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Educators as Content Publishers

by John G. Hendron

According to an online article by web usability expert Jakob Nielsen, "Hopefully, schools will soon begin teaching kids how to author hypertext and build good Web content. The ability to communicate online will be a key job skill in the new economy and also an important mechanism for self-actualization." (Nielsen, 2000, ultimate section, Para. 1)

Since the mid-1990s, new tools have emerged to help assist users (young or not) in generating "good design" or "good HTML" in place of actually using the lingua franca of the web: Hyper Text Markup Language. Examples include products from Radio UserLand, Clement Mok's Net Objects, and, of course, visual hypertext editors including Macromedia Dreamweaver, Microsoft Front Page, and even Microsoft Office applications.

The power of today's Internet and related technologies easily offers publishing ability to students and teachers. Cell phones that can take photographs and PDAs that can perform wireless exchanges of pictures and text are just the beginning of what shall come. It should not be difficult within the next five years to take a short movie with such a device and upload it to a website without the use of a PC in the entire publication process.

In a recent article, Nielsen draws a comparison between the world of technology and the world of Harry Potter: "...In the Harry Potter books, the population consists of two distinct groups — a small group of wizards, and a much larger group of Muggles (standard-issue humans) who know nothing about magic or the dealings of wizards." (Nielsen, 2002, ultimate section, Para. 1) With the tools becoming available to easily publish material online, one might say that teachers and students (the Muggles) are being offered the chance to dabble in wizard's magic.

Nielsen's hope in educating children about hypertext is somewhat self-serving as a usability expert:

> If we reach children while they are young, they are more likely to be better than most adults today at creating their own Web content. Although most may never be great, many will be able to produce good content that will appeal to small audiences. Perhaps most importantly, a few will emerge who not only exploit the possibilities of content creation, but push it to new levels. (Nielsen, 2000, ultimate section, Para. 3)

Without Web usability, however, both organizations and users suffer throughout the Web experience.

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This article outlines the benefits of teacher publication in hypertext on the Web and one method or framework that can be used to achieve this. The rationale behind this can also be easily applied to student learning through their participation as content authors. Educators who often feel like Muggles in an ever-advancing world of "techno" magic will hopefully find a solution to the challenges they face.

What does a good Web site involve? Design and layout receive a lot of attention in books and in Web sites that give pointers in HTML, CSS, Javascript, and many of the other technologies that many teachers have no time whatsoever to learn. And while a good, accessible design is important, the content within Web pages is the most valuable asset of a site. What would happen if the process were distilled so that Web authors could work only with content?

One quickly learns an important lesson about Web usability: users do not like to read online. This will likely evolve over time, but instead of reading word by word in Web documents, most people tend to scan and skim. Instead of large paragraphs and a lot of text (at hard to read font-sizes and low resolutions), readers generally prefer shorter paragraphs, highlighted terms and concepts in bold face, and bulleted lists when they're appropriate. It also turns out that Web users do not like to scroll a lot (never horizontally) and links at the end of sentences make the most sense.

Headings help a person scan the page for its major elements. Writing for the Web, therefore, is different than writing for a newspaper, an academic journal, or a paper in school. While some of these types of writings might be found on the Web, by themselves they serve as poor examples of how to write for an audience whose primary reading accessory is the mouse (For further reading on good writing for the Web, see *Hot Text: Web Writing that Works*, by Price & Price, 2002).

For writing in such a way that is brief and to the point, the author might also like to link to other things on the Web. After all, providing links that relate to the topic at hand helps establish credibility. This is all part of being a good communicator. So what is the secret ingredient? The weblog. The Wizards of the Web are calling them blogs nowadays, and it is a genre unique to cyberspace.

A blog is an online compilation of entries, not unlike a diary. While some blogs on the Web are very personal in nature, others are related to specific subjects. In a given sitting, you may peruse a weblog on Mac OS X hints, or one focused on opening a new restaurant or another centered upon obscure and sensational news stories ("Man gets $28 ticket for leaving headlights on" and the like). What blog authors put in their blog is left to their own choosing, but the format is usually organized in the form of entries, sorted by date and sometimes category.

What makes blogging possible is database connectivity. A person need only design a web page once and never has to redesign the page again. Weblog entries are entered into a database which regenerates the content in reverse-chronological order and posts it all on the World Wide Web. Examples of companies or tools available to create a blog include *Blogger, Movable Type, Greymatter, Radio Userland, b2*. The list is always expanding. Some of these products are free, while others can be purchased. Some applications must be

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installed on a computer, whereas others simply need to be configured. A search on Google or another web-based search engine is an easy way to get started (There are links to some recommended blog resources at the end of this article, however).

Alan November has said that he believes every teacher should have a homepage (November, 2002). In a recent article from his Web site, he draws a distinction between automating with technology and informating.

> You get very different results when you informate. The real revolution is information and communication, not technology. Let go of the word technology. If you focus on it, then you'll just do what you're already doing. The trick in planning as we move forward is to think about information systems, whole systems of the flow of information and communication. (November, 1998)

He also calls for the need for teachers to share what they do:

> Teachers don't know how special they are. They wouldn't know because they don't have a collective sense. So one of the things we absolutely need to do if we are really going to support standards is build capacity so there is a collective knowledge and wisdom (November, 1998, section 3, Para. 2).

Blogging is one method towards sharing, informating, or just plain communicating and its ease-of-use compares with sending electronic mail. Teachers can use this Web publishing medium to easily share information for students, create links to websites for assignments, present their best practices and their lesson plans, show-off the fruits of their students' work, post digital pictures, and more.

