rhythmic students will be especially adept at comparing the various songs of the planets. Introduce your rhythmic students to **StarChild** at http://starchild.gsfc.nasa.gov/docs/StarChild. Level 1 features an audio version and Level 2 contains short movies. Musical students would also enjoy working on a music "video"— locating images for a *PowerPoint* slideshow to accompany a piece of "space" music.

BODILY/KINESTHETIC

Although these students tend to use their whole body to learn, computers can be a natural activity for these active kids. Using technology can give them a chance to manipulate screen objects to solve problems or create a product, practice their manual dexterity, and role-play on-line.

Get Kinesthetic kids involved in keyboarding, taking digital pictures, using computer microscopes or **Lego Logo** sets. **AlphaSmarts** were built for Kinesthetic kids — you can take them almost anywhere and have an instant recording device.

Locate **FunBrain** games at www.funbrain.com for your Kinesthetic learners and they'll be happy (although your may have to indicate specific educational games for them to play).

FunSchool at www.funschool.com also has two cool space games for upper el kids — do a search for **Space Patrol** and **Space Watch**. If you have access to any of the Lego computer sets, these are the students that will be first in line to build! Have them create a **Lego Logo** Mars Rover and program it (just like the Real Thing!). These students could also team up with the Interpersonal kids to write and perform a short skit on life about a space shuttle or space station.

NATURALIST

These students love the outdoors and learn from the environment. They learn by making comparisons of natural things and enjoy sorting and classifying.

Tech toys for Naturalist learners include digital cameras for taking pictures of the world around them, computer microscopes, and handhelds with probes to collect information. They are also good with databases and Venn diagrams.

Amazing Space at http://amazing-space.stsci.edu/resources/explorations/index.shtml has several galaxy games that would spark the interest of your Naturalist students. Also, **NASA Kids** at http://kids.msfc.nasa.gov has a great assortment of games that involve comparisons, matching, and sequencing.

Naturalist students would also be good at collecting a month's series of moon phase digital photos (or you can "cheat" a little and find them at **StarDate** (www.stardate.org/nightsky/moon). These students would also enjoy journaling the adventures of the NASA's current space project — for example, the Mars Rovers.

INTERPERSONAL

These students tend to understand and care about others and their feelings. They are very empathetic in their interactions with others and get along well with everyone. Interpersonal students love to teach others, join clubs, and help others solve problems.

Webquests are the top technology choice of interpersonal learners. They also would work well with on-line projects (such as **Global Schoolhouse** at www.globalschoolhouse.org/pr and e-mail projects (www.epals.com).

In your Space unit, have students work with a partner to explore

The question that is still being asked: Why teach young students computer programming?

Computers are amazing machines, while they may not have made as much difference to people as some other machines (The plow, the telephone, the automobile), they are undoubtedly the most astounding.

What is surprising is that although a computer is really a fairly simple device, hardly anyone outside of computer professionals has the faintest idea of how computers actually work. People are taught some simple things like binary arithmetic and some more complex things like Boolean logic and word processing, but hardly anyone understands the all-important part in between.

A younger student who learns and is enthusiastic about computer programming is at the same time learning algebra, graphic design, creative writing and typing skills. For example, it is hard to teach a young student the equation of motion, not because those equations are particularly hard but because they appear to have absolutely no relevance to real life.

Think about this, if you are trying to create a video game, something kids do identify with and you want your character to jump over an obstacle in a realistic manner; you need to know the equation of motion! The idea of building virtual worlds in the computer is appealing but forces kids to confront the mathematics of the real world.

The computer can't do anything unless you tell it how to, there is no way around it you have to use math, problem solving, logic, scientific principles and programming. But above all, the younger student gains a sense of mastery and self-esteem from being able to get a computer to perform well enough to create entertaining or useful programs, and the younger student learns the perseverance necessary to debug a program of its inevitable initial errors.

Younger students who make the leap from playing computer games to computer programming are enthusiastic about their learning outside school and form their own peer learning network where they continuously refer to each other for help with their programming problems.

We must remember that teaching programming differs from teaching a programming language. In the past my articles have been on the development of materials for teaching programming with Logo or Robolab. In this column, I am focusing on teaching programming first.

I like to teach programming for at least two reasons. One, because teaching young students how computers work, and how to make computers do what they want them to do gives them power. The other reason is that programming teaches younger students how to think in a logical, connected, sequential, directed way. That gives them even more power over their own minds; power to control their thinking and the sequences of ideas in their own heads.

SIGLOGO PENDOWN

BONNIE MIDDELDORF

I think that teaching computer programming is a very powerful tool for teaching younger students how to think clearly. The program runs or it doesn't. It does what you want it to, or it does not. The cause is usually in plain sight, in the source code; the error is in one's understanding or precision.

Teaching programming must be proactive. That is, you can't just wait for learners to ask questions, because

> **A younger student who learns and is enthusiastic about computer programming is at the same time learning algebra, graphic design, creative writing and typing skills.**

they don't know enough to ask the right questions in the right sequence. You need to initiate and introduce sequences of ideas. Give them a small problem, solve it with them and let them explain what they saw.

Enchanted Learning (www.enchanted learning.com/subjects/astronomy) and create a Venn diagram (*Kidspiration* or your word processing software) comparing asteroids and comets or the sun, moon, and Earth.

Or get a small group of kids together to create their own ***PowerPoint Jeopardy*** game to share with the class. Or help students research sun and/or moon myths, then write a play to illustrate them. What fun!

INTRAPERSONAL

Intrapersonal kids can be self-motivating and in touch with their feelings. They are the ones who can really concentrate on something, no matter what is going on around them.

These students are good at setting goals, working toward them, and assessing their finished product. They are better at working on their own than in a group. Introduce them to ***Kidspiration*** and the concept of word processed journals.

Intrapersonal students would love to organize and work on an individu-alized project. Let them use ***Kidspiration*** to "map out" information they've researched on the moons of various planets.

Or collect information from **Space Trading Cards** (http://amazing-space. stsci.edu/resources/explorations/ trading) to put into a classroom newsletter. Have them create a ficti-tious "interview" with an astronaut with interesting questions and answers. These students may also be interested in writing and publishing a book for younger students based on their planet research.

EXISTENTIAL

These are the heavy thinkers in your classroom. They are able to look at the big picture or big issues. They do well with examining real life situ-ations and their consequences.

Introduce students to the **Windows to the Universe** site at www.windows. ucar.edu and guide them to the Solar System Formation page (**Beginning** version that is geared toward Elementary students). This would be great background for Existential kids. There is also a nice **Exploratour** available at this site with more detailed information. Give students a choice for reporting their findings — a slideshow, written story, diagrams.

One last suggestion — use **Rubistar** (http://rubistar.4teachers. org) to build a rubric for each activi-ty. Make sure students understand their goals before they start their projects. It's always nice to know WHERE you are going — especially in Outer Space! 🖥

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SIGLOGO

I believe there is a lot you can teach younger students who only know a few basic commands in any programming language. After doing several demonstrations and walking through programs with them, I would try to get them writing their own lit-tle programs as early as possible. Let them feel that they can build their own tiny programs that are similar to the more complex ones they see in the video games that they play.

Remember you are surrounded in your home by dozens of computers from your TV remote to your microwave to the family car and out-side of your home there are comput-ers that can fly a plane or drive a car, there are computers that can play chess better than any human being alive today — but the computer is only as smart as the person who wrote the program.

Remember, a computer really can't do much. All it can do is follow a set of rules called a program. Without a program computers don't do any-thing. Each computer no matter how simple or complex requires a pro-gram to make it run.

Wouldn't you like to enable your younger students with the ability to think logically, connect things in a sequential order and problem solve to program a computer. Then don't delay!

Look for a SIGLOGO March Preconference session in Detroit next year and learn how to pres-ent these valuable skills to your younger students. 🖥

Bonnie Middeldorf, Computer Integration Teacher at Pierce Middle School, Grosse Pointe Public Schools, is the longtime Director of MACUL's Special Interest Group for Logo Language (SIGLOGO).

Using open-ended projects for student learning is a one project fits all approach to instruction

SIGSPED MONITOR

DIANE BENNETT

"Differentiating instruction means creating multiple paths so that students of different abilities, interest or learning needs experience equally appropriate ways to absorb, use, develop and present concepts as a part of the daily learning process. It allows students to take greater responsibility and ownership for their own learning, and provides opportunities for peer teaching and cooperative learning."

— Priscilla Theroux
(http://members.shaw.ca/ priscillatheroux/differentiating.html)

Differentiating instruction is the foundation of a projects-based class. I enjoyed the opportunity to share several of the projects developed with my peers during my Pre-con workshop, "Crossing the Digital Divide," at this year's MACUL conference. I have created over 20 different projects for the classes I am presently teaching and have put most of them into a booklet along with course outlines, lesson plans, forms, actual examples of student work and various resources.

During my career I have taught every level from pre-school through college and found ways to adapt many of my projects to fit a variety of ages. Project-based classes are also great in that they are individualized for each student and allow for true differentiation in the classroom.

When students are on different stages of projects, I rely on peer-to-peer teaching. The highest communication goal I have for my students is to be able to show another person how to do what they have learned. Students who are successful in my classes become self-directed independent learners.

I have an unspoken five-minute rule. If students ask for help, I try to wait five minutes before I go to help them. I will say that I am busy with something, which is usually true. I find that a majority of the time the students will have solved their own problems and that if they are still having trouble then they really need my help.

The students also learn to turn to each other for help. There is a little book called *The One Minute Teacher: How to Teach Others to Teach Themselves* by Spencer and Constance Johnson that reflects this philosophy. I tell my students that I will show them how to do something

Quote or Gift Book Project

1. Choose from the following types of gift books:
   a. **Coloring** — If you have a 3 to 7 year old relative (this can be a brother, sister, cousin, niece or nephew) or maybe you know a teacher of younger children, then you might like to make them a coloring book. Pick their favorite cartoon character or a concept they are learning and find black line pictures on the Internet. (Search the web for "coloring pages and your idea". Write a story to go with the pictures you find. The story must make sense and not just describe the pictures you found.
   b. **Memory** — Bring photos from home to scan. Write about your memories for each page. These are great for Moms and Grandmothers.
   c. **Quote** — Choose a theme or a person then find quotes on the web. This site has good links for finding quotes:
      (http://www.surfnetkids.com/quotations.htm)

Page 1, Your Title

2. Make a plan for your book and get approved by the teacher.
   You need to have a minimum of 10 pages to get full credit.

3. Add/Insert photos, pictures or clipart to your 10 pages, then write your story (Coloring Book), write your memories (Memory Book), write about what each quote means to you (Quote Book). I vary the written requirements with each student. The minimum is usually two complete sentences. I ask my English Portfolio students to write a minimum of 50 words about each quote or memory when they do this project.

4. Go Over your work with the teacher and make the corrections. Once the English is right then you can print your book. If you do a nice job on your memory book, I will have it laminated.

Figure 1

as many times as they need, but that I will not do it for them. I have my proudest moments when students show with confidence that they can do projects by themselves or teach another person.

One of my most flexible projects is making gift books. I feel that this project can be adapted to any level and many curricular areas. For example with young children you could make Alphabet and Number books as a group. Elementary

thousand words" comes to play and in my case I am often happy if a student writes 50 words. Here is an opportunity to differentiate between students writing skills. Your expectations can be different for every student. (*See Figure 1*)

Another project that I shared during the workshop was doing surveys and creating graphs. I had seen a math teacher do a similar project with his classes and thought that it would be a great way to work on

fruit and vegetables. They also asked if they were eating less junk food and buying more healthy snacks

The teacher who received the grant actually used the student surveys in her final grant report. One of my favorite surveys that one of my students did was related to her Tae Kwon Do class. She really liked Tae Kwon Do and was surprised to find that a number of the students didn't want to be in the class. She decided to survey freshmen to find out how many people were really interested in the class. She asked over 80 freshmen if they wanted to take Tae Kwon Do and if they might be interested in

Project-based classes are also great in that they are individualized for each student and allow for true differentiation in the classroom.
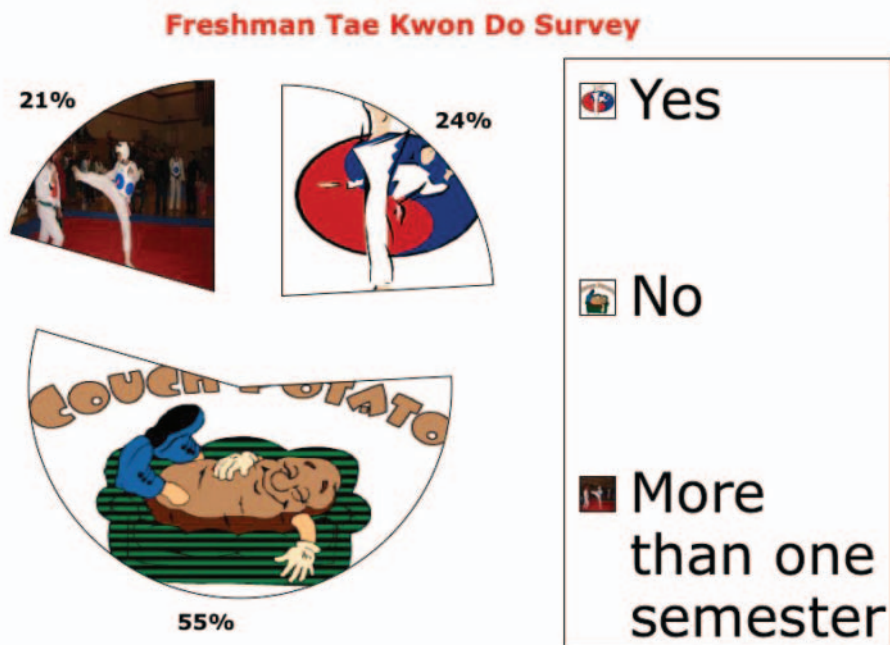
Figure 2

students could make coloring books related to Science or Social Studies Concepts.

I like discussing plagiarism with students when we work on quote books. Learning how to paraphrase is an important skill for high school students. Those who are familiar with a Language Experience approach to expanding expressive English skills will see the parallels with the memory books.

Using students' photos at any level is an avenue to getting them to talk or write about themselves. That old expression "A picture is worth a

expressive language skills. Students need to go out and find 30 people to survey. They are told that they can't just stick the paper in peoples' faces, but that they need to request in a polite way for others' participation. Because I limit them to four choices, they have to get people to choose their favorite.

The best surveys students develop include questions that they are dealing with in their own lives. Last year I had students conducting surveys that related to a grant that brought fresh fruit into the school. The students asked if people were eating the

taking it for more than one semester. One of her final graphs was a pie chart that showed the non-interested students as couch potatoes. At the lower grades surveys could be as a whole class lead by the teacher. (*See Figure 2*)

I think that surveys can be done related to almost any curricular area. In my Communications classes we watched "Iron Jawed Angels" for Women's History Month in March. One of the project options related to the movie was to do a survey related to gender equality or the right to vote.

"If a qualified woman were to run for president would you vote for her?" is an example survey question. I hope this gives you a sense for the many ways that this project can be used in the classroom with different students. (*See Figure 3*)

I am always happy to share my projects and ideas with fellow teachers. Teachers need on the spot support at the time that they are going to use a new technology in their classroom. Technology should be a boon that supports the curriculum and includes all types of learners.

