the SVSU Literacy LINK

Weaving A Celestial Braid:

Literacy and Technology in the Astronomy Classroom

By Laurie Reed,
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Winner of the 2004 SVSU Teaching with Technology Award

Each fall and winter semester, I teach two sections of a four-credit "Survey of the Universe" astronomy course that fulfills a part of SVSU's general education science requirement. Teaching such a course is fun and rewarding but is not without its challenges. Both sections of the course typically fill to capacity, giving me a total of 120 students. While one section meets twice a week for two hours at a time, the other section meets once a week for a four-hour "marathon" evening class. Four hours is a long time for anybody to do anything. Most students sign up for astronomy feeling enthusiastic and interested, but there is often barely-concealed trepidation about science. Early in each semester, several will privately tell me how worried they are about having to take a science course and will encourage me to "keep it on the easy side".

So every semester, I am reminded once again that my work is cut out for me. I must run a course that meets the general education goals, gets the students "through" the universe, gives them a good grasp of the scientific method, allows them to practice their writing skills, forces them to do a bit of math, keeps them "edu-tained" through the long lectures, and at the same time, works to allay their fears about science. It's a tall order. However, what I have working for me is that deep down inside, everybody wonders at least a little bit about the workings of the universe. It is my job to awaken and nurture that curiosity and to show my students that they need not be afraid to think, talk and write about science.

Astronomy is extremely visual. The easy accessibility of the worldwide web has provided unprecedented public access to up-to-the-minute information and imagery from Earth-based and orbiting telescopes and robotic craft exploring our planetary neighbors. Also available are illustrative animations, movie clips and applets compiled by professional astronomers. Our campus computer labs and smart podiums

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From the Editors' Desk(tops):

Helen Raica-Klotz **Lynne Graft**

Welcome to our second issue on technology and literacy. In this *Literacy Link*, you will find a series of articles exploring the ways our SVSU community is actively using and thinking about the uses of technology in our university: Laurie Reed's provocative discussion of the ways she utilizes the web in her classroom, Dan Tyner's helpful tips for creating a successful blackboard course, Diane Boehm's timely discussion of ethics in the technological age, and Elizabeth Hansen's explanation and argument for the multiple uses of technology in her classroom. We believe you will find this issue an interesting one.

To continue the discussion on technology and literacy past this journal's publication, we have added a discussion board to the *Literacy Link* website. Feel free to log on to www.svsu.edu/newsletters/literacylink and click on Discussion. Here, you are able to post any comments about the articles featured in this issue, and you will find a few questions inviting your response. Specifically, we would like to know:

1. How do you use technology in your classroom?

2. What are the benefits and the drawbacks of technology in your teaching?

We hope by offering a virtual dialogue about technology and pedagogy, we will continue to challenge each other to use innovative and effective ways of increasing our student's literacy.

The topic for the 2004-2005 issues of *Literacy Link* is "academic literacy." Specifically, we are interested in articles that explore the meaning of academic literacy, discuss its purpose inside and outside of our university, and examine ways to teach this literacy to our students. Submissions for the fall issue are due September 31, 2004; submissions for the winter issue are due February 28, 2005. Queries and/or submissions can be emailed to Lynne Graft (lrgraft@svsu.edu) or Helen Raica-Klotz (klotz@svsu.edu). Complete submission guidelines can be found on the *Literacy Link* website. We look forward to hearing your ideas for our upcoming issues.

Lynne Graft Helen Raica-Klotz	Danyelle Freeman Tammi Waugh	Tim Inman	Saginaw Valley State University Graphics Center
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The SVSU Literacy Link is published two times per academic year. Those interested in submitting articles may contact either Lynne Graft at x4030 or lgraft@svsu.edu, or Helen Raica-Klotz at x2066 or klotz@svsu.edu. Articles may also be mailed to SVSU Dept. of English, 7400 Bay Road, Brown 326, University Center, MI 48710.

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allow my students and me to make extensive use of such web-based resources.

The web has also made it easy for me to construct unusual and engaging assignments emphasizing one of the main goals in every general education class: to improve the writing skills of our students. It is a straightforward matter these days to go online and purchase a ready-made paper about any basic astronomy topic. The challenge has been to give writing assignments on topics so specific as to render useless the online paper services. I learned the hard way that I just can't assign a short paper and allow the students to choose their own topics—in one early semester I must have graded 30 papers on black holes.