The blog does several things to assist teachers in becoming good publishers to the Web. First, it promotes frequent entries. By updating the web page or site frequently, people are more often encouraged to visit and read what one has to say. Second, the blog promotes short, succinct entries. Teachers can provide either a few sentences or maybe a list. If a blog author has something longer or more formal to say, the text can be attached as a link. Third, blogs encourage the use of headings for each entry. Headings help users scan a web page for what is useful to them. Educators may publish content for students, parents, and other teachers. The multiple audiences can quickly read text they want to read if the blog design encourages fast scanning.

Fourth, weblogs put emphasis on content and not on Web design. Special training on HTML or a software editor like Microsoft's *FrontPage* is not required. In fact, someone else can design the page, and many blog products come with pre-designed pages for those with neither the time nor inclination to learn Web design skills. Recall that despite all the elaborate and animated graphics that can be seen on the Web today, it is the content that really counts. Finally, a blog encourages discussion about material available online. While some may resist screen-based material over printed materials, the Web offers many advantages. The ability to place links about material found elsewhere on the Web (hypertext) makes finding relevant material easy. The number of weblog tools that enable visitors to a web page to post comments is ample evidence of the interactivity the Web promotes.

Content Publishers, continued

While some may be looking for other reasons why teachers should publish, other incentives prevail: the stimulation of the publication process for students. Students can use blogging in a variety of ways, and publication of student entries can be controlled on a closed-network server (intranet) to protect both students and a school. Expectations are raised when students have a teacher-generated model for publication on the Web. It will be the students, no doubt, who will "push [Web publishing] to new levels" (Nielsen, 2000).

This integration of technology takes advantage of new and emerging standards that take access to the Internet to a new level. Ultimately, by creating content through the genre or facade of a blog, teachers help fellow educators by sharing content and engaging students and their families through the Web medium.

Article Weblog Tools

Blogger - www.blogger.com
Blosxom - www.raelity.org/apps/blosxom/
Greymatter - www.noahgrey.com/greysoft/
Movable Type - www.movabletype.org
Radio Userland - radio.userland.com
SnipSnap - snipsnap.org/space/start

Article Weblog Surfing

Weblogs.com - www.weblogs.com

Article Book Resources

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Beyond the Fun: Three Dimensions of 3-D Animation

by Vivian Griese

So What Do You Think?

Thinking is a skill that is in great demand in our modern society. Employability studies document the need for a future work force capable of a more sophisticated way of thinking than generally required in the past. Skills such as independent analysis, flexible thinking and collaborative problem solving are now considered basic requirements for many jobs (Costa, 1991). The arts are a natural avenue for developing these skills, but many consider the arts as "insignificant" or "extras" in the curriculum. With today's advances in technology, the arts have been successful in adapting these new media in the classroom. One only needs to observe the explosion of 2D and 3D animation movies as well as the wide range of video and computer games that are readily available. Many artists have found a successful niche in this computer driven industry.

Hampton City Schools, where this author teaches, has made a commitment to integrating technology in all areas and improving the work force for area industries. The partnership between the schools and the business community is working towards developing a work force that meets the need for higher order thinking.

The arts have been an active partner in this area as well. All four of the city's high schools teach three levels of 3D Animation. Each high school has a computer lab with Macintosh G4's capable of supporting the animation program, LightWave 3D by NewTek. This is an advanced animating program used by many professional media industries.

Students usually sign up for 3D Animation because it sounds like a fun and easy class. The computer does not seem as intimidating as a blank sheet of paper and a pencil, so students who feel they lack traditional studio art skills are drawn to this class as well. However, once they get into class they realize that this class isn't ordinary. The class is still fun, but it demands that the student spend time thinking before working.

So how does a fun 3D Animation class promote this concept of higher order thinking?

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3-D Animation, continued

First the process of creating an animation using the LightWave 3D program should be explained. The software is actually divided into two programs. Modeler is the program that allows the student to create objects. These objects are like the actors in a play.

The objects are then imported into the second program, called Layout. It is in Layout that simple and complex movements, special effects, textures, lighting and camera angles are manipulated. This arena is like the stage in an auditorium, where the actors created in Modeler will perform. This stage is based on the mathematical concepts of the X, Y, and Z-axes. The center of this universe is the point where these three axes meet, called 0, 0, and 0. All objects move around these axes, in either positive or negative placements.

Students are the directors of their own plays. They determine actors (the objects) and what parts they will play in the production (layout). The students must visualize all aspects of this production before beginning the first stage of modeling. So students are required to sit and think through an animation from beginning to end, deciding on particular special effects, movements, lighting moods, etc. The student then works backwards from the end product to the part where the object must now be modeled.

Even before modeling the object, the student must first visualize the completed object. Then the student condenses the object down to a few basic shapes (oval, circle, square, triangle, rectangle or cone). From these simple basic shapes, which the computer helps create, the student begins to shape this very basic object, manipulating it to his final visualization. This process is similar to modeling a 3D sculpture out of marble or clay. Artists will first clear away the excess and start with some basic shapes, then manipulate the material until the details become clear. Obviously, the more detail a student applies to the object, the more realistic and believable it will look.

Students will often model a very simplistic object but describe it as if the object contains all the detailed elements. This ability to visualize and create detail often takes time to develop. However, this is a very important step in promoting higher order thinking.

In addition, these students must develop the skill to mentally visualize, or think, through an entire process, then backtrack their thinking to make sure the object modeled will perform all the tasks required, once it is moved into layout. This is an extremely complicated task for a student to master, but once the student has, the animation becomes much easier to create and the results are dynamic. Because students constantly build on their skills through each subsequent animation, the constant repetition of tasks increases their ability to think through an animation more quickly and clearly.