Open-ended projects that can be adapted to many levels and engage students in real life learning are one way to use technology effectively in the classroom. To conclude I am going to quote from the letter that **Richard Helder**, a fellow teacher at Everett High School wrote for the opening of the booklet I created for this year's MACUL presentation.

"For my own part, I am not a special education teacher but many of my students, whether 'unlabeled' or bearing the legal distinction of 'being eligible for services,' respond to the special education approach to classroom instruction. That approach is simply; bring the curriculum to the student rather than expecting the student to come to where your understanding is as a teacher. I find that digital technology is a blessing for reaching out to all students as it provides tangible means for creative teaching that students seem to really enjoy."

Whether you use a projects based approach in your classroom or choose to do projects once in a while, I hope that you can find something that you can use in what I have shared. 🖥

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Project 10: Survey and Graphs using Spreadsheet Programs

1. Collect a Survey [minimum of 30 people] _____

       Survey Topic: _____

      Choices: 1. _____

                  2. _____

                  3. _____

                  4. _____

- Use Survey Sheet to collect your data
- Tally your results on a separate sheet of paper.

2. Create a Spreadsheet Report. _____

3. Create 4 different graphs [bar, line, pie, etc.] _____
   - Include the table on one or more of the graphs
- Make a pie graph for one group and include %
- Change the format of the cells
- Change graph backgrounds
- Make a cover sheet for your project.

4.   Send your Spreadsheet Report and graphs to the digital drop box.

Total possible points: 100

Your point total for this project _____

Up to 20 Points Extra Credit for additional graphs

Figure 3

Critical Issue excerpts address using professional development for effective technology use

BY GINGER RODRIGUEZ AND RANDY KNUTH

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Issue

Ensuring that technology is used effectively to create new opportunities for learning and to promote student achievement.

Overview

The role of the classroom teacher is the crucial factor in the full development and use of technology in the schools (Office of Technology Assessment, 1995; Trotter, 1999). "The transformation of classroom technology from hardware, software, and connections into tools for teaching and learning depends on knowledgeable and enthusiastic teachers who are motivated and prepared to put technology to work on behalf of their students," notes the CEO Forum on Education and Technology (1999).

Yet, many teachers do not have the technical knowledge or skills to recognize the potential for technology in teaching and learning. Just knowing how to use a computer is not enough. Instead, teachers must become knowledgeable about technology and self-confident enough to integrate it effectively in the classroom.

Teachers, in other words, must become "fearless in their use of technology" and empowered by the many opportunities it offers (Illinois State Board of Education, n.d.). Most teachers want to learn to use educational technology effectively, but they lack the time, access, and support necessary to do so (Guhlin, 1996).

How can schools and districts provide the type of professional development that will promote teachers' effective use of technology in the classroom? How can this professional development inspire teachers to use technology to create new learning opportunities that will have a positive impact on student achievement?

Two requirements help ensure the success of professional development for effective technology use. First, the professional development should be an integral part of the school technology plan or overall school-improvement plan. Second, the professional development should contain all the necessary components that research has found to be important.

Professional Development as an Integral Part of the School Technology Plan

Professional development for technology use should be an integral part of the school technology plan or an overall school-improvement plan, not just an add-on. Initial inclusion in the technology plan ensures that professional development is considered an essential factor in using technology to improve teaching and learning.

The technology planning team ensures that the professional development component of the technology plan is research based and meets high standards for effective staff development (Lockwood, 1999). Sources of professional development standards include the five tenets outlined in the **Policy Position** paper, developed by the National Board for Professional Teaching Standards, and the **Standards for Staff Development**, developed by the National Staff Development Council. The technology planning team has important things to think about when reviewing the professional development section of a technology plan, such as the following:

- **How do instructional and technological goals affect professional development?**
- **What is expected from the staff as a result of their professional development?**
- **Who will manage, design, and deliver the professional development?**

Before defining the focus of processional development activities, the technology planning team should determine the school's current level of technology use. The **Learning with Technology Profile Tool**, developed by North Central Regional Technology in Education Consortium, can be used

to assess the school or district's current technology practice and provide a point of comparison. The team also may wish to conduct both informal and formal needs assessments to determine priorities for professional development activities.

Components of Effective Professional Development for Technology Use

Professional development for technology use should contain essential components that research has found to be important. These components include the following:

- **a connection to student learning**
- **hands-on technology use**
- **variety of learning experiences**
- **curriculum-specific applications**
- **new roles for teachers**
- **collegial learning**
- **active participation of teachers**
- **ongoing process**
- **sufficient time**
- **technical assistance and support**
- **administrative support**
- **adequate resources**
- **built-in evaluation.**

Connection to Student Learning

The ultimate goal of professional development is to improve student learning (Speck, 1996). A study by the National Institute for the Improvement of Education (Renyi, 1996) found that 73 percent of surveyed teachers cited improved student achievement as the most important reason for participating in professional development activities. "Teachers value increased student achievement as an outcome of professional development more than any other variable and judge the value of their professional development activities by how much they see a leap in student learning," notes Lockwood (1999, p. 13).

"Schools should provide teachers with abundant opportunities to become fluent in using technology to bolster instruction and help students develop higher-order thinking and problem-solving skills," notes the National Staff Development Council (1999).

As a result, the use of technology enables teachers to implement new teaching techniques, to help students work collaboratively and develop higher-order **thinking skills**, to encourage students to be **engaged in the learning process**, to assist students who have various learning styles and special needs, and to expose students to a broad range of information and experts.

Hands-On Technology Use

Recent research has shown the importance of current professional development emphasizing hands-on technology use. "Teachers who received technology training in the past year are more likely than teachers who hadn't to say they feel 'better prepared' to integrate technology into their classroom lessons," notes Fatemi (1999). "They also are more likely to use and rely on digital content for instruction, and to spend more time trying out software and searching for Web sites to use in class."

Hands-on technology use at school and at home allows teachers to develop confidence in their skills and a comfort level with the technology. When teachers are accustomed to using the equipment to boost their own productivity, they "are more likely to see ways in which similar uses could support the projects they want their students to do," notes the Office of Educational Research and Improvement (1994).

Variety of Learning Experiences

"To help teachers incorporate technology in ways that support powerful instruction requires an array of professional development experiences quite different from traditional workshops and how-to training sessions," notes David (1996, p. 238). Professional development for effective technology use can come in a variety of forms, such as mentoring, modeling, ongoing workshops, special courses, structured observations, and summer institutes (David, 1996; Guhlin, 1996).

Whatever the format, effective professional development utilizes key points from **adult learning theory**. Adults require relevant, concrete experiences with adequate support, appropriate feedback, and long-term follow-up (Speck, 1996). This type of professional development is very different from traditional one-time teacher workshops. Research indicates that teachers learn and incorporate new information best when it is presented over a long time frame instead of a single session.

Preferably, new strategies are modeled during routine school days in the classroom (Guhlin, 1996; Sparks and Hirsh, 1997; Yocam, 1996). Such practical demonstrations encourage teachers to accept and use the new strategies in their own classrooms.

Sparks (1998) calls for 15 live or videotaped demonstrations "for a modest-size change in practice" (p. 34). Teachers then need opportunities for hands-on experience in using the new skill, developing a unit, and implementing it (Guhlin, 1996; Sparks, 1998; Yocam, 1996). Finally, follow-up support, as well as opportunities for ongoing discussion and reflection on the new procedures, are essential in ensuring change (Yocam, 1996).

Curriculum-Specific Applications

If technology is to be used to produce improvements in student achievement, teachers must see a direct link between the technology and the curriculum for which they are responsible (Byrom, 1998).

Professional development for technology use should demonstrate projects in specific curriculum areas and help teachers integrate technology into the content. Specific content can help teachers analyze, synthesize, and structure ideas into projects that they can use in their classrooms (Center for Applied Special Technology, 1996).

New Roles for Teachers

Technology encourages teachers to take on new and expanded roles, both inside and outside of the classroom. Within the classroom, technology supports student-centered instruction. The teacher assumes the role of coach or facilitator while students work collaboratively (Jones, Valdez, Nowakowski, and Rasmussen, 1995; Kupperstein, Gentile, and Zwier, 1999).

Outside of the classroom, technology supports teacher collaboration. Instead of working in isolation,

teachers can work together on school-wide programs. They can help find solutions to problems, act as peer advisors to provide information and feedback, and collect data to test hypotheses (Lieberman, 1996; Little, 1982). Their new roles may involve distance collaboration with cross-school peer groups and study groups through telecommunications (Kosakowski, 1998). Professional development for technology use provides opportunities for teachers to become comfortable and effective in these new roles.

Collegial Learning

A professional development curriculum that helps teachers use technology for discovery learning, developing students' higher-order thinking skills, and communicating ideas is new and demanding and thus cannot be implemented in isolation (Guhlin, 1996). In addition to working in pairs or teams, teachers need access to follow-up discussion and collegial activities, as required of professionals in other fields (Lockwood, 1999).

Teachers also need time to discuss technology use with other teachers, whether face-to-face, through e-mail, or by videoconferencing (David, 1996). The National Commission on Teaching and America's Future (1996) suggests that school districts find creative ways to build teacher networks so that teachers have additional opportunities to discuss the new instructional methods that technology promotes.

Active Participation of Teachers

If technology is to be used equitably for all students, a majority of teachers should be included in the professional development program. One strategy to motivate teachers to spend the time and energy necessary to develop technology competency is to mandate participation in technology professional development. The only way to ensure that all students have the same opportunities is to require all teachers to become proficient in the use of technology in content areas to support student learning.

Ongoing Process

A high-quality professional develop-

ment program is conducted as an ongoing process, not a one-shot approach. Teachers need continued practice to become comfortable with and to implement change, especially in technology use. In evaluating the best practice in professional development, Speck (1996) concludes: "Professional development takes time and must be conducted over several years for significant change in educational practices to take place. Substantial change in school practice typically takes four to seven years, and in some cases longer" (p. 35). Administrators must take into account this long time frame, and teachers must be prepared to be involved in professional development throughout their careers.

Technology encourages teachers to take on new and expanded roles...

Sufficient Time

An effective professional development program provides "sufficient time and follow-up support for teachers to master new content and strategies and to integrate them into their practice," notes Corcoran (1995). For any professional development activity, teachers need time to plan, practice skills, try out new ideas, collaborate, and reflect on ideas. Acquiring technology skills and becoming proficient at new ways of teaching in which technology is appropriately integrated requires additional time (Brand, 1997; David, 1996).

"Teachers need large blocks of time to gain initial familiarity with new hardware or software, learning and practicing for sustained periods," states Renyi (1996). Time built into teachers' schedules can provide teachers with opportunities to "discover what the technologies can do, learn how to operate them, and experiment with ways to apply them," notes the Office of Technology Assessment (1995, p. 6). Schools may use a variety of creative ideas and strategies to provide professional development time.

Technical Assistance and Support

Another important component of effective professional development for technology is access to on-site technical support personnel who are responsible for troubleshooting and assistance after the technology and lessons are in place. When teachers are trying to use technology in their classrooms and they encounter difficulties, they need immediate help and support. Technology that is not easily accessed and implemented will not be used. Teachers will return to more traditional ways of teaching if the problems they encounter cannot be solved quickly and efficiently. Schools, therefore, have a vested interest in **providing technical support**.

Administrative Support

Fully implementing an effective professional development program as part of a well-designed technology plan requires support from school administrators and leaders. Administrators must have a clear vision of technology to support student learning and an understanding of the roles that all school staff must play in achieving that vision. They must be the cheerleaders and visionaries who see beyond the daily routine to a vision of what is possible through the use of technology (Byrom, 1998; Guskey, cited in Lockwood, 1999).

Administrators also can participate in professional development activities so they are aware firsthand of how technology is used and what problems are experienced by the staff.

Adequate Resources

The overall technology plan and its professional development component cannot occur without a significant commitment of resources by the school district. The district, first of all, must purchase the type of technical equipment necessary to meet the learning goals identified and provide for ongoing maintenance and upgrading. Skimping on this step can be more expensive in the long run because teachers and students eventually will want and need access to multiple technologies (such as CD-ROM, satellite, and full-motion video)

Faculty and student opinions of wireless networks summarized from a 2003 case study

Increasingly, wireless technology is available on school, college, and university campuses across the nation. Wireless initiatives can promote increased computing opportunities for faculty and student wireless network users. For example, a wireless network provides users with ubiquitous, mobile, and portable access to e-mail, Internet browsing, and campus intranets.

Wireless implementation enhances productivity among administrators, faculty, staff, and students (Littman, 2002). Faculty can enter student grades and attendance records via wireless-enabled laptops, notebooks, or personal digital assistants (PDAs). Additionally, students can work collaboratively, exchange ideas, and interactively participate with peers in learning activities.

According to Gay and Hembrooke (2002), wireless networks support just-in-time learning, enabling students to receive context-specific information at the most appropriate learning opportunity. Learning tools such as the class Website, bulletin boards, and Internet resources can be instantly accessible to wireless network users.

Background

In this article, we discuss a case study that examined the feasibility of using a wireless network for curricular enhancement in a university environment. During a pilot project for a newly installed wireless system at the College of Business (COB) at a Michigan post-secondary institution, questions were raised about the effectiveness of wireless in the academic environment.

WHAT DOES THE RESEARCH REALLY SAY?

PATRICIA MORGENSTERN

HOWARD POOLE

Documentation on wireless effectiveness in the learning environment is limited (Gay and Hembrooke, 2002; Grace-Martin and Gay, 2001; Littman, 2002; Shotsberger and Vetter, 2001). Our investigation was guided by the following questions:

- **How can a wireless network enhance education?**
- **Will wireless networking improve or enhance instruction in the classroom?**

Methodology

Because of their greater awareness, exposure, and access to the wireless network than the at-large campus community, COB administrators, faculty, staff, and students were surveyed. The surveys were developed based on references from the literature and a previous instrument used by one of the authors for a longitudinal study on technology integration by faculty. A pre-test was conducted to refine the instruments for this investigation.

During a three-week period in March, 2003, an on-line survey was electronically administered to all of the 110 administrators, faculty, and staff in the university's COB. Of the 110 administrators, faculty, and staff, 17 (15%) responded to the survey. Further, 11 (65%) of the 17 respondents indicated usage of the university's wireless network. In addition, a survey was distributed to 208 students in COB classrooms. Interestingly, 69 (33%) of the respondents indicated usage of the wireless network.

Findings and Implications

In our investigation, we found the most popular uses for wireless included Internet browsing, e-mail, database searches, and streaming videos. We examined five curricular applications for wireless:

- **collaborative learning**
- **instruction (classroom and lecture hall)**
- **faculty/student communication**
- **accessibility to resources**
- **productivity.**

Collaborative Learning

Sixty-four percent (64%) of the administrators, faculty, and staff who used wireless applications reported that these applications either greatly enhanced (9%) or enhanced (55%) collaborative learning. Students who used wireless applications also reported that wireless applications enhanced collaborative learning. According to the findings, 17% of the student respondents noted that the applications greatly enhanced collaborative learning, and 54% indicated enhanced collaborative learning (total—71%).

Wireless access enables a flexible, any time, any place learning environment that can accommodate students' busy schedules. Consequently, peda-

gogical benefits afforded through wireless access can include student-led study groups and engagement in collaborative learning activities that encourage construction of knowledge that transcends the time and place constraints of the classroom.