The radio program *StarDate* has come to my rescue. StarDate is one part of the public education arm of the McDonald Observatory at the University of Texas. The program is only about three minutes in length but is jam-packed with topical information about all aspects of astronomy and space science. It's broadcast daily on most stations of National Public Radio, and a searchable web-based archive of four years of program transcripts is available.

Each of my students finds a unique paper topic by searching the *StarDate* archives for transcripts of shows broadcast on his/her birthday. A transcript is then used as a guide for choosing a topic for the production of a short paper. For example, if the chosen show was about the current location of Halley's Comet, the student might write about some of the information obtained about the comet during its 1986 passage through the inner solar system.

Given the large class size, a three-page paper is about the most I dare assign if I hope to retain my sanity. I give them very specific feedback using a printed rubric. In more recent semesters, my students have produced two of these *StarDate*-based papers, and I have the opportunity to assess their writing skills in more detail. As far as I am aware, large-scale plagiarism occurs only rarely.

"It is my job to awaken and nurture that curiousity and show my students that they need not be afraid to think, talk and write about science."

What I find, of course, is that the vast majority of students have never heard of *StarDate*. Many comment that they are glad to be made aware of its existence and say they will listen occasionally in the future. In the course of doing this assignment, they realize that a small daily "dose" of Science—such as that provided by *StarDate*—is not life-threatening and may, in fact, be quite interesting.

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Currently my students are working on an innovative new writing assignment in which they have been asked to analyze the use of astronomical objects as symbols and images in works of art and music. I have

> *"... I want my students to hone their critical thinking and communication skills... "*

divided the students into 24 groups of five and have used Blackboard to set up a discussion board and file exchange areas for each group. I have posted three 30-second song clips and links to two pieces of art for each group and, given guidelines, they are to discuss the use of astronomy in each case. Once the members have exchanged ideas, each person will then write a two-to-three-page paper offering a clearly expressed analysis of the works.

Copyright issues have made the music portion of this assignment a bit of a headache to construct. I cannot post whole songs onto Blackboard (shades of Napster!), but short clips are permissible. Besides using songs from my own music CD collection, I have also purchased digitally recorded music from the Apple Music Store at $1 per song. The Apple music archive of more than 100,000 songs is fully searchable by title, artist and keyword. For posting purposes, each chosen song was trimmed to a 30-second clip using Amadeus software. I have put full versions of the songs on reserve for the students to play in a Zahnow Library audio/visual viewing room as well. Each group begins the analysis by searching the Web for lyrics.

I have deliberately tried to assign works with which the students are less likely to be familiar—songs written and recorded between 1910 and 1980 and pieces of modern and fine art. The students have even been offered the opportunity (for a few bonus points) to contribute to future versions of this same assignment by sending me ideas for more songs and art. With the due date still three weeks away, many have already made contributions.

In developing the *StarDate* and Art/Music assignments, I have woven together the three very different strands of astronomy, technology and literacy in an attempt to accomplish several important goals. I want the students to see that they do encounter aspects of astronomy in many different ways every day and that science in general need not feared and avoided. I want to familiarize them with the features of Blackboard and open their eyes to the vast resources available on the web. I want to encourage interaction and teamwork between classmates. And perhaps most importantly, I want my students to hone their critical thinking and communication skills and develop a broad base of scientific and analytical literacy.

References:

StarDate Online: http://www.stardate.org (Listen to StarDate daily at 8:06 am on NPR station WCMU at 89.5 MHz.)

The Apple Music Store makes use of iTunes software, available for both Macs and PC's. Check it out at: http://www.apple.com

Amadeus software can be obtained from: http://www.hairersoft.com

Cyber-Integrity

Diane Boehm
Director, Instructional Support Programs

In courtrooms, on the news, in workplaces where people have lost their jobs because of the actions of their supervisors—suddenly integrity has become a buzzword.

"There is no such thing as a minor lapse in integrity," someone has written. Yet technology has provided tools to make many kinds of unethical and/or illegal behavior—from insider trading to downloading papers to distributing digital versions of movies even before they open in theaters—commonplace.

We hear expectations of integrity in many arenas. The new (2004) Criteria for Accreditation of the Higher Learning Commission, for example, place integrity as the first criterion for university accreditation: "The organization operates with integrity to ensure the fulfillment of its mission through structures and processes that involve the board, administration, faculty, staff, and students."

And integrity is being sought in the workplace. The president of a Manhattan-based advertising and marketing firm in an editorial piece, "The New Lust for Integrity," states, "We are now entering a cycle where ethical accountability will shape the way companies will be judged and valued. This isn't ethics as ornament, but as a new systemic force and reality" (Hanft, p. 104).