3-D Animation, continued

This requirement of thought in creating a 3D-animation project includes the four basic components for facilitating higher-level thinking skills, which are:

- Students are better able to organize the way in which specific thinking processes are engaged.
- Significant opportunities exist for the student to reflect on the thinking they are doing.
- Opportunities exist for the student to practice doing the same sort of thinking in new situations.
- Opportunities exist for collaboration between students in which good thinking attitudes are modeled (Costa, 1991).

Creating an animation forces the student to engage in the following complex thinking processes as well:

Problem Solving

A project is assigned and the student must decide how to solve the "problem" of the assignment. An example is the "Enclosed Space" assignment. The parameters say that it can be any kind of enclosed space, but does not have to be a building; it could be a book bag, file cabinet, etc. The enclosed space must have at lease one opening where the viewer is able to look outside of the enclosed space. There must be three major objects (to be modeled realistically and accurately and play major roles in the animation) and five supporting objects (which do not have to have a high degree of realism, but must be modeled believably). With these parameters, the student must decide and problem-solve how these goals will be achieved. How an object is to move must first be determined before it can be modeled. Modeling determines what kind of movements an object can make.

Decision Making

The student compares advantages and disadvantages of alternative approaches to solving the animation problem. In addition, the student must always keep in mind whether the modeling will take longer than the allotted time for the assignment and whether all the objects work well together in the final animation.

Critical Thinking

This process of developing a cohesive and logical reasoning for the animation and then bringing it to a credible and convincing solution is difficult for the student to focus on. It is more fun to begin modeling the objects rather than think through to the end product. However, the successful students are able to keep this vision in focus.

Creative Thinking

Students are always encouraged to think of the unusual or novel solution to the animation problem. Thinking beyond what first pops into the mind and planning a unique twist to the plot is crucial to making the animation interesting to watch.

As one can see, this is a crash course for many students in stretching some thinking muscles they didn't know they had. However, whether they want to or not, the immediate gratification of the animation process keeps the students striving to

3-D Animation, continued

learn and progress in the class. The side benefit is the development of higher order thinking skills, which seems to transfer for some students into other classes. This "fun" class actually has a hidden agenda in turning my students into mature thinkers!

Can You See It?

One of the most difficult components of modeling an object in 3D animation is the ability to mentally visualize the object to be created. In limited cases, an actual model can be used, allowing the student to actively touch and observe what needs to be modeled. However, with the endless number of objects that a student has to choose from to create, it is impossible to have a physical example of every object. Students must then rely on their ability to make mental images.

Reducing an object down to basic forms, manipulating the form to create a more realistic version, then finally adding the "extras" that make the object convincing is a visual imaging process, often called a visual-spatial ability.

Hand in hand with this ability to mentally visualize an object is the ability to place it in a spatial context. Spatial intelligence is closely tied to and grows out of one's observation of the visual world. However, spatial intelligence is not always dependent on the visual sense (Gardner, 1983). Spatial ability is a general capacity to imagine objects in different perspectives (McGuinness, 1979).

Where does the object reside in space in relation to other objects? How do these objects react to each other and are they in proportion to each other? This spatial acuity does not always come easily to students. It is a skill that must be learned and repeated often. The nature of 3D animation forces the student to constantly make decisions of relationships between objects. These relationships grow from simple size problems in Modeler to more complicated visual elements in Layout (where the objects actually move around and interact with each other). Making estimations, trial and error, and finally corrections are integral to perceiving correctly. Studies have shown that there is clearly an important connection between movement and spatial ability. What isn't known is how this works. (McGuinness, 1979)

3D Animation as an exercise in spatial intelligence draws together a variety of loosely related capacities. The ability to recognize instances of the same element; the ability to transform one element into another; the capacity to conjure up mental imagery and then transform that imagery; the capacity to produce a graphic likeness of spatial information; and the ability to move and twist viewpoints of an element are valuable skills the animator is repeatedly practicing (Gardner, 1983).

Spatial ability has also been linked to aptitude in higher mathematics (McGuinness, 1979). Spatial tasks are problems involving imagery in three dimensions, rather than two dimensions (which would be paper and pencil examples). The capacity to visualize the relationship between the motion of one's body and elements or objects in the world makes it possible to frame space in terms of geometric coordinates (Layout's xyz coordinates). This leads to the ability to construct mental maps of unfamiliar territories. The speed in which a spatial problem is solved, as in the case of animation, is dependent on the capacity to visualize motion in the 3D environment.

3-D Animation, continued

Math has been defined as the science of quantity and space. Quantity and space refer initially to objects and object relations in the world. When students begin imaging in a three-dimensional space, they begin to place that object around an axis. All movements in LightWave are based on the interaction of other objects within the field of xyz and the positive and negative coordinates relating to the axes. These areas of problem solving for the student are obviously math related. However, the student is having too much fun watching his objects spin through space to realize he is learning higher-level math concepts.

Some students have mentioned that they seem to find their math and some aspects of science easier to comprehend after being in animation for at least two years. Even though there are no formalized studies, it could be that the repeated use of the LightWave universe has provided the students with repetitive concrete applications of the math concepts.

Another observation in relation to spatial acuity that bears studying is the improvement of some students who have visual processing disabilities. One student, who had trouble with complex abstract thinking and problem solving skills as well as spatial difficulties, spent two years in my animation class. He continually improved in his ability to think through an assignment and create an animation by being deliberate in his actions, rather than allowing "happy accidents" to occur for him. This student also had spatial difficulties that required his teachers to bubble in the circles on tests that were routinely given. He was unable to accurately darken within the lines. However, after two years in animation, he became able to perform that task himself without aid. The teacher could not explain any other reason for his ability to begin performing this task, other than taking animation. Without additional studies one cannot say with certainty, but clearly the evidence is there that repeated visual and spatial problem solving over the course of two years made an impact on this student.