Classroom Instruction

According to the findings, 73% of the administrators, faculty, and staff who used wireless applications reported that the applications either greatly enhanced (9%) or enhanced (64%) classroom instruction. Students who used wireless applications reported that the applications enhanced classroom instruction.

According to the findings, 18% of the student respondents indicated wireless applications greatly enhanced classroom instruction, and 49% indicated enhanced classroom instruction (total—67%). One student noted, *"Researching in the classroom is where I find wireless most helpful."* The implication for faculty members is that they can design expanded learning activities to take advantage of the rich array of on-line educational resources from both the Internet and campus intranet.

Instruction in Lecture Halls

Sixty-four percent (64%) of the administrators, faculty, and staff who used wireless applications reported the applications either greatly enhanced (9%) or enhanced (55%) instruction in lecture halls. Students who used wireless applications reported the applications enhanced instruction in lecture halls. According to the findings, 17% of the student respondents indicated the applications greatly enhanced instruction in lecture halls, and 51% indicated instruction in lecture halls was enhanced (total—68%).

One student noted, *"Having wireless can be helpful in large lecture halls, when the screen is far away."*

Another student noted, *"I feel wireless abilities are very good and add a lot to the quality of my education."*

Faculty/Student Communication

In this study, 73% of the COB admin-

istrators, faculty, and staff who used wireless applications reported that the applications either greatly increased (27%) or increased (46%) communication between faculty and students. Students who used wireless applications also reported that the applications increased communication between faculty and students. However, it is interesting to note that only 20% of the student respondents indicated greatly increased faculty and student communication, and only 38% indicated that the applications increased communication (total—58%).

These findings support a compelling reason for additional research on the impact of communication between faculty and students as a result of wireless access. The dialogue between the mentor and student is an integral part of learning. Wireless implementation minimizes time and place inhibitors and enables faculty and students to engage in dialogue outside of the classroom or scheduled office hours.

Accessibility to Resources

As noted in the survey findings, 82% of the administrators, faculty, and staff who used wireless applications reported that the applications either greatly enhanced (46%) or enhanced (36%) accessibility to resources. Students who used wireless applications also reported that the applications enhanced accessibility to resources. Specifically, 38% of the student respondents indicated that the applications greatly enhanced accessibility to resources, and 49% indicated that the applications enhanced accessibility to resources.

Respondents commented favorably concerning increased accessibility gained through wireless. For example, one student respondent noted, *"I enjoy the easy access and convenience of doing research anywhere on campus."* The implications for educators and students include immediate access to educational resources at the most appropriate learning opportunity.

Productivity

Clearly, ubiquitous access to the Internet and on-line resources increased productivity for faculty and students. More than 70% of the administrators, faculty, and staff who

used wireless applications reported that the applications either greatly increased (9%) or increased (64%) productivity.

Students who used wireless applications also reported that the applications increased productivity. Importantly, 48% of the student respondents indicated that the applications greatly increased productivity, and 36% indicated increased productivity (total—84%).

Furthermore, respondent comments suggest increased efficiency as a result of wireless access. One respondent pointed out, *"[Wireless] is a wonderful resource to have. It helps me be more efficient and flexible with my time."* A faculty member noted, *"Wireless works very well. Its major advantage is convenience."*

Challenges of Wireless Networks

While wireless technology offers users benefits, wireless solutions also pose challenges. Two barriers were identified by faculty and students as being important. According to the findings, 40% of the faculty who identified barriers expressed concerns about security of wireless. Conversely, only 7% of the students who identified barriers expressed concerns about security.

Students on the other hand expressed concerns about the lack of extended geographical coverage of the wireless system. One student commented, *"I love the wireless network. I just wish it was available everywhere I go."* Interestingly, faculty members did not express the same concerns about the wireless coverage. Other noted barriers included limited bandwidth and prohibitive costs of a wireless-enabled laptop.

Conclusions

Findings from this case study support the feasibility of using wireless technology for curricular enhancement in a university environment. The results of this investigation indicated that wireless solutions support an enriched teaching and learning environment. Specifically, as noted from the findings, usage of the wireless network

- **enhanced collaborative learning experiences**
- **enhanced classroom and lecture hall instruction**
- **increased faculty and student communication**
- **enhanced accessibility to resources**
- **increased productivity.**

As wireless technologies continue to evolve and appear on academic campuses, additional research is needed to document the effects of anytime, anywhere access to wireless resources on student learning and achievement. In addition, challenges of security and coverage are design considerations educational institutions must address when exploring implementation of a wireless network. While these findings only support a university environment, we also believe they would be supportive of wireless networks in K-12 institutions.

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CRITICAL ISSUE

that will enhance the curriculum and expand learning opportunities.

"The education technology that is implemented today must allow for increased capabilities in the future, rather than the threat of total replacement of the system," note Bell and Ramirez (1997). The technology used for professional development should be the same as the technology used in the classroom.

Built-In Evaluation

Effective professional development uses evaluation to ensure that each activity is meeting the needs of the participants and providing them with new learning experiences. Evaluation is built into the professional development program during the planning process, before the actual activities begin. It consists of three types: preformative evaluation, formative evaluation, and summative evaluation.

- *Preformative evaluation* assesses educators' needs during the planning process. During this phase, intended goals are clarified and strategies for gathering data about reaching them are set (Guskey, 1998) using agreed-upon **guidelines for evaluating professional development**.
- *Formative evaluation* is conducted during the professional development activity. Formative evaluation provides feedback and determines changes that can be made during the activity to make it more valuable to participating educators.
- *Summative evaluation* is conducted after the activity. Summative evaluation allows participants to judge the overall merit or worth of the activity and gives decision makers the information they need to plan for the future. Good summative evaluation uses a variety of techniques to gauge **five levels of professional development evaluation**. These levels are: participants' reactions, participants' learning, organizational support and change, participants' use of new knowledge and skills, and student learning outcomes (Guskey, 1998).

The ultimate goal of evaluation is to determine whether professional development promotes **using technology to improve student achievement**. No longer can administrators simply assume that professional development is good by definition. Now that students are being held to higher standards, teachers are being held accountable for student achievement; educators must show that professional development has an impact on achieving the learning goals that were identified in the original plan (Guskey, 1998; Wilde, 1996).

For teachers to implement technology in the classroom to increase engaged learning and improve achievement among their students, a well-planned professional development program for technology use is essential. Such a program gives teachers the skills they need to incorporate the strengths of technology into their lesson planning rather than merely to add technology to the way they have always done things.

Effective professional development requires:

- **careful planning**
- **job-embedded and hands-on activities directly linked to the curriculum**
- **plenty of follow-up**
- **built-in evaluation using several assessment techniques**
- **adequate time**
- **sustained funding**
- **the willingness of educators to take on new and expanded roles.**

The Office of Technology Assessment (1995) states, "Helping schools to make the connection between teachers and technology may be one of the most important steps to making the most of the past, present, and future investments in educational technology and our children's future" (p. iii). 🖥️

Student Technology Showcase staged during MACUL Conference

Grand Rapids hosts '04 MACUL Conference in new DeVos Place

MIStreamnet project makes streaming video programs available to Michigan educators

BY DAVID SCHULTE AND KEN SCHRAMM

Many of us have experienced the "drive time" phenomenon of our technology-driven society. Some group, organization, or state government is putting on a teleconference. We get in the car and drive to the REMC or ISD that is serving as a host site. Sometimes that site is close by, and sometimes we have substantial distance to cover. Many times, the drives to and from an event are longer than the actual activity. Enter video streaming.

Over the past year, REMC Centers, the Michigan Departments of Treasury and Education and other educational institutions have initiated a number of statewide educational communications events. The demand for these programs has been high. They have been delivered through videoconferencing bridges, and occasionally via Web-based *QuickTime* video streaming.

Video streaming has provided a needed back-up to the videoconferencing systems in place throughout Michigan. There are consistently more REMC Centers and Intermediate School Districts willing and able to host more videoconferencing sessions than currently available bridge capacity is able to accommodate without incurring significant expense from a commercial vendor. This leaves REMC Centers with constituents who must travel to other facilities to view these events.

A project came into existence known as **MIStreamnet**. A cooperative effort being assembled by the Regional Educational Media Center Association of Michigan, Merit, and Apple Computer, its goal is to make televised educational professional

development activities available to viewers around the state without taxing expensive Internet Service Provider (ISP) connections.

As the REMC Association worked to deliver its messages in the most supportive means possible, it became apparent that video streaming might provide a way to reach viewers who might not otherwise have been able to obtain the content. A few initial forays into streaming confirmed that it was both feasible and would also be utilized by educators and administrators who were not able to travel to receive sites for educational video events.

Soon, streamed events were placing an unmanageable burden on the originators' connections to their ISPs. Viewers logging on to the stream completely filled the available bandwidth. A method of alleviating the load of these requests for streams needed to be devised.

MIStreamnet Has Four Goals

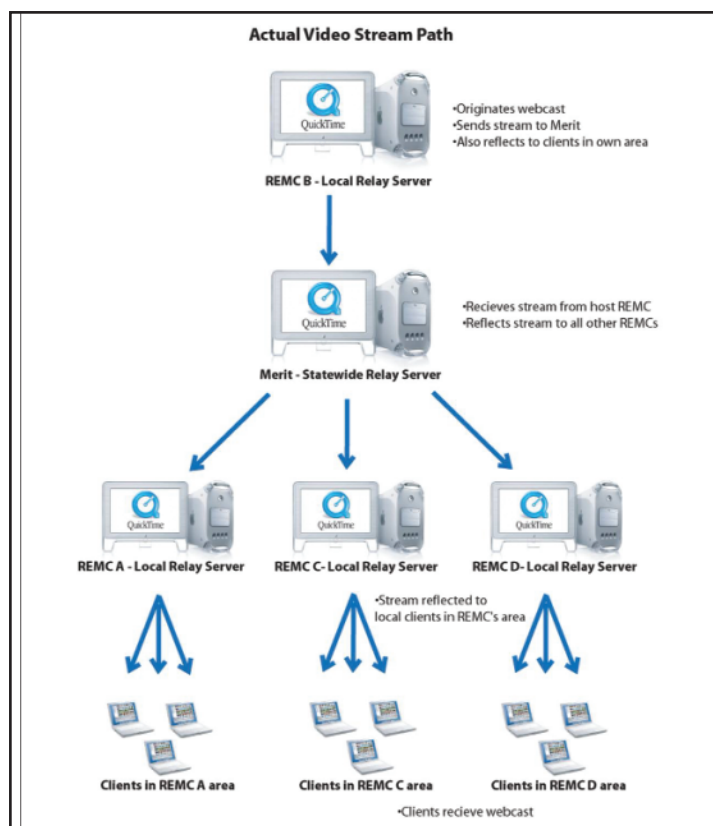The primary goal of this project is a scalable network that can allow strate-

Figure 1

gically located REMC Centers to facilitate constituent local districts gaining greater and more equitable access to video streaming resources. A secondary goal is increased professional development opportunities and digital instructional materials available in real time for Michigan educators.

A tertiary goal is Michigan educators, through their enhanced experiences in the use of this Internet-based utility, will be empowered to create high quality and engaging instructional environments that can result in the increased achievement of all Michigan K-12 students. A final goal is economical access to streamed video materials through the use of a distributed, video network.

A significant benefit of video streaming is that it allows users to view events from their desks, reducing lost work time; travel expenses and the inconveniences connected with travel to and from videoconference or teleconference receive sites. In more remote parts of our state, where travel can be complicated because of the weather, this network provides a great benefit to educators.

Over the past few years, the use of video streaming as a means of delivering professional development and communications has been steadily growing. Several REMCs have been working to take advantage of this trend, making professional development opportunities and produced administrative events available to streaming video participants.

These past efforts have, however, highlighted the limitations of current networks to deliver content to as many viewers as may wish to participate in and view these streamed events. The major drawback to streaming video data is the demand that it places on the Internet connections and network capacity of both the users and the originators.

When large numbers of users request a video stream, which is typically delivered in file sizes of about 256-384 KBPS, even large connections to an Internet Service Provider are taxed and overloaded. Because of current Internet connectivity capacities, the integrated use of video streaming, even though it could provide a more economical solution to the professional development needs of schools, is very limited.

At first, REMC 20 technicians at Wayne RESA (the lead agency for the project) inquired with Apple about the possibility of installing a secondary streaming server at Merit, its ISP. Apple responded that a more appropriate solution would involve relaying streams from the originating site to a parent server at Merit, and then on to local relay servers around the state. The system would look at the IP address of the individual requesting the stream, and then direct that request to a relay server located on the requester's own wide area network.

Except for the streams feeding the individual relay servers, the streaming traffic would be removed from the Commodity Internet. Such a system would increase the number of viewers who could participate from a few dozen to potentially thousands across the state. Additionally, the costs to end users with access to a Wide Area Network were negligible. In order to view a live stream, educators needed to download and install the free *QuickTime Player* and streaming tools from Apple's Website and with some minor set-up were ready to go.

The proposed network called for the creation and installation of a network of Apple video servers (relay servers) at strategic locations around the state with a central hub located at Merit's facilities in Ann Arbor. *(See Figure 1)*

While schools don't have to be Merit customers, the integration of **MIStreamNet** with MichNet maximizes access to the resources being streamed while, simultaneously, minimizing the load placed on the Internet connection of the originating site. This special video network would reduce bandwidth demand by delivering only one copy of the streamed content from the originating site to the hub, and then only one copy to each of the servers on the grid. Schools then have immediate access to the streamed video from the nearest video server. *(See Figure 2)*

Programs Are delivered to Users' Desktops

Streamed events can be archived on-line for later use without the cost and time delays of duplicating and distributing videotapes or DVD copies. This allows for the anytime, anywhere delivery of professional development opportunities and resources to educators. The delivery
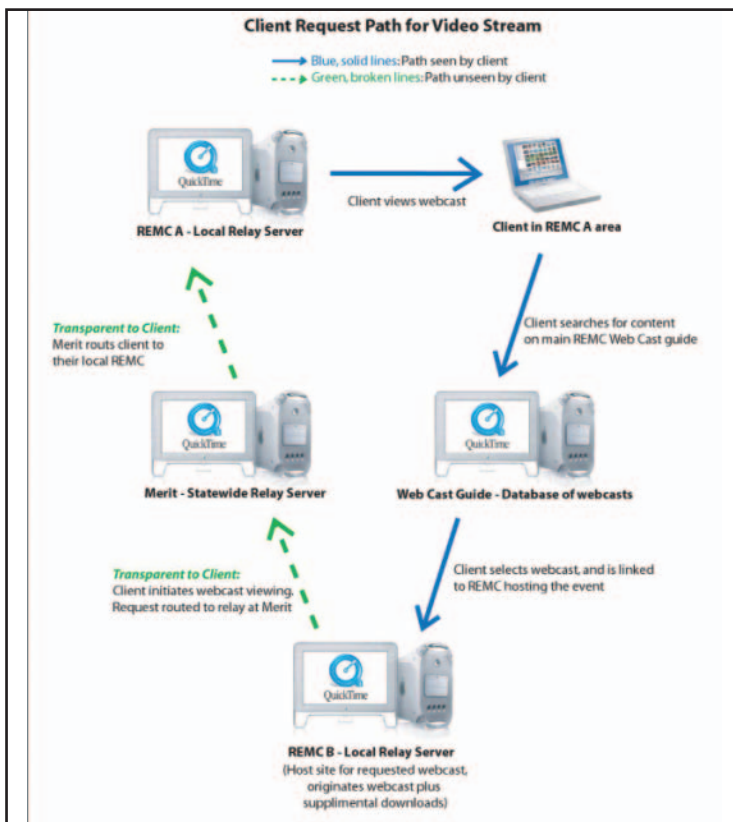

Figure 2

See MISTREAMNET on page 29

Conference attendees discover it's all about teaching all students, not special ed versus general education

The 2004 Conference Theme, Learn, Create and Inspire, was obvious to special educators who spoke at the recent MACUL Conference that served as a model for all teachers.