But lust for integrity does not guarante its existence. At SVSU, colleagues regularly report ethical breaches:

"Could we consider beginning a discussion on security issues with respect to examinations? For example, students can access their M: drive, which may include course notes. This could be problematic if giving examinations in one of the computer labs."

"...the consequences of lack of integrity affect everyone."

"Three students plagiarized on papers in my fall semester Ethics class."

"It is troubling . . . to note that there seems to be an increase in plagiarism across our campus. I'd prefer to find a solution to that rather than punishing and policing."

While punishing and policing send a strong message, they are inadequate to shape a university culture of integrity Yet the consequences of lack of integrity affect everyone. When students lose sight of their responsibility to the university community and to their future professions by cheating or plagiarizing, ethical students become disillusioned. And an atmosphere of distrust undermines the very heart of teaching, for suspicion pits teacher against learner in an adversarial stance. How do we aspire to something better?

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Change magazine devoted an entire fall issue to "Ethical Issues in Teaching and Learning." One article concluded with a reminder that "the best institutions are open and respectful learning communities, where ethical concerns and values are easily and often discussed" (Mallory & Thomas, p. 17).

"Certainly integrity is as essential to the future well-being of our students as the required abilities to think critically, reason logically, and communicate effectively."

Mallory and Thomas have started me thinking. Certainly integrity is as essential to the future well-being of our students as the required abilities to think critically, reason logically, and communicate effectively. How often do we at SVSU nurture a culture in which ethical concerns and values are presented in a context larger than penalties for breaches? How can we cultivate integrity—in our students, and in ourselves? How do we develop a university committed to integrity as essential to the future well-being of our students? With advances in technology, policing, which has never been truly effective, is quickly becoming impossible. How does one prevent—or even know about—wireless transmission from PDA to PDA? Or text messaging on cell phones? What new technology options will expand such options next year? The year after that? Where do we begin?

My children graduated from a university with an Honor Code. Though all three have been out of college for times ranging from two years to a decade, in response to my query each could recite verbatim the signed statement included on the title page of every university paper they submitted: "I have neither given nor received, nor have I tolerated others' use of unauthorized aid." Professional schools have long had an Honor Code; what is surprising is to see how many other institutions have adopted them as well, including schools like the University of Florida, where the students enacted a student Honor Code in the fall of 1995.

No single person or office can cultivate a culture of integrity. If we are to work together in an environment where the highest ethical standards and best ethical practices define us, both as educators and as a university, we need a new approach. Is it time to develop an SVSU Honor Code? As Mallory and Thomas suggest, we need a university-wide discussion of ethical concerns and values. I invite your ideas and suggestions.

References

Hanft, A. (2004, February). The new lust for integrity. *Inc. Magazine*, 104.

Mallory, B. L. & Thomas, N. L. (2003, September/October.) When the medium is the message: Promoting ethical action through democratic dialogue. *Change*, 35, 10-17.

Writing (and Reading) Digital Course Space:

An Exercise in Literacy

By Daniel Tyger
Web Services Coordinator, Information Technology

How perplexing it can be for a student to enter an unfamiliar, empty classroom. She doesn't know if she is the first person to arrive or if the class was cancelled today. There is no sign on the door. Perhaps, the activity had been moved to another location or there may be some instructions on the whiteboard. The student's anxiety surges quickly with another glance toward the hallway clock. How a student reads this and other real-life scenarios can be relived in our digital interactions and communications and are greatly influenced by the design and skill of the authors of the digital tasks. How instructors build, organize, and execute their web-based course space directly affects student satisfaction with the course and with the instructor. If you are interested in reading comments of SVSU students regarding the use of Blackboard in their courses, please visit <http://www.svsu.edu/webtech/blackboard/instructor/surveys.htm>.

When faculty receive a course shell in Blackboard, they are given an editable table of contents in which to place their course materials, plans, expectations, grades, goals, assignments, directions, announcements, lecture notes, evaluations, activities and more – an empty, digital text that supplements the course. Although the Blackboard software package has multiple pre-determined features, there are many choices that must be made by the instructor to keep students on task, to facilitate learning, and to minimize student frustration.

The following list will provide some useful guidelines for instructors as they work to create their digital space for students:

1. Be Consistent.
Use a consistent labeling and organization schema throughout the semester. Using folders to group relevant information is very helpful. Consider thematic units, types of material, and relevance when grouping items. Use of color may further assist the user to recognize quickly the type of item you are presenting.