Getting Motivated

The last important area is not defined by any scientific studies, but rather direct conversations with animation students. Many students signed up for the first animation class because it sounded like fun, but they never seriously thought of this class as a stepping-stone out of high school and into a career. These students would have laughed at anyone suggesting they attend college.

However, some students have become very successful in animating and found that they have a "knack" for modeling objects, visualizing action and putting it all together. They enjoy the challenge of the animation problem and the ability to sharpen their computer skills. It is exciting to see them start to dream of a career, especially one that they will love doing.

This author has had the pleasure of watching students enter an animation class with no direction or thought of what they might do after graduation. Then after two or three years in these classes, they begin to seek out colleges where they can continue their education. What a feeling of satisfaction knowing that this "fun" class impacted a student's future.

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3-D Animation, continued

Thanks to technology, thanks to artists willing to use technology as a tool for creativity, thanks to school districts with vision and thanks to students who take a chance on a new class, lives have been profoundly impacted. This is what education is all about, motivating students, helping students learn about themselves and a skill they can be good at, getting them to think the "big picture" and find a career that they will love. 3D Animation – beyond the fun and into the future!

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The Technology Game: Perspectives and Reflections on School-based Technology Training Specialist Support (Part I)

by Sally Bryan

Editor's note: *In this first article of a two-part series, the author begins to answer the question, "How can a school-based technology training specialist (SBTS, also known as a Technology Resource Teacher) support classroom teachers and specialists as they learn to integrate technology into their classroom curriculum? The second part of Bryan's article will appear in the next issue of the VSTE Journal.*

Playing the Game

Have you ever played a game such as Monopoly in which the favorable or unfavorable card draw determines whether you win or lose the game? Although practice and experience increase your skills, circumstances beyond your control influence the game's outcome. Skill alone can't insure a win. A sequence of poor draws discourages you from playing again. Beneficial draws make you a winner and eager to play the next game. Your resulting energy is high and you can't wait for the next opportunity to try your luck.

The process by which technology is integrated into classroom curriculum throughout Fairfax County (and I suspect in other counties across our country) is being played in a manner similar to a board game. Each day teachers encounter circumstances that either encourage or discourage the integration of technology into lesson plans and curriculum objectives. When teachers draw favorable cards, their integrated plans are implemented, their students find appropriate on-line resources, or create new knowledge and communicate in unique ways. Teachers are encouraged to use technology in future lessons. When those same teachers draw unfavorable cards, they might not be aware of appropriate software available to them, might feel too insecure to implement new programs, their schedules might

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be interrupted, or their computers might freeze. Their momentum is stopped, their projects are delayed or destroyed, and their desire to play *The Technology Game* dissolves.

Not a matter of Chance

The Technology Game is not a game of chance. It is a very serious commitment to the future of our students. There are prerequisites to success:

- Before teachers can use technology consistently in their lesson plans and curriculum objectives, they need assurance of easy assess to working hardware and appropriate software programs.

- Having technology available does not insure appropriate use. The power of school technology can only be realized when teachers are trained and motivated to use the available equipment. Teachers are motivated to use technology, even if it requires a change in teaching strategies, if they are aware of the importance of technology to their students. Modeling by SBTS or Technology Resource Teachers offers opportunities for teachers to see these advantages.

- Teachers are more willing to attend training if they anticipate immediate classroom use of applications. When workshops are planned around teacher requests and curriculum needs, they are well received and are more likely to be used by teachers in subsequent lessons.

- The SBTS or Technology Resource Teachers is in a unique position to help teachers integrate technology into their classroom curriculum. They can design activities that will be responsive to teacher requests. They can be proactive and initiate activities to train and motivate teachers as they struggle to integrate technology. They can encourage teachers to take risks in using technology. Collaboration between two experts, initiated by SBTS is a critical way that we can support teachers.

While *The Technology Game* is being played across Fairfax County and other counties everyday, the future of our students' literacy skills is hanging in the balance. By "literacy" I mean the ability to acquire and express information in a variety of electronic media as well as through the traditional print media. To successfully complete this game, teachers must recognize the importance of technology integration and appreciate new teaching strategies that support the changing literacy needs of students. The final goal of the technology game is to create a learning environment in which student achievement is accelerated through the integration of technology in classroom curriculum. This learning environment must provide the tools of knowledge acquisition and communication for the 21st century and must develop the skills required to utilize these tools. The question is: " Are we winning this game?"

As the full time School-Based Technology Training Specialist (SBTS) at Lemon Road, a small elementary school, my role in this game seems clear. It is my job to clarify the rules of the game, to identify the objectives and to help teachers and

The Technology Game, continued

students realize our goals. It is my job to see that the teachers receive more positive, advancement cards than they do negative, regressive cards as they face the challenges of technology integration. I must be a proactive leader who shares a vision of technology integration and who collaborates with teachers to demonstrate how technology can benefit student learning. The training, support and encouragement that I offer should create teacher expertise and desire for additional technology use. The troubleshooting and technical support that I provide should minimize the setbacks caused by equipment failure. Although I can't prevent all obstacles, I must be a problem solver, a mentor, and a model, who arranges the receipt of as many positive reinforcing cards as possible. My research into *The Technology Game* is an anecdotal record of how I have attempted to identify the rules of the game, to support teachers and to reach our stated goals.

Drawing Favorable Cards

Our game consists of many cards and many opportunities, either taken or missed. Lemon Road has already drawn many favorable cards. First, we have a visionary principal, who created the position of Technology Resource Teacher in 1996, four years before the county decided to fund such a position.