One thing people are beginning to realize is that universal design for learning features mean presenting information through more than one modality, i.e. auditory, kinesthetic, tapping into the multiple intelligences and engaging the learner. All educators are finding that students are retaining information and improving their standardized test scores, because teachers are changing their style of presenting and are effectively reinforcing information, and improving learning.

More and more, the Special Interest Group for Special Education (SIGSPED) is welcoming general educators to the MACUL sessions it provides. Some people are realizing that the old lecture method of teaching is not the best!

SIGSPED presenters shared tools and strategies to help children become readers and writers as they actively engage in literacy experiences. They found out that it isn't about individualizing instruction, it's about being an effective teacher and seeing all children improve in class.

Thank you, the presenters who shared your knowledge and helped educators to understand how important it is to utilize the new tools and strategies that can be used to bridge a gap between what students know, versus what they can write, and to help students remove the barrier of low reading levels and enable them to access the curriculum.

Thanks **Diane Bennett** for reminding us in the preconference session

SIGSPED MONITOR

LORINDA TAIT

that it's all about empowering students to teach others how to use software programs like *MS Office* by having them participate in a projects-based course.

Thanks to **Katherine McNeil** for showing educators in the preconference session how to incorporate visual cueing to increase vocabulary skills and to help students retain information from course work.

Thanks **Mark Dennis** for sharing with participants how Eaton ISD is recording information onto MP3's, to enable students to listen and follow along in their books, a step up from recordings for the Blind and Dyslexic (RFB&D). One never knows, this could possibly expand to involve a region and statewide consortium of books to share.

The SIGSPED annual meeting had a new venue, which attracted 33 people this year. First of all it was scheduled at 5:00 to 6:00 p.m. (instead of as a breakfast meeting) with appetizers and a cash bar. Secondly, vendors set a record for door prize donations! Everyone who attended walked away with prizes worth a lot more that the $2.00 to join SIGSPED and the $5.00 to attend the meeting!

Twenty-five people received mouse pads created by **Sally Brush** from

Custom Plus Inc. (800-433-1216) with the Birds of a Feather MACUL SIGSPED custom imprinted bird on them. Sally also duplicates CD's.

Steve Timmer from Readingmadeeasy.com made 20 people happy, when they received his software program (valued at over $1,000 each) called *Accessibility Suites* which has several programs on one CD to help students with OCR/Reading with talking menus, an electronic library with over 1,500 titles, an e-text reader which reads and highlights standard text, word, HTML and Rich Text Formats, a talking Web browser, a PDF reader, a word processor with word prediction, a scanning program that reads text aloud and highlights it as it is read, a scan and magnifying program, a talking checkbook, a talking word processor, a talking dictionary, etc.

Not to be outdone, **Dominic Gagliano** from Pulse Data Human Ware, donated two *Kurzweil* (worth $400 each) reading systems, which are wonderful study aids for students with lots of hints and features to help struggling readers. *Kurzweil* winners were **Katherine McNeil** and **Suzanne Richards.**

Dave Lowman from Alpha Smart donated a Dana (handheld computer using the Palm operating system worth $400) which was won by **Kerri DeSomma.**

Oliver McVeigh from Ireland's Text Help donated two of the latest version 7 *Read and Write Gold* text-to-speech software programs (worth $400 each) won by **Amy Heath** and **Doug Kish**. Text Help programs also have text-to-speech and include scanning and reading of text as well as helping students write with word prediction and a dictionary built in.

Jennifer Ray from Intellitools (www.intellitools.com) donated their *Classroom Suite* (worth $400), a must for students from prekindergarten to middle school. This package, won by **Sandra Godbout**, has curriculum-based activities for students to improve reading, writing, math, and any class work for any subject.

A choice of either a *Test Talker* or *WYNN 3* (worth $400) was given by **Dick Powers** from Freedom Scientific to **Mike Woods**. *WYNN* is designed to enhance success for individuals with reading challenges and writing difficulties. *Test Talker* is designed to help students be more successful with taking tests, completing worksheets and study skills by reading aloud and giving them support.

Tom Snyder gave a copy of the Scholastic Software *Time liner Pro*, which was won by **Sue Hardin**.

Technology for Education (www.tfein.com) donated the following software:

- Two copies of *Typing Tutor 12,* won by **Laurie Vander Zee** and **Gretchen Garmyn**
- *Slam Dunk Typing* of which **Beth Pulver** took home a copy

■ Ten copies of *Kid Pix Deluxe* won by **Peggy Bozyk, Wynn Draper-Bryant, Susan McLaughlin, Kari Schroeder, Jean Lorenz, Kerri DeSomma, Raymond Cooper, Sandee Lowthian, Linda Brown** and **Caroline DeGraaf.**

Jeff Crockett, a speaker at the conference, donated a copy of his software program *Accommodating Pro* which was won by **Janet Mudie**.

Don Johnston, a company that specializes in assistive technology donated the following items:

- *Co: Writer* (worth $300) which was won by **Mark Dennis**
- *Write: Out Loud* (worth $139) won by **Rose McKenzie**
- CD cases won by **Diane Bennett, Connie Barns** and **Jill Rodenbeck**
- **Don Johnston** fanny packs were won by **Christine** and **Jeff Crockett** and **Kathy Jenkins**.

Thanks a million to all the donating vendors. Congratulations to the winning people who attended the annual business meeting! It was fun to see everyone walk away with a prize or two and a smile! It turned out to be an exciting annual meeting.

The slate of officers for next school year was chosen by an election. **Lorinda Tait** will continue as Director, **Diane Bennett** as Assistant Director and **Michael Woods** was elected Communications Officer.

SIGSPED officers are taking names of people who are willing to serve on a steering committee and assist the officers in their duties.

We will look forward to the SIG GIG on November 6 at Anchor Bay High School, which will feature hands-on sessions with Sue Hardin presenting her "All Things Digital" and Jeff Crockett with Peg Bozyk teaching the Curriculum Computer Connection utilizing *Inspiration, Dragon Naturally Speaking, Kurzweil* and *Accommodating Pro*.

Watch for more outstanding door prizes at those events! ⌨

Lorinda Tait, Assistive Technology Consultant for the Lansing School District, is the Director of MACUL's Special Interest Group for Special Education (SIGSPED).

MISTREAMNET

of such opportunities to the desktops of educators is potentially very beneficial to schools that are finding it increasingly more difficult to release educators for the ongoing professional development experiences needed to assist educators in providing a quality education for all Michigan students.

Further, the delivery of programming to the desktop of the user makes it possible to develop instruction that is targeted directly to the end user. The delivery of professional development experiences to the desktop is becoming increasingly more important to schools as they deal with severe budgetary constraints.

This concept was refined into a proposal to the REMC Association, which approved the project in the fall of 2003, after a short pilot study. Of the state's 22 REMCs, 14 have chosen to participate.

The MIStreamnet deployment has, however, not been without its challenges. As is the case with any complex technical system, getting the whole organism to function flawlessly requires considerable testing and modification. A committee of technicians and administrators from the REMCs, Apple and Merit is overseeing the installation and load testing of the MIStreamNet network. This committee has met nearly weekly to troubleshoot and plan for future use of the system.

To date, several video streaming conferences have been provided to educators throughout the state. Archived copies are available through the MIStreamnet Website at www.MIStreamnet.org.

Plans for the future include providing additional statewide activities as well as the regional and local video streams, and increasing the archiving capabilities of the system. This exciting opportunity highlights the power of cooperation for the betterment of the educational system for students and staff in our state. ⌨

Ken Schramm is the Manager of Video Telecommunication Services at Wayne RESA/REMC 20. David Schulte is the Associate Superintendent for General Education at Shiawassee RESD/REMC 14W.

Knowing sources of useful information can assist educators in their professional development

Summer, for those who are in the field of education can be a time of rest and relaxation. It can also be a time for reflection on the school year that has just past and the new one that lies ahead. It is a time to get caught up and get organized, a time to plan for the new school year.

What new responsibilities or requirements does the next school year hold? Are your sixth graders getting laptops? Has the administration put you in charge of training the other teachers to use technology in the classroom?

Summer certainly brings many new challenges and changes and among them is the growing need to differentiate instruction through technology. How do we prepare for those changes and challenges? Where do we turn for information on professional development? Who are some the leading people who can help us?

Barbara Bray is one of the people at the top of my list of people to know when it comes to professional development. She is the founder of Computer Strategies LLC and more recently developed a new division called My eCoach. She is also the coordinator for the PDQs (Professional Development Quick Tips) that can be found on the techLearning.com Website.

In a recent e-mail exchange with Barbara, I became aware that she also has a listserv — techstaffdevelop — which you can subscribe to at techstaffdevelop-subscribe@ yahoogroups.com. In addition to all of this, she has written many informative articles about professional development and is a presenter at many conferences in her home state of California on that same topic. Through her work she truly exemplifies the importance of professional

SIG PROFESSIONAL DEVELOPMENT NOTES

MANETTE CRAWFORD

development and provides the resources for it.

Jamie McKenzie is another person that I look to often when researching professional development in technology. He is the editor of *From Now On* an on-line educational technology journal. I was first drawn to this site because of its title and held there by the many fascinating informative articles that Jamie McKenzie has written for this publication and others. I also enjoy the humorous editorial cartoons by **Jerry King** that are a part of McKenzie's journal.

McKenzie's focus is on planning for professional development. He presents at many conferences nationwide and recently conducted a daylong NECC pre-conference session this June 2004 on how teachers learn technology and how to provide appropriate professional development they need.

After attending the MACUL conference last March I added two more people to know to the list as professional development resources — **Meg Ormiston** and **Marilyn Western**. Meg Ormiston was one of the featured speakers of the conference and presented other informative sessions as well. Her Website http://techteachers.com and book, *Conquering InfoClutter*, provide excellent resources for getting organized.

Marilyn Western is one of Michigan's own educators, a regular contributor to the *MACUL Journal*, and has one fabulous Website that is packed full of many things that teachers can use when learning to integrate technology. Her Website "Technology Tips for Classroom Teachers" is at www.edzone.net/~mwestern/.

In my quest as a lifelong learner to further my knowledge in areas related to technology, I recently came across **ed2go**, an on-line continuing education resource that has formed a partnership with colleges all over the nation. Ed2go offers over 300 on-line courses that cover a broad range of topics including courses for teaching professionals. For someone who has never taken an on-line course before, this is a fantastic place to start. Its easy pace and format are not at all intimidating.

Each course is six weeks in length with two lessons being released each week. Lessons begin with an introductory chapter and end with a summary chapter. The chapters in between are engaging and filled with information pertinent to the topic. An assignment that accompanies each lesson provides the learner with the opportunity to reflect and act upon what has just been learned. After each lesson participants are encouraged to add questions or comments to the asynchronous discussion area, read others questions or comments and respond to those. Expert instructors or their assistants provide feedback through this discussion area. A quiz is available for every lesson and the learner can take it as many times as needed to receive a satisfactory grade. The final exam, however, can only be taken one time.

Another profession development opportunity that we have as MACUL members is this fall's SIG Gig that will

Fall SIG Gig will offer collegiality and professional growth for computer science teachers

Two sessions at this fall's November 6 SIG Gig offer Computer Science teachers a chance to talk shop and gain useful knowledge that most of us never find in our buildings or districts.

A round table discussion of curriculum for secondary schools starts the day. Drawing on current offerings in participants' schools as a springboard for ideas, we will also consider the recommendations of the International Society for Technology Education (ISTE) and from the ACM's Special Interest Group for Computer Science Education (SIGCSE). Both groups have invested considerable effort and study in arriving at their suggested topics.
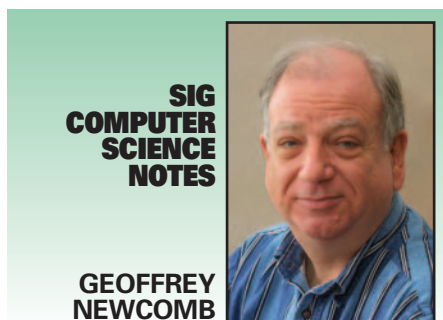
The November 6 SIG Gig afternoon session will be an Open Forum, with the agenda determined by those attending. Facilitators will be prepared for several likely topics, but experience shows that such a conversation is usually very fruitful because of the interest and experience of the teachers in the group.

SIGCS Election Results

Those attending the Annual SIGCS meeting in Grand Rapids last March 11, elected the Steering Committee for 2004-05. Incumbents reelected were:

SIG COMPUTER SCIENCE NOTES

GEOFFREY NEWCOMB

- **Nancy Head**, a Michigan Virtual High School teacher
- **Geoffrey Newcomb**, a retired Computer Science/Math teacher
- **Pam Moore**, Eastern Michigan University faculty member
- **Carolyn Hinckley**, Van Buren Technology Center
- **Shannon Houtrouw**, Kalamazoo Area Math and Science Center teacher
- **Richard Lamb**, Cranbrook Schools
- **Richard Quick**, Detroit Public Schools
- **Barry Webster**, Detroit Country Day School.

New to the Steering Committee is **Richard Nemith,** a substitute teacher in Pinckney.

The Steering committee then selected the SIG's Officers:

- **Nancy Head** as Director

- **Geoffrey Newcomb** as Assistant Director
- **Pam Moore** as Communications Officer.

The duties of the newly elected Committee and Officers begin September 1, upon confirmation of the election by the MACUL Board of Directors.

On-line Discussions

All members of SIGCS should subscribe now to the listserv, "macul-sigcs@macul.org."

The Steering Committee will be doing at least some of its major planning efforts on that listserv, which constitutes an "open meeting." We couldn't get more "sunshine law compliant" than that.

But, the important point is that members are likely to have better ideas about what activities they need than those who often have had to guess. The two dollars dues for the SIG is not a large investment, but if SIG members can provide ourselves with truly helpful workshops and other forms of sharing assistance and ideas, it then becomes a real bargain. 🖥

> Geoffrey Newcomb, one of the founders of Special Interest Group for Computer Science (SIGCS), is currently serving as its Director.

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be held at the Anchor Bay Schools on November 6. SIGPD will be offering two sessions at this mini conference:

- **The World at Their Fingertips.** Join us as we explore the free on-line community of Think.com. Learn how to use its tools and resources to connect your students globally to others through project based learning.
- **On-line Tools and Resources — It's a Good Thing!** During this session we will visit Web-based resources that will enhance your

teaching and provide new ideas for using technology to support classroom curriculum.

While these are only a few of the people to know and places to go to gain professional development in technology, they provide a wealth of additional resources and information. With technology's rapid evolution we need to keep pace as well in our knowledge about technology and its use in education. Barbara Bray, Jamie McKenzie, Meg Ormiston,

Marilyn Western, ed2go, MACUL and SIGPD are all means by which we can continually find up-to-date information that will aid in differentiating learning through technology. 🖥

> Manette Crawford is a teacher and technology coordinator at Taylor Catholic School in Taylor and is the Communications Officer for SIGPD, MACUL's Special Interest Group for Professional Development.