2. Post Most Recent First.
Enter the most recent information or assignment to the top of the screen. This will take extra effort, since the default location of a new item is at the bottom of the page. Move it to the top. This brief investment will save all of your students the time it takes to scroll to locate it.

3. Be Specific.
Directions in assignments, especially those that direct students through their on-line assignments, must be concise and complete. Without the real-time advantage of immediate responses, students and teachers alike benefit from specific instructions. For example, there are two potential locations where students can access a discussion board – one for the whole class, and one in groups. It is crucial the student know where to navigate to find the assigned activity location.

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4. Keep It Short and Sweet.
Try to keep most written material concise. Announcements and descriptions of items in Course Documents, External Links, and other areas should be brief, alleviating student need to scroll down the page. Research shows that most users want quick, clear access.

5. Turn Off Unused Features.
Our research shows that students scour every corner of their Blackboard courses looking for things that might help them to perform better in their classes. Because of the sense of immediate gratification that using information technology has produced in students, they are likely to be extremely sensitive to aspects of a course that "do not work." As a result, it is important that instructors turn off the tools and features that they are not using. Not doing so results in a wasted click and disappointment for the student, and is from then on "in the way" on their search for what does lead to meaningful material.

6. Remember the 'Printing Factor.'
Students may choose to print out material from your website and may not be interested in having twelve unrelated items on the same page. Most of the content on any given page should be a printable and self-contained "whole." With per-page charging for campus printing, your efficiency in these matters will be greatly appreciated by your students.

7. Use Appropriate File Types.
Pair the appropriate file type to the goal(s) of the document. If you want the formatting to be perfect, pagination identical, and printability high, consider PDF (Portable Document Format); if you want students to edit the document, consider RTF (Rich Text Format) – a format designed to open in word processing programs with high compatibility; if you are interested in students reading the material and formatting and pagination are not crucial factors, consider HTML / Web as your chosen file type. Most of these choices do not require special software and can be accessed under the "Save As..." options in your word processing programs. An inaccessible file impedes learning and heightens student anxiety.

8. Keep It Current.
If there are multiple items on a page that are unrelated or separated by long periods of time since the last was posted, it might help to make such items unavailable. When the sheet is neat, students appreciate it. For example, learn to release your announcements regularly and let them expire after the normal seven-day period, removing them from the students' immediate view.

9. Customize Your Course Space.
Every book has a different cover. Why not change your button style and consider using a provocative image as a banner for the course? The students will know they are in your space and not someone else's.

10. Use Contrast.
Light text on a light background or dark text on a dark background is difficult to read online, just as it is on paper. Be consistent in the way you mark up text in

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your course space. Do not be willy-nilly like a child with his first box of crayons.

11. Stock the Pond.
Make sure that every live link and button means something. If a student clicks on it, he or she should be taken to something that is helpful or useful. The names on your links should be logical, widely understood by your students, and should lead to appropriate content. However, don't post too much content at once. It may overwhelm students to see the next five weeks of assignments and materials.

12. Test and Edit Your Work.
Go back and make changes as needed. Your digital language represents you, and as of yet, we still do not have a built-in spell and grammar checker in Blackboard. Test your posted materials in multiple browser and platform configurations. You cannot predict what setups your students may be using, especially at home. Check your posted external web links for accuracy often. Do not launch an evaluation until all your questions are accurate and the correct answers, point values, and feedback are properly set. Consider having a peer review your materials.

13. Plan Ahead.
Don't hurry through the posting of a new activity or assignment without attempting to anticipate the user reactions and questions. Keep your goals in mind as you develop plans for the necessary tools you identify to be used for a given activity. Try them yourself or with a colleague before utilizing them with student users.

14. Be Present.
Check in on the course often. Make changes and add new content regularly. Inform students of new content in consistent ways. If you don't, students will not revisit the course much either.

15. Check Your Statistics.
Identify laggards. Work with them individually to see why they are not using your course space. They may be having technical difficulties that can be easily solved. Don't let the wayward student stray for too long. They can fall behind quickly and feel alienated from the course.

16. Experiment.
Faculty are using animations, simulations, sound files, video clips, spreadsheets, equations, and imagery to enhance their online lessons and resources. An aggressive user who is fearless will learn the tools and side effects quickly. Remember, you cannot break Blackboard, and you can always modify or rectify any situation you create.