We were able to acquire donated computers, write grants to purchase needed equipment, and find volunteers to create a working lab, network the computers to a server and establish a system in which students could access their work throughout the building. We began reviewing and purchasing appropriate software. In 1998, our school was wired for the Internet and we established our school Intranet to house resources related to curriculum needs. In 2001 as a "model technology" school, we received many new computers to equip a 30-computer lab in addition to having 4 to 6 computers in each classroom. With this equipment came licenses for many software titles. Our business partner, First Virginia Bank, and our PTA donated substantial funds over the years to purchase a color laser printer, scanners, a Smartboard, a portable multimedia center of 30 AlphaSmarts, a digital camera and many valuable software titles to support our curriculum.

Rules of the Game

Before starting this research I didn't have a clear image of our game. I saw many problems, equipment that kept breaking, teachers with no time to plan or implement technology and SBTS duties that kept me busy updating inventory and writing training plans that didn't seem to work. It was not until I began keeping a journal of daily activities that a pattern began to emerge and answers to problems began to surface.

I knew that I needed to present training that focused on curriculum and specifically addressed the SOLs. I planned "SOL Solutions" for after-school training. I presented technology as a tool for addressing curriculum needs. I demonstrated *Mapmaker's Tool Kit, Inspiration,* and *Kidspiration* during after-school training sessions. The sessions were not well attended for various reasons. Teachers complained that lessons were after hours, they had other commitments and there was never enough time. When I presented training on *Outlook,* the Microsoft e-mail

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program, attitudes changed. Teachers wanted to know how to communicate in our new e-mail system. I prepared handouts that introduced teachers to our county Intranet site, answered questions and helped them set up their own folders and distribution lists. I believe that because teachers had an immediate need to know the e-mail system they found a way to attend the training. Other after-hours training had not presented itself with the same urgency. Yet the collaboration that began with this training would continue to grow in other areas.

Modeling the Game Plan

I have always modeled classroom lessons for teachers. While I am modeling the lessons, teachers are observing more than just technology integration. They are observing new strategies for teaching, new opportunities to differentiate services and new ways for students to demonstrate what they know. As teachers watch me, they become familiar with the software, see more potential for its use, and see the enthusiasm that it generates for student learning. As they gradually become more comfortable using the programs, teachers are in a position to create their own activities and take risks, knowing that I am there to support them.

Taking Turns

I find the scheduling of technology for 45 minutes a week whether students need it or not an outrageous concept. Technology should be used only when its application is appropriate. A once-a-week lab time is not well suited to integrating technology into a lesson plan and may not recognize computers as tools to support the curriculum. I have an on-line schedule on the server through which teachers sign up their classes for lab time, or for my time, whenever they want. This accommodates the teacher who plans a lengthy project and wants more than one block of time per week. It allows teachers to select the resources they need and the times that coordinate with the subjects being taught. They may need the lab several times a week for some weeks and then not again for a while. The facilities are available on a first come, first served basis whenever the teachers want them.

Planning Our Strategy

Our two sixth grade teachers were quick to request planning times. In October, we discussed curriculum objectives and I suggested technology projects that might satisfy their needs. During our planning, I mentioned that students need to develop skills of on-line searching for relevant information. Students need to learn how to evaluate and validate the resources they find. Once the resources are selected, students must use information to create and refine their knowledge. It is the interaction of student and information that creates learning. Using textbook resources alone will not equip our students with skills needed in their future. One sixth grade teacher said she had never thought of that. She was just beginning to see reasons for technology integration.

For our next project, we planned the role of each teacher, designed student directions and anticipated the timing. Knowing our expectations, each student would create his or her own *Hyperstudio* project. Students would use our Intranet resources to research and take notes. They would select relevant information and they would create a final product based upon their use of the materials found.

The Technology Game, continued

Students, not teachers, were responsible for learning. Students were proud of their resulting projects and eager to be evaluated using peer rubrics. This was the kind of technology integration that I hoped the whole school would eventually enjoy. Ranging from the visual content of *The Human Body* CD, to diary writing following *The Oregon Trail* cyber experience, to selecting a science project through our school's "Scientific Method of Investigation" website, these classrooms were never without resources and project ideas.

Advancing Along the Board

A third grade teacher was also daring enough to create innovative technology projects. He came to me for instruction and advice, to see what could be done and how best to accomplish his goals. Using the digital camera to import student pictures into *Publisher*, his students presented families with calendars as winter holiday gifts. He told his teammates of the activity so that everyone could present calendars to their families. Next, he designed an *Excel* spreadsheet to record, calculate and communicate student math concept development. He could instantly see which students needed additional help in any particular area and could differentiate services appropriately. Students could update their own test scores and records, and he was able to inform parents of student progress in a timely manner. Then he experimented with *Hyperstudio* and created a lesson in which students would create an interactive dictionary. He was becoming more independent and taking risks, knowing that I would support him. Each project succeeded and created a desire to try another. He is rapidly becoming a technology-savvy teacher.

Three Steps Backward

By January, I expected all teachers to be using technology consistently. Yet, as I walked the halls of our building, I saw too many classroom computers with the screen saver disease, a disease in which only the screen saver is seen throughout the day. I was discouraged by what I interpreted as teacher apathy towards technology and lack of effort to incorporate technology into curriculum objectives. Too often, computers were seen as a reward for finished work or good behavior. It was impossible for me to keep to a schedule because of the constant interruptions or cancellations. Teachers would come to me for help and suggestions, but they wanted instant answers. They wanted materials and directions immediately and, of course, I couldn't always comply. I was offering "SOL Solutions", advising teachers who needed technology certification and planning with some teachers. In spite of my best efforts, many teachers were not using our computers as I thought they should. Having the latest computer systems did not insure appropriate use. What was I doing wrong? How could I encourage more productive computer use?