Video visions and the DVD connection — use a video power move to modify your iMovie

I n the March issue of the *MACUL Journal* this column dealt with some power tips to use with *iMovie*. I will continue those tips by explaining the technique of adding a still to a movie clip. The effect is that of a picture within a picture.

But, one picture is a smaller still image that is embedded within a larger movie clip. The effect can be very eye-catching and may used to emphasize a mood, thought or feeling of the subject at hand. The creation of the effect involves the use of the following software:

- *iMovie* (version 2 or 3 with *QuickTimePro 5* / version 4 with *QuickTimePro 6*)
- *PhotoShop Elements.*

The starting point necessitates the existence of a completed *iMovie* clip to which you wish to add a still image. In *iMovie* versions 3 and 4, a reference *QuickTime* movie is generated within the project folder as you save your project.

What you need to do before using *QuickTimePro* to embed your still image, is to Export (or Share) the *iMovie* clip as a non-compressed digital video. Choose QuickTime > Expert Settings > DV/NTSC, 720x480, 29.97 frames per second with no sound compression. Remember that this "film" will be going into *QuickTimePro* to be edited and maybe back to *iMovie* for further editing. A compression should only occur once in order to preserve the quality of the production.

The clip I produced shows me sitting in a chair and narrating my admiration for **Albert Einstein** and his influence on my career. I then look up to the right and envision his image. *(See figures 1A and 1B)*

THE HYPERMEDIA SCENE

RON GINTHER
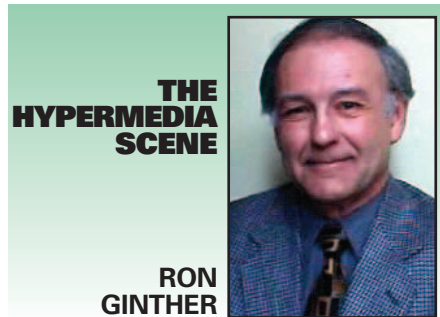
Here are the steps I took beginning with a face image of Albert. Start up *PhotoShop Elements 2* and select New with Transparent (background). Open the Einstein image. Select the Magnetic Lasso tool and encircle Albert's face. Deselect Anti-alias and give the Feather option 20 pixels with Frequency = 50. From the menu bar select Edit > Copy. Move to the original transparent background window and Edit > Paste. Select the Move tool and resize the image as needed Move the image into position on the window and Save As a psd file.

Time to fire up *QuickTimePro*. Select File > Open Movie, and choose the saved psd image of Einstein. There is now a 1/15 second still movie. Go to Edit > Select All > Copy. Now Open the DV movie created in *iMovie* and select the portion of clip where you wish Albert to appear.

From the menu bar select Edit > Add Scaled. This places the image of Einstein over every frame of the selected clip. Select Movie > Get Movie Properties. Then Select Video Track 2 followed by Graphic Mode on the right. From the list select "premul white alpha." This works very well with objects with a transparent background overlaid upon an opaque image.

The last thing to be concerned is the graphic object floating over the background clip? In other words, is it visible? Perform a preliminary test by moving the Playhead to the left of the scene and click on the Play button. If it appears when it should — no problem. If not, go back to the movie properties window, select Video Track 2 (the object) and choose the layer option from the right pull-down window. Lower the number for this track using the down arrow. As stated, the lower the number, the farther forward the object appears. As a curiosity, check the layer for Video Track 1 (the background clip). Its number should be higher than the graphic object overlay.

Play the clip to make sure that it runs properly and then export it as a DV Stream. Two reasons for this.

First, this process does not compress the data and therefore preserves the quality of the movie. Secondly, this format is readily imported by all versions of *iMovie* for purposes of future editing. I will attempt to post this clip for you on my Web site at http://members.aol.com/hyperguy/home. If you don't find it there a link will be there stating where you can find it.

Do You DVD?

A lot of questions have originated as of late about the integrity of home-burned DVDs. The commentary originated on an *iMovie* Internet forum. The responses from those that do their archiving in the DVD format are many and varied. Some get bad data with movies that lose sound or video synchronization. Others have discs that play fine the first two or three times but then fail to be

recognized by the same player later on. There was one user whose DVD failed to play, so he merely wiped the disc across his slacks a couple of times in one direction and when slipped into the drawer, and it played excellently.

The culprit appears to be the fact that the dye used on the surface, into which the dimples are burned by the laser light, just isn't standing up over time. Other than normal aging, factors like heat, sunlight and humidity accelerate the decay process. The brands mentioned to be the best and most stable were **Memorex** and **Verbatim**, plus the most expensive brand topping the list being made by **Apple Computer**.

DVD to iMovie

There are also numerous inquiries concerning the movement of data from DVDs to *iMovie*. And yes it can be done. But, one needs to invest in a few software items. The main one is *QuickTimePro*. The player is a free download from Apple Computer (www.apple.com/quicktime). To have the hidden tools released you need to purchase a key from Apple for $30.

Another item needed is the *QuickTime MPEG2* plug-in (another $30). One forum participant has been able to get at the data on the DVD by using OS 9.2.2 with *iMovie* 2.1.1. There is a main folder on the DVD labeled as VIDEO_TS. The sub folders may appear as:
- VTS_01_1.VOB
- VIDEO_TS.BUP
- VTS_01_0.BUP
- VTS_01_0.IFO
- VIDEO_TS.VOB
- VIDEO_TS.IFO
- VTS_01_2.VOB,

or something very similar to these. The files ending in _VOB are the MPEG2 files. These are MUXED files — those having video and audio tracks merged together during the MPEG compression. Using *QuickTimePro* with the MPEG2 plug-in these files can be imported and then saved as a DV Stream. In this format *iMovie* can import them as a normal digital video only.

If you wish to have a sound file to sync with your video you will need demurring software. You can get one

Figure 1A

Figure 1B

from versiontracker (see the link list) called *bbDEMUX*. This works great with OSX. They say that one version works with OS9, but no one has yet been able to make it function.

I'll finish up by providing you, the reader, with a reference list of Web links. Do the research and consult the sources and cross-references. If you find something that does work for you, contact me about your success so that we can share the news with the **MACUL** membership. Be sure to include the OS you are running, the machine, processing speed and RAM.

The easiest OSX utility is DVDBackup
- www.wormintheapple.gr/ macdvd/DVDbackup.html
- www.wormintheapple.gr/ macdvd/download3.html
- www.macupdate.com/info.php/ id/12183
- www.macupdate.com/info.php/ id/9830
- www.opuscc.com/download/.

Extract the data out into a form that can be used by iMovie using DVDxDV at www.versiontracker.com/ dyn/moreinfo/macosx/19483.

Further resources, tutorials and downloads
- www.dvdrhelp.com/forum/ viewforum.php?f=9&sid=d5151bb 63a2e6aecba130fd38c14cf13
- http://forums.afterdawn.com/ forum_view.cfm/56

- www.ripdifferent.com/ phpbb2/index.php?sid=859b7a54 349159596c0eb630fad83140
- http://webpages.charter.net/ ernsta/video1.htm
- http://homepage.mac.com/ tgpo/programs.html
- http://www.kenstone.net/ fcp_homepage/fcp_homepage_ index.html.

Enjoy the remainder of your summer break. Take care and get at those things that relax you the most.

Remember that starting again in September, you will become a mentor to a great number of young minds. Be prepared to meet the challenge with all of the strength, patience and fairness that you can muster. 🖥

Ron Ginther, who retired after 30-plus years from teaching kids in the areas of physics and physical science, now works as a multimedia consultant and also assists the planning committee as a facility organizer for the annual AT&T/MACUL Student Technology Showcase.

More than 50 educators win 2004 MACUL Conference door prizes

Winner, Employer — Donor, Prize

- **Craig, Patrick,** Kent ISD — **2Simple USA, Inc.,** Three elementary software programs, T-shirt
- **Clark, Janis,** Flat Rock Community Schools — **Byte Speed Computers,** 19" Monitor
- **Rondeau, Susie,** Essexville Hampton Public Schools — **CCV Software,** Laser PC6
- **Bigelow, Jane,** Godfrey-Lee Public Schools — **CCV Software,** Bag of Software
- **Woitulewicz, Annelise,** Summit Academy — **City Animation Company,** Mitsubishi DVD Player
- **McMullin, Mike,** Fruitport Community Schools — **City Animation Company,** Mitsubishi DVD Player
- **Schoettle, Jim,** Zeeland Public Schools — **City Animation Company,** Powered Speaker
- **Finnigan, Dan,** Saginaw ISD — **Classroom Connect,** One-year subscription to *Connected Tech*
- **Michmerhuizen, Daniel,** Mason Consolidated Schools — **ClassWebs.net,** One-year license for Class Webs
- **Guisinger, Mary Lou,** Bloomfield Hills Schools — **ClassWebs.net,** One-year license for Class Webs
- **MacDonald, Charlie,** Marshall Public Schools — **ClassWebs.net,** One-year license for Class Webs
- **McComb, Jerry,** Grand Rapids Public Schools — **ClassWebs.net,** One-year license for Class Webs
- **Corcoran, Nancy,** Greater Muskegon Catholic Schools — **Corwin Press,** Bag, Book and more-Conquering Infoclutter
- **Donner, Paula,** River Valley School District — **Detroit Public Television,** The Enrichment Channel Toolkit
- **Everett, Tim,** Pennfield Schools — **Ellison,** $100 gift certificate valid for all Ellison products
- **Dornberg, Susan,** Gesu School — **Evan-Moor Educational Publishers,** Take it to the Computer Literacy and Math Center Software Kit
- **Sutton, Chastity,** Tahquamenon Area Schools — **eZedia,** eZedia Motion software
- **Sumara, Pat,** Southgate Community Schools — **eZedia,** eZediaMX software
- **Seaitt III, John,** Detroit Board of Education — **eZedia,** Plug-in Bundle
- **Glaser, Gary,** Kalamazoo RESA — **Highsmith,** Fancy Keyboard Tray
- **Knight, Kellie,** Romulus Community Schools — **Inspiration Software, Inc.,** Inspiration Software Bundle
- **Olk, Matthew,** St. Stephen Parish School — **Inspiration Software, Inc.,** Kidspiration Software Bundle
- **Rhind, Andrew,** Skeels Northern Christian School — **Intelli Tools, Inc.,** Intelli Tools Classroom Suite
- **Hill, Steven,** Harbor Beach Community Schools — **Intelli Tools, Inc.,** Intelli Tools Classroom Suite
- **Strong, Frederick,** Academy of the Sacred Heart — **Intelli Tools, Inc.,** Intelli Tools Classroom Suite
- **Law, Stephanie,** NHA Chandler Woods — **ISTE Publications,** Two books: *We're Getting Wired* and *Palm Handheld Computers*
- **Reitz, Denise,** Vector Computer Technologies, Inc. — **ISTE Publications,** Complimentary ISTE membership and Book: *Nets for Teachers*

Winner, Employer — Donor, Prize

- **Jovanovic, Svetlana,** Grand Rapids Schools — **MACUL,** 2005 full conference registration
- **Arnold, Elaine,** Wayland Union Schools — **MACUL,** 2005 full conference registration
- **Plante, Amber,** Summit Academy — **McAfee,** Virus scan for PDA handheld
- **Sellek, John,** Chandler Park Academy — **McAfee,** Virus scan for PDA handheld
- **Engel, Linda,** Orchard View Schools — **McAfee,** Virus scan for PDA handheld
- **Hazlett, Jonatthan,** Oxford Area Community Schools — **MVU,** A seat in the Michigan Virtual High School Online Instructor Training Course
- **Hulswit, Gayle,** Aquinas College — **Michigan Virtual University,** A seat in the Michigan Virtual High School Online Instructor Training Course
- **Verbrugge, Doreen,** Hudsonville Public Schools — **MVU,** A seat in the Michigan Virtual High School Online Instructor Training Course
- **Smith, Steve,** Bosch — **Michigan Virtual University,** A seat in the Michigan Virtual High School Online Instructor Training Course
- **Haan, William,** Kenowa Hills Public Schools — **MVU,** A seat in the Michigan Virtual High School Online Instructor Training Course
- **Batterson, Michael,** Portage Public Schools — **Microsoft Corporation,** X-box Console
- **Mejeur, Thomas,** ITT Technical Institute — **MiCTA,** Olympus 3.2 Megapixal Digital Camera (D-560 zoom)
- **Wissner, Aaron,** Wayland Union Middle School — **mimio Virtual Ink,** mimio Xi
- **Bush, James,** Shepherd Public Schools — **MovieWorks,** Deluxe Single
- **Schoettle, Janet,** Zeeland Public Schools — **MovieWorks,** Deluxe Single
- **Dudek, Shirley,** L'Anse Creuse Public Schools — **MovieWorks,** A MovieWorks 10-Pack
- **Rollenhagen, Dawn,** Battle Creek Public Schools — **My eCoach,** 3 My eCoach Technology Guides for a school (site license) and a baseball hat
- **Newkirk, Dana,** Carson City-Crystal Area Schools — **Skyward Inc.,** Leather Portfolio
- **Durnan, Charles,** Holly Area Schools — **Skyward Inc.,** Leather Portfolio
- **Sherman, James,** Calhoun Area Technology Center — **Sound Engineering, Inc.,** VCR-DVD Combo Player
- **Williams, Lisa,** Birch Run Area Schools — **Syntax Media,** Gift Certificate for one day of training in a scheduled class in Chicago
- **Guoan, Alissa,** Clare-Gladwin RESD — **TechSmith,** ShagIt/Camtasia Studio bundle
- **Cunningham, T. Ann,** Carson City-Crystal Area Schools — **Tom Snyder Productions,** TimeLiner Deluxe Software
- **Heichel, Kathleen,** Southfield Public Schools — **Tony Brewer,** Integrating Tech, 21st century
- **Frye, Rick,** Trenton Public Schools — **Tony Brewer,** Integrating Tech, 21st century
- **Shepard, Tammy,** Bedford Public Schools — **TVOntario,** Deafplanet.com videotape, Grades 3-7 for deaf students
- **Gerling, Carole,** Warren Consolidated Schools — **Van Andel Education Institute,** Scholarship for three to VAEI Teacher Academies
- **Vipond, Martin,** Lakewood Public Schools — **Vision Ventures,** Schedule Us
- **Wyckoff, Julie,** Battle Creek Area Catholic Schools — **Writer's Workbench,** Writer's Workbench Software

MACUL's fourth annual SIG Gig will be held in New Baltimore on November 6

Special Interest Groups (SIGs) are sponsoring the fourth annual MACUL SIG Gig, which will be held Saturday, November 6 at Anchor Bay High School in New Baltimore. This year's SIG Gig offers 21 interactive workshops that will provide attendees with unique opportunities to work with the latest educational technologies.

The SIGs urge all MACUL members to attend the one-day event to learn new skills, explore topics in depth and experience the newest software and equipment. Additionally, the SIG Gig will feature lots of prizes and drawings and as an added bonus attendees can tour the new 62-million dollar Anchor Bay High School that is rated as one of the Premier High School designs in the country.

Seating for the hands-on sessions is limited, so SIG leaders urge all to register now! Early Bird rates will be available until October 22.

Those attending may register online at www.macul.org or complete the registration form in this *MACUL Journal*. Mailed the form to MACUL, P.O. Box 518, Holt, MI 48842-0518 or fax it to 517-694-9773.