17. Back It Up.
To make for smooth replication or editing of a future assignment, to keep student grades safe, and to insure that material could be easily reposted, repeat the following mantra: "Save early, save often." Don't let the only version of a file or posting be in Blackboard. This applies to students, as well. They should always author offline, and then post to Blackboard so that they have a backup

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Technology and Literacy

Elizabeth Hansen
EDL Department

SVSU makes it very easy to incorporate technology into my classroom. All I need is to have the motivation. I use the Blackboard System as
the backbone to my technology integration and then build around it to use technology as an aid to enhance the learning in my various classes. I use technology differently in each class depending on student needs and appropriateness for the subject matter.

Access is the first way I use technology. Students need to have access to me, to each other, and to the content of the course. Email gives them 24-7 access to me. I also set up discussion forums on Blackboard for them to access each other as a whole class and group areas for them to access their work groups. I monitor these areas also in case they have questions I can answer. Sometimes others in the class answer their classmates' questions so this becomes a peer interaction wherein people who are more advanced can help those who need a little more direction. I usually use PowerPoints during my lectures. The smart podiums make it easy for me to use this type of technology. I post my PowerPoints and handouts on Blackboard a few days before the class meeting. This enables those students who want to preview the lecture, download it, or print it out ahead of time, have a chance to get a jump start on the learning curve. Some students like the ability to look at PowerPoint presentations again if they wish after class. I also post an agenda in the discussion board on Blackboard, with links to pertinent websites that I will highlight during the lecture. This enables the students to have access to the links without trying to write them down during the lecture. My goal is to reduce their time in copying down what I am presenting and increase their time doing critical thinking about the topics at hand.

Assessment is the second way I use technology. I find giving short quizzes over the material a good way to assess students and motivate them to keep up with the material. I do this over Blackboard so they can take the quizzes when they are ready. Another part of assessment that is enhanced by technology is using the electronic grade book. Students have instant access to their grades and this feedback has been very beneficial as a way to keep students on track. They can gauge where they are in terms of completion of objectives, and it helps them plan their time more effectively.

The third way I use technology is to encourage students to use technology in their assignments. We develop electronic portfolios instead of paper ones because you can easily share your portfolio with several people without having to make duplicate portfolios or worrying about it being lost or damaged. You can reorganize your artifacts to create multiple portfolios that fit different situations without much effort. Video and audio artifacts can easily be included in an
electronic portfolio, and you can easily update your portfolio, keeping it looking current by changing its design. Another assignment that I have adapted to Blackboard is the short paper

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or reflection. In the past, students turned in their writing assignments, and I would read them, grade them and turn them back. Now I create a Discussion Forum
and students post them for the whole class to read. I still read them and grade them but they now share them and comment on each others' ideas. The level of critical thinking has improved. They are now writing with a broader audience in mind. In the past, I would read these papers and reflection assignments and wish I could have them
share with each other without creating tons of paper copies. Technology in the form of Blackboard is allowing me to do this and do so seamlessly.

One of the best uses of technology in my classroom is to level the playing field for the diversity of students who take my classes. I allow a multiplicity of ways to turn in an assignment from email to paper. Students can work at their own speed and obtain the lectures and materials early or look at them again and again after class. They can hear me lecture, see a multimedia presentation, read my lecture notes, print them in a large font, contact me on weekends through email and even attend the class at a distance. How so? Once, one of my students was incapacitated for a few weeks and could not drive from West Branch. From her home, she signed on to our Blackboard during our class time, and since we were in a lab, we got on the electronic virtual class room feature and could communicate with her. She could see the PowerPoints, go to the websites, and we had class discussions about the topics via the virtual classroom, so she was able to join in with the whole class.

When she was able to join us again in person, the classes missed due to
illness did not put her at a disadvantage. She attended and interacted and was delighted that she was not left out.

I find it easy to use technology in the classroom. The more I use the technological tools that I have available such as Blackboard and the smart podiums, the more ways I find to use them. Technology is helping me become the teacher I always wanted to be.

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copy of their work in the event of a miscommunication or technological "glitch."

While the above set of conventions will make the experience of planning on-line aspects of your courses smoother, it is by no means complete. Every new attempt to share between traditional and on-line instructional practices yields new outcomes, rewards, and challenges. If you are ever interested in discussing the use of your online course space, please contact me. I am easily reached by telephone at 989.964.4976 or by email at dtyger@svsu.edu. I would like to work with you on planning and rolling out your digital assignments and activities.