Understanding the Rules

I posed my questions to the teacher-researcher group to which I belong. They offered valuable suggestions. Try attending team planning meetings and discussing SOL objectives, they said. Go to the teachers and initiate projects and activities. Work with the teachers who show interest and focus on the positive. I followed their advice and soon saw a totally different view of technology use at Lemon Road.

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The Technology Game, continued

After our teacher research meeting, I was determined to return to school and initiate a visible viable integration program. I would become more proactive and look for opportunities to include reluctant teachers in integrated technology lessons. I created a questionnaire in which I requested teacher opinions and needs. By listening to their responses, I refocused my efforts.

I asked:

1. What are the most important functions performed by the SBTS in our school?

The most frequent responses were troubleshooting, training on hardware and software, finding and sharing new software, and planning integration activities

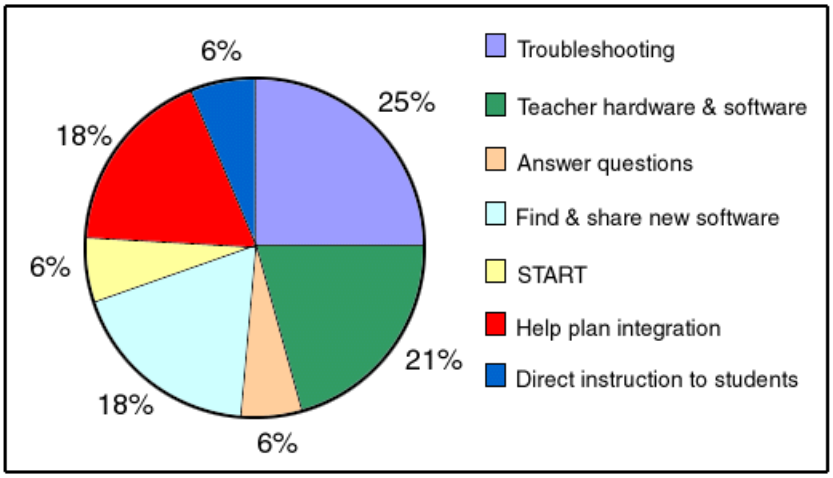

Figure 1: SBTS functions as seen by teachers.

2. What SBTS activities have you found useful?

To my surprise, the top responses were after school training and initiating integrated lab projects and activities. Although I didn't think the training had been well attended, the teachers had appreciated the training offered. The training with immediate use such as the Outlook training was considered most valuable. Teachers had not initiated lab projects but were eager to participate once I offered them. Here was a lesson to be learned. If I initiated the projects, the teachers were happy to follow. It appeared that without my support, teachers lacked the confidence to create integrated technology lessons. Especially after I pointed out all the SOLs being covered with the projects, they were enthusiastically received.

The Technology Game, continued

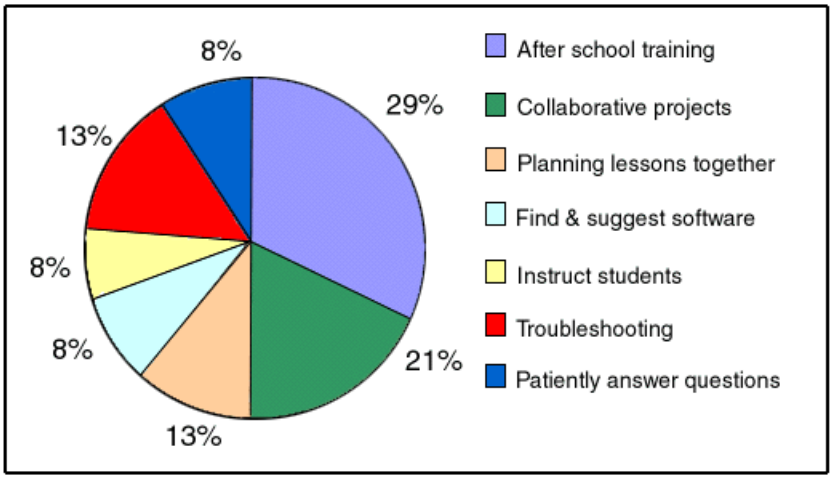

Figure 2: Useful SBTS activities identified by teachers.

3. What factors have encouraged you to use technology in your classroom?

The most frequently stated factor encouraging teachers to participate in technology integration was the belief that students want and need to know how to use technology. The second most often reported factor was knowing that I was willing to help and support teachers as needed. Other teachers mentioned use of technology because of a diversity of student needs, a need to individualize instruction, opportunity to plan at team meetings, and availability of good software. I began to think there was a lot that was right with our program.

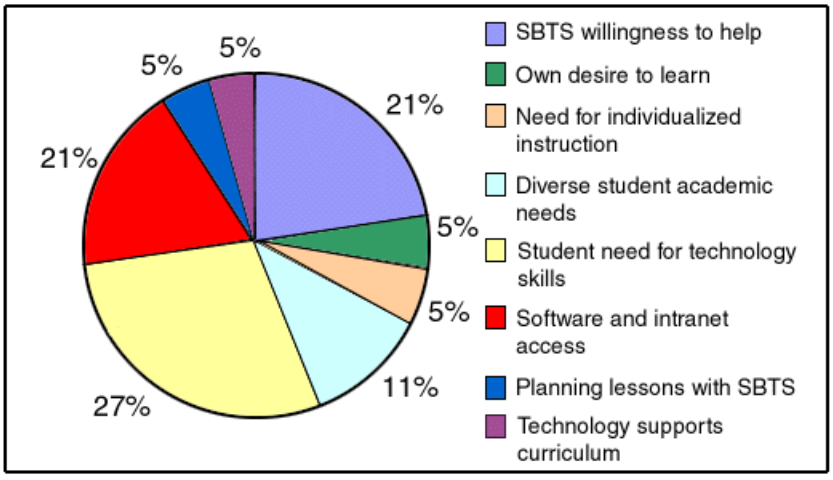

Figure 3: Factors encouraging use of technology.