Reservations will be processed on a first come basis, so add alternate choices to ensure that you will be assigned to a session of your choice. Registration confirmations will be sent via regular mail within seven to 10 business days.

On-site registration will begin at 7:45 a.m. on November 6. The morning sessions will take place from 8:15-11:30 a.m. Lunch will be provided at 11:30 a.m. to attendees who register for a full day session or both a morning and afternoon session. The afternoon sessions will be held from 12:30-3:45 p.m.

Following are the sessions that will be offered. Sessions that are preceded by a FULL are full day sessions, those preceded by AM are morning sessions and those preceded by PM are afternoon sessions.

ALL DAY SESSIONS

FULL1
Integrating iMovie into Your Classroom

Learn how to use advanced features of *iLife4* including *iMovie, iDVD,* and *Garage Band* to enhance learning experiences in core curriculum areas. See how implementing project-based learning by using *iMovie* can build teamwork, organizational skills as well as increase literacy and students' abilities to problem solve. So join us in a full day experience. Get extra tips and hints, plus walk away with many engaging activities using *iMovie*.

FULL2
Using Novell's ZenWorks

Presenter: Scott Guscar, Novell Systems Analyst

The day will be broken into two sessions. The first half will cover *ZenWorks* Imaging and the second half of the day will cover *ZenWorks* Applications.

FULL3
First Look: Active Directory Basics and How to migrate your NT 4.0 Directory Services to Windows Server 2003 Active Directory

Join *Sagestone Consulting and Sarcom, Inc,* two top "go-to" partners for Microsoft in the Great Lakes and Midwest district, and learn how *Active Directory* can reduce your total cost of ownership and operation with simplified administration, increased performance and efficiency.

In the morning we will cover some of the basic concepts of the *Active Directory.* We will look at the logical concepts as they relate to Domain, Trees and Forests, as well as the physical concepts of Domain Controllers and Sites. We will also explain the relationship between the *Active Directory* and the Domain Naming Service as well as cover

some operation functions such as Replication, both Inter-site and Intra-Site and the **Active Directory** Operations Masters.

The focus of the afternoon will be on how when migrating from **Windows NT 4.0** to **Active Directory** organizations can either upgrade in-place (keep the same domain architecture) or restructure the domain architecture. This session addresses how to make the best choice, and how to plan a migration from **Windows NT 4.0** directory services to **Active Directory.** We will discuss the differences between upgrading and restructuring your **Windows NT 4.0** directory services, and the implications of each approach. We'll also describe various migration scenarios, and demonstrate the migration tools.

MORNING ONLY SESSIONS

AM1
Computer Science Curriculum for Secondary Schools

This seminar-style session, facilitated by a panel of SIG members, will explore the variety of approaches various schools, including yours, are currently using. Discussion will include ideas for starting and for maintaining classes. Also presented will be the recommendations of other groups, such as ACM's SIG Computer Science Education and ISTE.

AM2
Calculating Success: Technology in the K-6 Mathematics Curriculum

Presenter: Gabriella Meyers, Apple Distinguished Educator, Utica Community Schools
Looking for innovative ways to engage students with technology in your mathematics curriculum? This session will discuss effective technologies, as well as examples of how to effectively implement them in the class room setting. Resources include on-line

activities and interactive tools, productivity and instructional tools, and multimedia projects for mathematics.

AM3
Dust off your HyperStudio Program and come get some fresh ideas on how to use it to enforce core curricular concepts.

Presenter: Bonnie Middeldorf Computer Integration Teacher Pierce Middle School, Grosse Pointe Public Schools
This workshop is designed for teachers who want to get the most out of their investment in their **HyperStudio** software. **HyperStudio** has been referred to as a learning processor. This workshop will provide you with all the tools you need to plan and implement a great year of technology-enhanced learning. Participants will be taken through a variety of basic and rarely used **HyperStudio** functions as they create a multimedia project. **HyperStudio** project outlines will be provided that use relevant monthly events that make cross-curricular connections so that students can demonstrate their knowledge in a fun and exciting way.

AM4
The World at Their Fingertips

Presenter: Phyllis Bartosiewicz, Galesburg-Augusta Middle School Computer Teacher
Explore the use of a free on-line community to support project based learning and information literacy skills for middle grade students. During this hands-on session, we will learn about Think.com, a safe, educational environment. Discover how to use its free Web pages, e-mail, and other collaboration tools to engage and motivate students, while providing access to a global learning community. Find out why schools all over the world are introducing their students to Think.com!

AM5
All Things Digital: Simple Solutions to Support Struggling Students

Presenter: Sue Hardin Macomb ISD
Take advantage of all things digital! In this fast-paced workshop, discover practical strategies and great resources for using electronic text and media to support struggling readers and writers! Explore creative ways to use **Word, PowerPoint** and free (or really cheap) software so ALL students succeed.

AM6
Technology Policies (MSBO Certification)

Presenter: Pete Lopez, Inkster Public Schools Director of Technology
An overview of the policies and procedures that should be in place, including: Acceptable Use Policies (AUP), network policies, e-mails, filtering of network; and listservs, laptop, copyright, licensing, and software selection policies.

The program will also cover asset management, Web publishing and the Children's Internet Protection Act (CIPA.)

AM7
Fearless Teaching: How can we collaborate to integrate? Lesson Study Session I

Lesson study is a form of ongoing professional development in which teachers collaborate on long-term projects aimed at improving instruction and student learning. Participants in Session I will explore lesson study that includes a focus on technology integration. They will learn about tools designed to enhance students' learning, e.g., learning objects, handheld technologies and classroom performance systems. Specific tools will be chosen by lesson study teams (teachers, technology professionals, curriculum and

instructional leaders, and higher education faculty, students and others) and will be announced before the SIG Gig. Visit the SIGTE Web site (www.macul.org/sigs/sigte.html) for updates. This session is designed to meet the needs of lesson study teams; however, individuals are also invited to attend.

AM8
A Site-seeing Tour for Educators

Presenter: Carol Isakson, columnist, "Caught on the Web" in Education Digest

Join us for a morning of Internet discovery. We'll begin our trip with tips for planning a search, general searching methods and exploring a variety of search engines and directories. Our next stop will be fascinating Websites bulging with classroom resources from lesson plans to images and streaming video. Our last stop will include intriguing sites for professional development that range from just in time tidbits to suggestions for self-directed learning in any area that catches your fancy. There will be several breaks for exploration and a souvenir handout to remind you of a morning well spent.

AM9
Intro to Macromedia Fireworks MX- Basics in Creating Image Files

Presenter: Kelly Kermode, Northview Public Schools,

During this session, attendees will create files to be used during their own Web designing practices. They will learn how to create simple image files, using clipart and text. Techniques, such as blur, glow, bevel, and emboss, will also be demonstrated. Attendees can learn how to create banners and animated gifs during this session as well. It is the goal of the session to work at each attendee's level from beginner to intermediate. Everyone is welcome!

AFTERNOON ONLY SESSIONS

PM1
Computer Science Open Forum

Come for the camaraderie and the opportunity to discuss any topic related to your teaching of Computer Science. Possible topics, subject to the group's interest, include: project ideas: all levels, including ideas for take-home projects; Squeak (to understand this suggestion, go to www.squeak.org or www.squeak land.org) is a piece of awesome software demonstrated in Alan Kay's featured speaker presentation at MACUL 2004; lab design and layout ideas; and Languages.

PM2
Digital Photography: Projects for the Elementary Classroom

Presenter: Kathy Cothran, Sixth Grade Teacher, Utica Community Schools

Participants will learn practical ways to use a digital camera in the elementary classroom. Sample projects and rubrics will be shared to use across the curriculum.

PM3
Clay Animation: SpecTECHular Curriculum Projects

Presenters: Bonnie Middeldorf, Computer Integration Teacher, Pierce Middle School, Grosse Pointe Public Schools and John Folsom Industrial Arts Teacher, T.L. Handy Middle School, Bay City Public Schools

A clay animation production is great approach to curriculum and content. During the clay animation process participants will create clay characters that tell a story. That story could be a historical event, a

scientific process or a fictional story. If you're looking for ways to motivate students, this is it. Students often get so caught up in the productions that they forget that they are learning. Claymation helps students transform information as they analyze research content, write, design, organize and implement a project from scratch. These are all-important concepts necessary for any child to learn, so don't delay, come learn to clay today!

PM4
On-line Tools and Resources – It's a Good Thing!

Presenters: Manette Crawford, Teacher, St. Cyril Catholic School, Taylor and Corinne Widmayer, Teacher, Jackson Public Schools

So many Websites! So little time! Professional development, teacher tools, student resources. Participants in this session will visit Web-based resources that will enhance their teaching and provide new ideas for using technology to support classroom curriculum. They will also gain an understanding of how Web-based tools can be used to deliver effective professional development.

PM5
Accessing the Curriculum with Assistive Technology Software

Presenter: Jeff Crockett, Plymouth-Canton Schools, and Peggy Bozyk, Oakland Schools

This workshop will introduce you to a variety of software tools that provide greater accessibility to the curriculum for students with disabilities. *Dragon Naturally Speaking, Inspiration, PowerPoint, Kurzweil 3000* and *Accommodate Pro* will be featured. Peggy and Jeff will share their tips and tricks for using these programs successfully.

PM6
If You Can't Beat 'em, Join 'em: Hacking Your Own Network

Presenter: Steve Struthers, Chief Technical Office, TekConnect

In this hands-on workshop you will have the opportunity to detect, evaluate, and exploit widespread software configuration errors and design flaws that create a shocking number of hacker intrusion opportunities. Through a series of hacker simulation demos and exercises, you will discover how to quickly and anonymously test critical security hot spots associated with network hosts and related interconnection devices across an entire TCP/IP network. You will get proven tips on building a versatile and powerful cyberspace vulnerability testing tool kit using both freeware and commercial tool alternatives that will let you test for frequently exploited TCP/IP network and computing platform-specific security vulnerabilities.

PM7
Fearless Teaching: How can we collaborate to integrate? Lesson Study Session II (See description of Session I in AM)

In this session, participants will learn how to use technology to facilitate project goals. Participants will explore communication and collaboration tools such as *Tapped In* (Teachers Professional Development Network), *Centra* and *Polycomm* systems (Web-based video conferencing tools), among others. Details on specific technologies to be explored will be announced in advance of the SIG GIG. Visit the SIGTE Web site (http://www.macul.org/sigs/sigte.html) for updates. This session is designed to meet the needs of lesson study teams; however, individuals are also invited to attend.

PM8
Enhancing Learning Communities by Using Inexpensive Video Conferencing

Presenter: Karl Zinn, University of Michigan and the Ann Arbor Hands-On Museum

The cost of equipment and communications for video conferencing in the classroom has dropped dramatically and the tools have become more portable, more reliable and much easier to use. During this session we will make video connections via the Internet to consult with experienced users at several other locations including a school classroom in use on a Saturday, a science museum where a lab demonstration has been arranged for us, and a technical support office that helps teachers with the technology of video conferencing.

After each demonstration you will have an opportunity to set up equipment and software as you might use it in your own classroom. Because the setup is easy and the equipment inexpensive, repeated visits by your class members to another site on the Internet via video conferencing is practical. We will discuss several plans for enhancing learning communities through inexpensive video conferencing.

You should leave with a conceptual understanding of what is possible and what it is that makes various plans effective. Detailed information will be provided in print and on a CD. You may choose to become part of a community of users exchanging ideas about effective uses of inexpensive video conferencing.

PM9
Intro to Macromedia Dreamweaver MX

Presenters: Doug Pratt, Michigan Education Association, MEA Webmaster, and Shawn Elliott, Business Ed Teacher and District Webmaster, Anchor Bay Schools

Macromedia Dreamweaver MX is the professional choice for building Web sites and applications. This is an introduction to *Dreamweaver MX* that will cover the basics of this WYSIWYG tool. Insert images, tables, layouts, and basic file management will be covered. *Macromedia Studio MX* is the ideal software package for building, maintaining, and teaching Web pages.

ANCHOR BAY HIGH SCHOOL

Anchor Bay High School is located at 6319 County Line Road in New Haven. Check at the MACUL Website or use a mapping program to plan your drive to this fall's outstanding SIG Gig.

MOTEL INFORMATION

Individuals will be responsible for making their own hotel reservations. Following are some suggested nearby motels.

- **Best Western Concorde Inn of Clinton Township/Mt. Clemens**
  Gratiot between 21 Mile and North River Road
  44315 Gratiot
  Clinton Township, MI
  586-493-7300
  Rates: $95.99 + tax (Standard room includes two double beds); $129.99 + tax (Deluxe room includes whirlpool bath and kitchenette).

- **Lodge Keeper**
  23 Mile and I-94
  29101 23 Mile Road
  New Baltimore, MI
  586-949-4520
  Rates: $45 + tax (Single); $55 + tax (Double beds).

- **Chesterfield Motor Inn**
  23 Mile Road and Gratiot
  50900 Gratiot
  Mt. Clemens, MI
  585-949-9110
  Rates: $57.24 + tax (Single); $64.80 + tax (Double Beds).

2004 MACUL SIG Gig Registration Form

Complete and mail or fax to: MACUL, P.O. Box 518, Holt, MI 48842-0518 (517) 694-9773 fax

PARTICIPANT INFORMATION

Name   Employer/Building

My preferred mailing address is: ☐ Home ☐ Work   ☐ Check if this is an address change.

Mailing Address
(Please indicate your preferred mailing address.)

Work Phone (   )   Home Phone (   )

Fax (   )   Email

Position (check all that apply)   **Area of Responsibility** (check all that apply)
  ☐ Teacher   ☐ Preschool
  ☐ Coordinator/Director   ☐ Elementary
  ☐ Part-time Teacher/Coordinator   ☐ Middle/Jr. High
  ☐ Media Specialist/Librarian   ☐ High School
  ☐ Principal   ☐ K-12
  ☐ Assistant Principal   ☐ ISD/RESA/REMC
  ☐ Superintendent   ☐ Post Secondary
  ☐ Assistant Superintendent   ☐ Teacher Educator/Preservice
                  ☐ Gifted/Talented
I would like to receive vendor information   ☐ Special Education
    ☐ Yes ☐ No

REGISTRATION FEES

	Early Bird Registration (postmarked by 10/22/04)	Late Registration (postmarked after 10/22/04)	Amount Due
Full Day Workshop (includes complimentary lunch)	$90	$100	$_____
Half Day Workshop	$45	$50	$_____
MSBO Certification (optional)	$30	$30	$_____

*MSBO credit is only available for AM6 – Technology Policies.
The $30 fee to earn MSBO credit is in addition to the workshop fee.*

MACUL Membership Dues	$25	$25	$_____

Attendees must be current MACUL members. Please remit dues if necessary.

Total Enclosed $_____

SESSION CHOICES

For descriptions go to **http://www.macul.org/sigs/siggig.html**
Enter your session choices below. Example: AM3/PM5 or FULLDAY1

First Choice: AM_____/PM_____ or FULLDAY_____

Alternate 1: AM_____/PM_____ or FULLDAY_____

Alternate 2: AM_____/PM_____ or FULLDAY_____

You will receive a confirmation via regular mail within 7 to 10
business days. Reservations are processed on a first come
basis; therefore add alternate choices to ensure that you will be
assigned to a session of your choice.