The Technology Game, continued

4. What are some of the factors that prevent you from integrating technology in your curriculum?

The resounding answer was lack of time; time to plan and execute an integrated lesson, time to become familiar with programs, time to search for appropriate materials. To my surprise, one teacher mentioned our lack of software. This told me that having software in our building was not sufficient. I needed to do more to let teachers know what was available. I began creating "resource sheets" on software to let teachers know what subjects and objectives the software covered and how best to offer it to students.

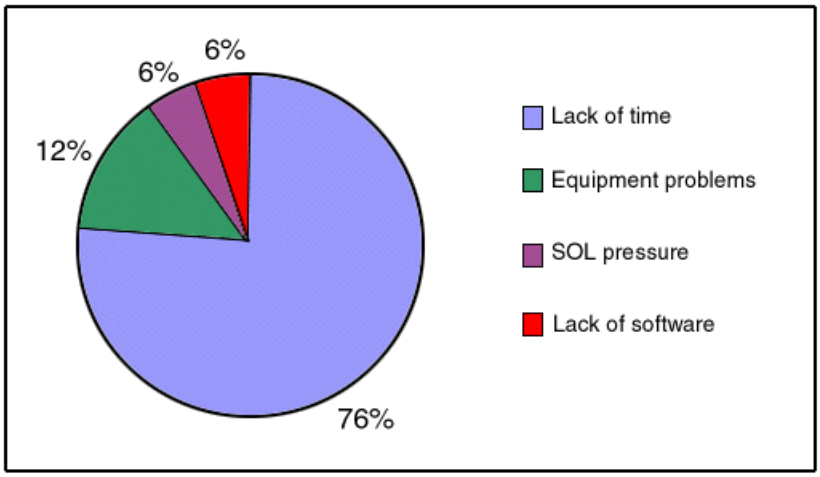

Figure 4: Deterrents to use technology.

5. Do you consider the use of technology important to the classroom? Why? Most teachers stated that students needed to develop multimedia skills. Others stated that technology accommodated learning styles, created increased resources of information and it was fun.

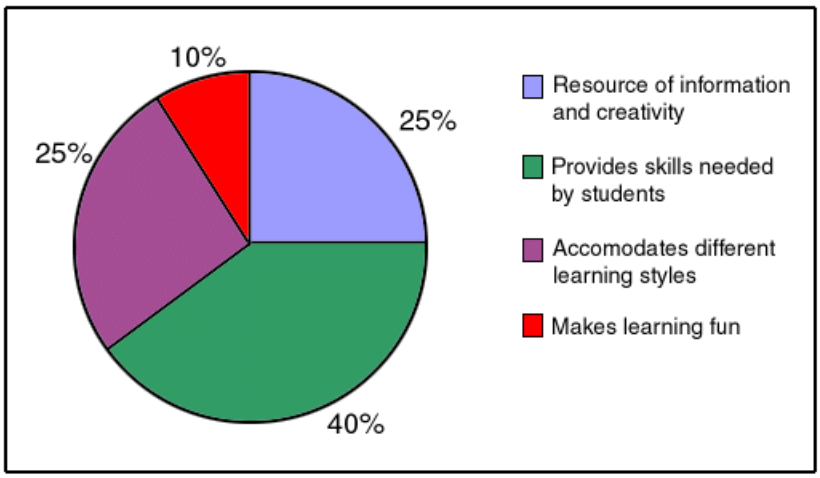

Figure 5: Importance of technology in the classroom.

The Technology Game, continued

6. If I could change one thing about our program, I would....

Teachers wanted more lab time, earlier lab openings, more direct student teaching by SBTS and a weekly schedule in the lab. This suggests to me that teachers want computer use; they just hesitate to plan it by themselves. My focus needs to shift to greater initiation and planning of activities.

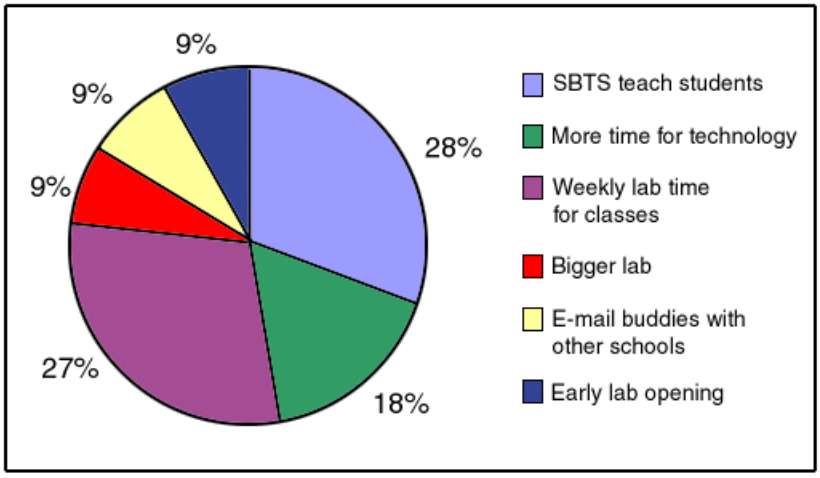

Figure 6: Teacher desired improvements in technology program.