PAYMENT

Purchase orders not accepted without payment.
☐ Check or money order (payable to MACUL)
☐ VISA or Mastercard

_____
Card Number   Expiration Date

_____
Cardholder Name

_____
Cardholder Address

_____
Authorized Signature

MACUL recognizes four members for outstanding use of technology and honors three others at conference

Four MACUL members, the **Coalition for Outstanding Achievement in Teaching with Technology** (COATT), **MiCTA** and the *MACUL Journal* Editor were honored with major MACUL awards during the afternoon awards reception at the 2004 MACUL Conference on March 11 in the Imperial Ball Room of the Amway Grand Plaza Hotel in Grand Rapids.

The four MACUL winners honored at the Thursday afternoon event were:

- **Dennis Squires,** Perry Public Schools K-12 Instructional Technologist, as **2004 MACUL Outstanding Technology-Using Educator** (OTUE).
- **John Shaw,** Walled Lake Elementary School Computer Resource Teacher/Media Specialist, as **2004 MACUL Outstanding Technology-Using Educator runner-up** (OTUE-runner-up).
- **Debra Falk,** Onsted Community Schools Third Grade Teacher as **2004 MACUL Outstanding Technology-Using Teacher** (OTUT).
- **Christine Brakenberry,** Sherwood Elementary Third Grade Teacher, Saginaw Township Community Schools, as **2004 MACUL Outstanding Technology-Using Teacher runner-up** (OTUT-runner-up).

Prior to the presentation of the individual educator awards, MACUL President **Pete Mantei** presented MACUL 2004 President's Awards to individuals representing COATT and MiCTA.

Outstanding Educator Award Criteria

Each of the four winners received award plaques. Common criteria for the OTUT and OTUE awards specified that each nominee:

- **Has made efforts to expand professional expertise by attendance at workshops, seminars, conferences, etc.**
- **Through nominee's work has had a significant positive impact on the staff and/or students**
- **Has made significant efforts to advance nominee's school/district in accordance with the district's long range plans**
- **Has made efforts to involve the community in the initiative/program of the district**
- **Works tirelessly to genuinely improve the quality of education**
- **Has integrated deliberate planning into efforts to improve education through the use of technology.**

Following are brief overviews of this year's MACUL award winners. The OTUT and OTUE descriptions incorporate statements made by those persons who nominated this year's award winners.

Debra Falk

Debra Falk, the 2004 MACUL Outstanding Technology-Using Teacher of the Year, is 20-year teaching veteran at Onsted and has been teaching third grade at the Onsted Intermediate building since 1986.

Since 1998, Deb Falk and her teaching partner, Kelly Lange, were chosen from several applicants to take on the challenge of setting up two "Classrooms of Tomorrow" (COT) through a local $46,000 grant. At that time there was probably no other third grade classroom in the nation equipped with AlphaSmarts, six networked computers, data imaging projector, visual presenter, data monitor, CD/laser disc player, VCR, scanner, color and laser printers, and digital camera.

From that time on, students in her classroom have had tremendous opportunities to use technology in all areas of the curriculum. In writing lesson plans Deb has always kept her students' interests and motivation as her focus. How will this lesson benefit the kids? How will this lesson help my students become lifelong learners? How can technology be integrated to accomplish this goal?

Technology has become an integral part of Deb Falk's third grade curriculum since the early days when only word processing and keyboarding were taught using machines called Type-right. Technology now includes word processing, keyboarding, digital photography, and digital videography, and multimedia accomplished through one-to-one wireless laptop computing.

Her lessons illustrate her commitment to technology integration across the curriculum. Some additional supporting documents attached to

MACUL Awards Committee member Michael Champion (right) presents 2004 MACUL Outstanding Technology-Using Teacher award to Debra Falk, Onsted Community Schools Third Grade Teacher, at the afternoon awards reception held during the 2004 MACUL Conference on March 11 at the Amway Grand Plaza hotel in Grand Rapids.

MACUL Awards Committee member Ricki Chowning (left) presents 2004 MACUL Outstanding Technology-Using Educator award to Dennis Squires, Perry Public Schools K-12 Instructional Technologist, at the afternoon awards reception held during the 2004 MACUL Conference on March 11 at the Amway Grand Plaza hotel in Grand Rapids.

her nomination application included a lesson plan for *The Tornado Project*, and a classroom newsletter featuring *Put Your Town on the Map*.

Another positive impact on the students in these technology rich classrooms is attendance at the Student Technology Showcase sponsored by AT&T/MACUL. Deb's classes have attended three showcases with student-led teams exhibiting classroom projects. This experience impacted the students in a memorable way as they had a unique opportunity to share their projects with state legislators and with other students from across Michigan. This experience also impacted parents as they witnessed learning in the 21st century.

Mrs. Falk has been involved in the process of writing and receiving several grants. After being selected for the Classroom of Tomorrow in the Onsted Intermediate Building in 1998, other grants and awards were to follow including:
- MACUL Grant 2000
- Onsted Foundation Grant 2001

- SBC Ameritech/S.T.A.R. Award 2002, for which Mrs. Falk was one of six teachers chosen statewide.

Deb also helped to secure the 2002-2003 Freedom to Learn Grant (W.O.W. "Wildcats on Wireless") for Onsted Intermediate School — one of only eight schools chosen in the state of Michigan.

Christine Brakenberry

The runner-up for the 2004 MACUL Outstanding Technology Using Teacher Award is Christine Brakenberry, a third grade teacher at Sherwood Elementary, Saginaw Township Community Schools.

Her nominator **Bobbi Gorden** stated, "Christine has taught for only three years, but her technology use in and out of the classroom profiles a much more polished instructor. Sherwood Elementary School and our school district as a whole would not be as advanced in technology as they are today without having her on our staff."

Her principal, **Janet Kennelly**, noted in her letter of recommendation, "Sherwood Elementary is a school district that does not have a media specialist assigned to its building but because of Ms. Christine Brakenberry no one is the wiser. If a person strolled through our building you would see digital photos, Websites, and busy computer labs. If Sherwood's teaching staff were asked who aids them in coming up with their numerous technology ideas and applications, they would emphatically answer Christine Brakenberry. Christine is our model technology teacher for our building even though she is also the teacher of 23 third graders

"Christine is a never-tiring teacher. So often we hear the question, "Does the quality of education improve because of utilization in technology?" In Ms. Brakenberry's room, the answer is, "Absolutely yes!"

Christine's mind is always thinking. One is amazed at how many ways she incorporates technology in

MACUL Executive Director Ric Wiltse (right) presents a MACUL Major Sponsor award for MiCTA to Clancy DeLong, MiCTA's Chief Financial Officer, at the afternoon awards reception held during the 2004 MACUL Conference on March 11 at the Amway Grand Plaza hotel in Grand Rapids. MiCTA was also honored with a 2004 MACUL President's Award which was also accepted by DeLong on behalf of MiCTA.

Christine Brakenberry, Sherwood Elementary Third Grade Teacher, Saginaw Township Community Schools, with her 2004 MACUL Outstanding Technology-Using Teacher runner-up award which she received at the afternoon awards reception held during the 2004 MACUL Conference on March 11 at the Amway Grand Plaza hotel in Grand Rapids.

MACUL Awards Committee member Eric Getsoian (right) presents 2004 MACUL Outstanding Technology-Using Educator runner-up award to John Shaw, Walled Lake Elementary School Computer Resource Teacher/Media Specialist, at the afternoon awards reception held during the 2004 MACUL Conference on March 11 at the Amway Grand Plaza hotel in Grand Rapids.

her everyday lessons. A quick glance in her room will show that she uses technology for classroom management, student motivation, and most importantly, instruction.

Christine's never ending energy carries outside the classroom. In addition to heading the S.W.A.T.S. team (which meets during her lunchtime), Christine is involved in much collaboration to make the Computer Plus class the highly effective program it is.

When the school day is done, Christine's techie day begins, going far into the evening hours. Meetings with other teachers, attending trainings, working with other school and district staff on technology plans, helping implement technology goals (district and building), and planning more exciting lessons using technology fill her after-hour activities.

Dennis Squires

Dennis Squires, MACUL's 2004 Outstanding Technology-Using

Educator, has been an educator for 28 years including the last seven years during which he has served as Perry Public Schools' Instructional Technologist. During his tenure at Perry, he has contributed to the education process and professional development of his district by presenting over 100 educational technology workshops to the Perry Public Schools staff.

Dennis co-chairs the district technology committee and was instrumental in the writing of state approved 1999-2002 and 2002-2005 District Technology Plans. He serves on all of the district's building technology committees as well as the district's Curriculum Council.

Dennis was involved in the day-to-day implementation of a $2.4 million bond issue for technology seven years ago. This bond gave each building a video-retrieval system on which teachers schedule their media from their computers, Internet access on every computer in the district, and

voice and e-mail for every employee.

Most recently he was involved in bringing Expand Learning, an outside technology firm, into the district to maintain all of the technology-related equipment and non-instructional programs. As a result of Expand Learning coming on board, the district has maintained a greater than 99% up time on its network and with no successful virus attacks.

Dennis has personally worked with elementary, middle school, and high school committees to write inclusive technology standards for the district.

Another goal of the district is to involve its community in technology-related instruction. Dennis has accomplished this through his CyberSenior/CyberTeen. His 4-H Technology Club, comprised of middle and high school students has presented 12 one-hour technology classes to the public to-date.

Dennis also is a member of the Shiawassee County Technology Committee and attends monthly

MACUL President Pete Mantei (far left) presents a 2004 MACUL President's Award to COATT representatives (left to right) Ellen Hoffman, Eastern Michigan University; Patricia Morgenstern, Executive Director, COATT; Mary Waker, COATT Board President, Wayne State University; and Reuben Rubio, Spring Arbor University at the afternoon awards reception held during the 2004 MACUL Conference on March 11 at the Amway Grand Plaza hotel in Grand Rapids.

On behalf of TWICE (Two Way Interactive Connections in Education), Diane Zoellmer (left) presents TWICE Award recognizing MACUL's support of TWICE activities to MACUL President Pete Mantei (center) and MACUL Executive Director Ric Wiltse at the afternoon awards reception held during the 2004 MACUL Conference on March 11 at the Amway Grand Plaza hotel in Grand Rapids.

meetings at the SRESD in Corunna. At these meetings technology leaders in the county make recommendations to the eight school district superintendents on both county and district long-range technology plans.

Most recently the Shiawassee County Regional Education Service District has delivered digital video streaming to each of Perry's computer desktops. Dennis was responsible for training all teachers in his district how to use and integrate this new technology resource into their curriculums.

Annually the board of education participates in long-range planning sessions. Dennis is key to Perry's continuous school improvement planning process related to comprehensive technology planning. He facilitates the sessions with board, staff, and community members to assure that integration of technology is in the forefront of helping the district achieve its overall goal of improving student achievement.

In the spring of 2002, Dennis was selected as a MTIP (Michigan Technology Integration Professional) Scholar, one of only 50 in the state of Michigan. As an MTIP scholar Dennis trained and studied with some of the best technology leaders in our state. Perry Public Schools benefited, as did other districts in the Shiawassee, Ingham, Clinton, Livingston and Eaton ISDs. At the conclusion of the MTIP Scholar program the Perry staff had many more opportunities to learn instructional technology ideas and skills to enhance their classroom curriculum.

John Shaw

The runner-up award for the 2004 MACUL Outstanding Technology-Using Educator was presented to 30-year veteran educator John Shaw who is the Computer Resource Teacher (CRT) and the Media Specialist at Walled Lake Elementary, a school of 455 K-5 students and 51 teachers and support staff. Walled

Lake Elementary is one of 14 elementary schools in the Walled Lake Consolidated Schools district.

John provides on-site technology support to the students and staff of his school. Every week, John voluntarily offers a mini workshop "Tech Tuesdays," to his teachers, He meets with teachers before school for one half-hour. Some topics of his workshops have included:

- Electronic Grades Management
- Introduction to *KidWorks*
- How to Find Internet Resources that Align with Benchmarks
- E-Mail Tips, and Creating *PowerPoint* SlideShows.

The workshops are well attended by teachers, with an average weekly attendance of 12. John reaches at least 90% of all instructional staff with these technology staff development offerings.

In addition to working with teachers, John works directly with students. Recent direct student interactions include:

- teaching students how to use a Sony digital camera to take pictures for inserting into *PowerPoint* book reports
- teaching fourth grade students to use *Excel* to create bar graphs and double-bar graphs that tie in with math and social studies lessons
- teaching students to use *PowerPoint* to make an "All About Me" presentation (which resulted in major student and teacher enthusiasm and led to each student creating a *PowerPoint* book report), and teaching first graders to use *KidWorks* to create books with words and pictures.

John is the Webmaster of the Walled Lake Elementary Web page at http://walledlake.k12.mi.us/wle. He designed the site and adds/updates links and resources on a regular basis. The Website provides resources, which are specific to the curriculum, and are indexed by grade level and subject.

John organized Walled Lake Elementary TV News, a daily live news show. There are eight different news crews each school year, and about 60 fourth and fifth grade students participate. The show is fast-paced and each crewmember has a specific responsibility (two news anchors, one or two reporters, two camera/sound people, one computer technician, and one director). Students from one crew train students on the next crew.

Putting together the school schedule is another of John's responsibilities. He uses *Excel* to indicate the days and times for "specials" such as Art, Music, Physical Education, Media Center, Lunch, and Recess.

John also is involved in many aspects of the North Central Accreditation (NCA) School Improvement Process, creating reports and graphing data, and assisting staff members with presentation tasks such as video editing and *PowerPoint* presentations.

Coalition for Outstanding Achievement in Teaching with Technology

This year's MACUL President's Award, was presented to COATT by MACUL President Pete Mantei, for its ongoing support of technology in education. The award was accepted on behalf of COATT by **Reuben Rubio**, Assistant Dean of Education for Spring Arbor College; **Mary Waker,** Director of the Education Technology Center for Wayne State University; **Ellen Hoffman,** Eastern Michigan University; and **Patricia Morgenstern,** Executive Director of COATT.

Established in 1999, COATT is a partnership between Michigan universities, colleges, schools, and educational professional organizations aimed at making our state first in the nation when it comes to training pre-service and practicing teachers to use technology as an effective teaching tool. Through award programs for outstanding teachers, professional development opportunities, and innovative and collaborative projects, COATT is a state leader in promoting the integration of technology into teaching and learning in Michigan.

MiCTA

A second MACUL President's Award, was presented to MiCTA by MACUL President Pete Mantei, for its ongoing support of technology in education including partnering with MACUL to provide Internet connectivity for the past three MACUL conferences. The award was accepted by **Clancy DeLong,** MiCTA's Chief Financial Officer.

MiCTA was established in 1982, to identify and resolve common voice, data and video issues and problems; to provide a clearinghouse of information relative to these technologies; to gain information on new products and services; to improve the level of competency and enhance the professional status of the member administrators; to influence the development of voice, data and video services to members at reduced costs and improved quality; to participate in governmental and regulatory proceedings affecting technology issues.

Burton H. Brooks, MACUL Journal Editor

President Pete Mantei recognized long time MACUL publications editor, **Burton H. Brooks,** who is retiring this year. Brooks was recognized by MACUL for his 17 years of service as editor the *MACUL Newsletter*, now the *MACUL Journal*. He was presented both an award for his years of service and a lifetime membership in MACUL.

In his presentation statement, Mantei said, "There is one other special person that we need to honor today. This individual has been a member of MACUL since March 13, 1980. This person also has the distinction of driving around with a vanity license plate that states 'MACUL.' He's survived the administration of 17 different MACUL presidents, which is alone a distinction that deserves a Medal of Honor, or a Purple Heart or something!

"As many of you know, Burton has announced his resignation as *MACUL Journal* editor. Since 1988, Burton has overseen our publication that is our largest member benefit due to the hard work and lofty standards he has held for our organization's publication.

"Burton has guided the *MACUL Journal* from an early newsletter publication to today's *Journal*. Although he is a grandfather, I think this is his real baby!

Burton, for your outstanding service to MACUL, and for the countless hours you gave of yourself to a publication that you knew would reflect well on MACUL (as well as yourself), the MACUL Board of Directors honors you with this plaque and a this certificate granting you lifetime membership in the organization that you helped build up to a high position in the nation. Thank you, Burton Brooks, for your contributions to MACUL!"

MACUL Given TWICE Award

In a turnaround situation, MACUL was recognized by TWICE (Two Way Interactive Connections in Education, a state group dedicated to promoting videoconferencing in the classroom, both K-12 and higher education.

Diane Zoellmer, who presented the TWICE Award to MACUL Executive Director **Ric Wiltse** and President Mantei, stated "TWICE has been in existence for three years and for each of those years, MACUL has supported us by providing an entire strand for our presentations. We also hold our Annual Meeting during the MACUL Conference. TWICE would like to recognize MACUL for this support by presenting MACUL with our Board of Directors' Award."

MACUL Sponsors Recognized

At the beginning of the Awards reception, MACUL President Mantei recognized MACUL's Major Sponsors — "the companies which have committed at the highest level as Major Sponsors for our conference. These companies have given at least $10,000 in cash or in-kind donations to defray the expenses of the 28th Annual MACUL Conference. The companies we honor have demonstrated a deep commitment to the educators of Michigan and have assisted to keep the cost of our conference as low as possible, an extremely difficult task in these financially challenging times."

The MACUL Major Sponsors given awards were:
- **Apple**
- **Data Image Systems**
- **Dell**
- **Educational Resources**
- **Gateway**
- **HP (for HP and Partners: Dyntek, Sehi Computer Products, Innovative Technologies Group, Remex Corporation)**
- **Innovative Communications, Inc.**
- **Michigan Virtual University**
- **MiCTA**
- **Quic**
- **Sehi Computer Products**
- **Sprint**

MACUL's SIGMM Director Bruce Vigneault (right) presents SIGMM/Linworth Publishing awards to students who had outstanding multimedia projects in the 2004 competition during the afternoon awards reception held at the 2004 MACUL Conference on March 11 at the Amway Grand Plaza hotel in Grand Rapids.

General Sponsors

MACUL President Mantei also recognized the following General Sponsors of the 2004 MACUL Conference:
- City Animation
- eChalk
- EduTek
- EZedia
- Grand Valley State University
- IBM
- Intellitools
- Linworth Publishing
- Merit Network
- Michigan Education Association
- Novell
- Optimal Solutions
- PalmOne
- Plante & Moran
- Renaissance Learning
- PLATO Learning
- Skyward
- Teacher Created Materials
- Tech4Learning

Other Award and Recognition Activities
- SIGMM Director **Bruce Vigneault** of Shepherd High School and **Carol Simpson** of the University of North Texas and representing Linworth Publishing presented this year's SIGMM awards for student multimedia projects.
- **Steve Hecker,** Project Director for the Technology for Authentic Problem Solving (TAPS) Program introduced this year's winners.
- To close the meeting, MACUL President **Pete Mantei** thanked **Jeff Ingle,** CEO of Optimal Solutions, "which has graciously sponsored the MACUL Awards Reception for the second year in a row."

Former President's Award Winners

Previous President's Award recipients include:
- **Michigan Information Network (MIN)**
- **Upper Great Lakes Educational Technologies, Inc. (UGLETI)**
- **Regional Educational Media Center Association (REMC)/Association of Intermediate School Administrators (MAISA) Cooperative Bid Program**
- **Michigan Department of Education (MDE)**
- **Michigan Association for Media in Education (MAME)**
- **AccessMichigan Project**
- **Merit Network, Inc.**
- **Michigan Virtual University.**
- **Governor John Engler**
- **Senator Carl Levin**
- **SBC Ameritech**
- **ISTE**
- **Macomb Intermediate School District**
- **AT&T.** 🖥

After 17 years, this is my last issue as editor of the *MACUL Journal,* formerly *MACUL Newsletter*

This issue of the *MACUL Journal* (formerly *MACUL Newsletter*) is the last MACUL publication of which I will be Editor. I have served as MACUL's publication Editor since being appointed *MACUL Newsletter* Editor in June 1988 by the MACUL Board of Directors.

Following that appointment, I have edited 87 issues of the *Newsletter* and five of the *Journal*. It has been an exciting 17 years in which both MACUL and its publications have shown great growth. During this period, the *Newsletter* evolved from an essentially all-print tabloid-sized publication to the full-color magazine format of this issue. Significant milestones of the MACUL publications during my career include:

- The May 1997 *MACUL Newsletter* was the first that featured full-color throughout the publication. All subsequent *Newsletters* and *Journals* have been printed in full-color.
- The November-December 2001 *Newsletter*, which celebrated MACUL's 25th anniversary, was the largest issue ever printed — 60 pages. Included in the commemorative issue was a very comprehensive historical overview of MACUL activities from 1975 through 2001. This issue is available on the MACUL Website at www.macul.org in both PDF and text formats.
- The January-February 2003 *MACUL Newsletter* was the first issue downsized to its current 8 1/2 x 11-inch magazine format. After many months of consideration by the MACUL Communications Committee and the Board, the size

NOTES FROM THE EDITOR

BURTON H. BROOKS

switch was implemented. Response from the membership has been positive for the new format.

- The conversion to a magazine was completed with the Fall MACUL 2003 publication when the *Newsletter* was renamed *MACUL Journal.*
- A significant expansion of the outreach of the *MACUL Newsletter* and *Journal* occurred following a Board decision to place the Newsletter on-line at the MACUL Website. All issues beginning in January 1990 are available on MACUL's Website in text format. Beginning with the May 1999 *MACUL Newsletter*, all issues (except May 2000) are also available in PDF format.

The posting of back issues of the *Newsletter* has enabled people from all over the world to benefit from its contents. Earlier this year, I received a message from a teacher in Hudson, Maine who had downloaded three of the Roger Verhey-Joan M. Brown Spreadsheets columns from 1991-1992 *Newsletters*, requesting the charts that accompanied the articles. I was happy to send her the charts.

Perhaps the most satisfying part of my assignment as MACUL's publica-tions Editor, has been working with the many regular contributors (columnists and MACUL Presidents) to the *Newsletter*. Over the years I have appreciated their efforts that have made the MACUL publications special — articles for MACUL members by interested, qualified writers.

In fact, many of the columnists wrote such informative articles that I looked forward to their next columns. Following are several of the columnists I especially remember for the reasons cited:

- **Shelley Yorke Rose** whose column *Desktop Publishing* ran for 10 years. Even today, more than ten years after any of her columns appeared in the *Newsletter*, much of the content is still significant. Shelley is probably the most skilled writer I dealt with as an Editor — her carefully crafted columns were always submitted nearly 100 percent correct and required virtually no editing — an editor's dream. Over the years, many of Shelley's columns were reprinted in other publications.
- **Ric Wiltse**, MACUL Executive Director, states in his column in this issue of the *MACUL Journal* that he has contributed nearly 80 columns — certainly the top number for any writer for the *Newsletter/Journal*. Beginning with his column, *Microcomputers and the Media Center* and followed by *Technology in the Media Center*, Ric consistently turned out informative articles that cited numerous people and sources and, I am sure, read and appreciated by all — even if media center was in the columns' names. He still pens a column, *From the*

Executive Director, in each issue.

- **James Winebrener**, a MACUL past president wrote only a few columns, *Thoughts on Technology*, but each provoked discussion and letters. I looked forward to receiving Jim's often-pithy columns that highlighted topics such as: "Mediations about manuals," "Take the Internet with a grain (pound?) of salt," and "Are you prepared for YK2?" His 1997 column dealing with the Internet evoked strong responses from readers who disagreed with Jim.

- **George H. Grimes** authored numerous columns over a 12-year period, using two titles — *Going the Distance with Technology* and *Trends in Technology*. His columns covered myriad topics from very scholarly items to reviews of educational standards and overviews of current technologies (e.g. "Better than the V Chip: Ontario's media literacy," — March 1996). Despite his technological astuteness, George could not type and was a late user of the Internet, so I had many a discussion with his secretary about his contributions. George had a knack for convincing others to write for his column. His "guest" writers included Keith Zook, Carol A. Mayer, Mary Elderkin, Marilyn Western, Cheryl Spencer, Larry Davenport, Anne K. Bednar, Maureen Slagg Corser, and Teri Terry. Because regular columnists for the *Newsletter* were given small honorariums, it was always a challenge to decide whether to pay George or the guest author.

- **Roger Verhey** teamed with **Bruce Maxim** to write Spreadsheets in the *Secondary Mathematics Classroom* and then later teamed with **Joan M. Brown** to write *The Spreadsheet Lesson Plans for Middle School Students* (example: "The Backpacking Problem") column, which ran for several years, provided readers with detailed instructions enhanced by tables and charts how to effectively use spreadsheets as instructional tools. More recent MACUL members may not realize that early spreadsheet programs were not

as sophisticated as those now available.

- **Joan M. Brown** has written columns under more headings than any other *Newsletter* contributor. Her columns included *Computer, Thinking Skills and the Curriculum* (with Roger Verhey), *Preservice Teachers and Computers* (some with Roger Verhey), *Multimedia in My Classroom, The Internet: An Educational Resource Tool,* and *Technology in the Middle School Classroom.* Her recent columns not only provided lots of information, but also included original and colorful artwork drawn by her students.

- **Timothy H. Little's** scholarly *Computers in the Social Studies Classroom,* is the longest running column in *Newsletter* history — it was already a *Newsletter* feature when I became Editor in 1988. Tim averaged a little more than one column per year. But his columns were unlike most others; they were lengthy, detailed, informative, and to my dismay, full of deeply embedded *Word* commands, which I labored to remove prior to submitting his items for composition. His columns included such topics as, "The riddle of Amelia Earhart: biographical study and hypothesis testing" (March, 1993, three-and one-half pages with seven elaborate charts) and "Seeking a utopian social studies classroom: progress report on a technological odyssey" (November 1998). I especially enjoyed my many telephone conversations with Tim over the years, even though his calls usually came "out of the blue" at the most unexpected times.

- **Jeanine DeLay** authored a thought-provoking early nineties column, *The Telematic Philosopher,* which focused on the social and philosophical impact of information technologies. Topics included many ethical issues with topics such as, "What is it like to teach a hacker?" and "Can 'War' Games stand the test of time?" Her columns, which are on the

MACUL Website under "*MACUL Journal* online," are still worth a read.

- **Gene Komaromi** wrote two columns for the *Newsletter* — *The Commodore Corner* (1989-1992) and *The SoftwareHouse* (1993-1995). The Commodore column originated following a session Gene presented at the 1989 MACUL Conference on using Commodore software. Following Gene's presentation, instead of those attending leaving, a larger crowd gathered around Gene to draw on his vast knowledge of Commodore computers and sources of free and inexpensive software. I was there, too, and asked him to write a column for the *Newsletter* about Commodore software, which he agreed to do. As did the Commodore column, his *SoftwareHouse* column listed numerous sources of inexpensive software. Shortly after Gene retired in 1996, I received a letter from an attorney demanding that the *Newsletter* quit using *SoftwareHouse* as a column title because it was a registered trade name. It was not difficult to comply because when Gene retired he didn't leave a forwarding address.

- **Greg Czarnecki's** *Floating Point* column has provided thoughtful looks at many technology-related issues for more than 10 years. His columns are not wordy, but have included serious thoughts about current and future trends. Greg and I have commiserated at many conferences where we have seen each other and our conversations have been the genesis for several of his columns. Greg is also an excellent photographer — all of the officer pictures (those with the patterned background) on pages two and three of this *Journal* were taken by him at last year's MACUL Retreat.

- **Marilyn Western** is one columnist who never ceases to amaze me. She has been writing for the *Newsletter* (and *Journal*) since 1999. Her column career began when she was serving as the Michigan Department of Education 1998-1999 Technology-

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Using Educator on Loan and took over Frank Miracola's *Teacher-to-Teacher* column. After her year with the MDE, she initiated her own column, *Using Technology in the Elementary Classroom.* Though Marilyn has written an article for virtually every *Newsletter* (*Journal*) since 1999, her columns continue to provide an endless source of stimulating and exciting teaching suggestions. Two of her recent columns attest to her endless ideas — "Fifty tips for making successful presentations" and "101 Uses for a Classroom computer."

■ **Tom Hildebrandt** authored the *SIGSPED Monitor* column for nearly 10 years. His column, which heralded the activities of the Special Interest Group for Special Education (for which he served as Director for many years), often dealt with the SIG's moneymaker — PDQ (public domain quality) software that was sold in great quantities only at MACUL Conferences through most of the 1990s. SIGSPED finally dropped the annual PDQ software event when great amounts of inexpensive commercial software flooded the marketplace. Many times when I was working on the *Newsletter* and on-line, I would get instant messages from Tom who was double-checking to be sure that he could send me the latest SIGSPED news, especially promotions for the software selling event.

One special MACUL person I was privileged to work with for 10 years was long-time secretary **Jane Vladu,** who retired in 1998 after 15 years of running the MACUL office out of a rented classroom in Wayne-Westland. Until MACUL hired another person to replace her, Jane and I were the only two persons working for MACUL who were compensated for their MACUL-related activities. Jane was solely responsible for the MACUL database and office activities and did an exceptional job. Each December meeting she gave board members her original hand-made Christmas decorations, many of which I still have.

Some final notes

When I was appointed the *Newsletter* Editor in 1988, MACUL was to most members only a conference and the *MACUL Newsletter*. During the last several years, MACUL has moved beyond that two-fold description to a leadership role in educational technology in Michigan, although to many persons MACUL is still the Conference plus the many extras now available to members.

The past 17 years have been very enjoyable for me working with numerous Board members, *Newsletter/ Journal* columnists, and MACUL members. I sincerely appreciate the opportunity to edit MACUL's publications, an assignment that fulfilled a goal I had in my early college days as a journalism major — to be in charge of a significant publication.

Thanks again to the 1988 MACUL Board which brought me on board as the *Newsletter* Editor and gave me the opportunity to work over the years with numerous MACUL Board members who collectively do so much to make MACUL the important voice for educational technology in Michigan that it is.

While I was writing my letter to MACUL giving my intention to step down as Editor of the *MACUL Journal,* my wife said (again), that it was about time that I retired (again). I retired from the Grand Haven Public Schools in 1990 and as Executive Director of MAME at the end of 2000.

I look forward to a summer and fall without MACUL deadlines and editorial duties always lingering in the background, and ultimately consuming numerous hours. I plan to finish some postponed around-the-home tasks that have been delayed too long, plus spending more time with my grandchildren who are growing up too fast.

It has been a joy to be associated with MACUL for so many years and I will miss being an important part of the organization. Hopefully, I will be able to attend future conferences in order to renew friendships with MACUL members.

Good bye, and good luck. 💻

Burton H Brooks