Clarifying the Rules

My request to attend team-planning meetings was enthusiastically received. Discussions began with teachers stating the areas of curriculum to be covered. Then I suggested computer projects that would support the objectives. Teachers would pick the suggestions that they liked and that fit their time frames. We planned so that each contributed their expertise to the developing lesson. To my surprise, teachers were very open to suggestions and willing to collaborate. They supplied nine-week plans and discussed which curriculum objectives were best achieved with technology integration. We were working together to integrate technology into the classroom curriculum. A new collaborative energy was evident. I began to believe that our students could be prepared for the literacy demands of their future. For the first time, I really felt we were winning the technology game.

The continuation of this research will appear in the next VSTE Journal publication. My reflections have allowed me to identify several findings and implications that will guide the future integration of technology in our building. These will be listed in my conclusion.

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The Technology Game, continued

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Trading Spaces: From the Classroom to the Cyber-Room. Interior Decorating for the Virtual Course

by Sigrid Bomba and Jane Clark

We fully understand the cognitive and aesthetic impact of a well-decorated classroom in the physical world, but how does that knowledge transfer into the virtual classroom?

As teachers, we mark our academic territory with our personal sense of style. A splash of summer yellow to a mud-luscious frog dangling above desks help to define both our teaching personality and our rich course content. Recreating this stamp of uniqueness in the cyber-world requires that we carefully consider the five C's of cyber decorating: comfort, content, cohesiveness, color, and clips.

Comfort

Our students' first online experience can be quite harrowing. As online course builders, we need to adorn our cyber-rooms with a warm and inviting décor that encourages open and productive discussion. Just as you hang a poster on a wall of a physical classroom, the posters in our virtual cyber-rooms need to reflect both positive and academic messages.

Course ambiance can also be created by the warmth of our words. An enthusiastic welcome should begin any course. Either synchronous online availability or asynchronous turn around response time should be clearly stated within the welcome message. For web-enhanced, flexnet or virtual courses, the facilitator's office hours and physical availability should be included. When introducing an online course, provide a chat room for students to practice an online exchange. You may wish to include an additional discussion forum that allows students to ask questions directly to the course facilitator.

Words of encouragement should be peppered throughout the entire course. Assignments and assessments should have clearly stated expectations with deadlines repeated in numerous places. Rubrics also help to support a high degree of comfort.

Trading Spaces, continued

Adding to your students' comfort is the degree of ease with which they can navigate through your particular platform. If possible, documents and external links should be organized into folders. All course information should be organized in a logical and user-friendly format. Before course activation, soliciting feedback from several students and an online peer should prove beneficial.

All courses should include a final survey. In the final survey, questions regarding ease of navigation, tone of the facilitator's feedback, and the student's comfort level should be included. The final survey is critical in determining the effectiveness of the course, course builder, and facilitator.

White space surrounding the course text is dictated by the level of the course. For example, if the course is designed for a third grader, paragraph breaks should be wider. Also, the white space around the course title and text should increase. However, a college course would have an increased amount of text with minimal white space.

Content

With all of the technological bells and whistles available today, we sometimes lose sight of the fact that the course content drives the decorating embellishments rather that the decorating driving the course content. The bells and whistles must enhance or clarify the content. In other words, the content text and information should be the focus of each page with the graphics taking a subordinate position. Concept maps that accompany text allow the student a snapshot view of the relationship between concepts (Kremer, 1). Assignments and directions should be concise and directed specifically toward the intended audience (Kelley, 1). Small movements or muted color change graphics should be placed above or below the text. This allows the reader to scroll the text into a position where the animation cannot be viewed during text reading. Animated graphics are fun, but frequently deter from the content depending on the degree of animation. Embedding animated graphics should be seriously considered.

Inspiration and *Kidspiration* software are the champions of content text enhancements. Research pertaining to learning effectiveness clearly states that content information is more readily obtained and with greater depth when the information is distributed in both a text and non-text (visual representation) mode (Chase 1, 6-8). This software allows the course builder to create simple and complex graphic organizers with little time invested. Both programs also contain a conversion option where the graphic organizer can easily be converted to a linguistic format.

Cohesiveness

Text and decorative embellishments equally contribute to the cohesiveness of the course. Fluency supports comprehension. When our students stop to decipher an unfamiliar word or a confusing graphic, the cognitive process is interrupted. Regaining focus is difficult, but when reading fluency is repeatedly interrupted, comprehension seriously deteriorates.

Trading Spaces, continued

Fonts for titles and subheadings can be selected from any number of serif and san serif fonts as long as they are easily readable. "Fun" fonts help to lighten a heavy academic tone and can be enhanced by adding color. These "fun" fonts should only be used for titles and subheadings. For the bulk of the content text, select a serif font. Newspapers, textbooks, and magazines all use serif fonts for good reason. The serif font adds clarity to each letter and, thus, contributes to visual fluency.

Color

Decisions concerning color should be made after the course text has been written. As previously stated, the decorating should be subordinate to the course content and, therefore, color and decorating decisions can be made after the course has been written. Course colors can be divided into two main categories: the masthead and the content pages. For best results, choose one dominate and one accent color. Certainly this does not exclude other coordinating colors, but consistency of color supports the fluency of the content text. Using too many colors, clashing colors, all dark colors or all milky light colors will interrupt the visual flow of the course and, therefore, hinder comprehension.

After the course builder clearly identifies the target audience, viewing a complete color palette will provide a spectrum with which he or she can "play" with color choices. From the palette, first decide on a color grouping such as primary or pastels. Younger children are attracted to the primary colors. A barn-red wagon with a kelly green tree are common graphic colors associated with emergent and beginning readers. Older audiences provide a wider opportunity for choosing colors. If your audience is predominately young adults, a choice of bright trendy colors may be appropriate. Currently, that choice would include the neon colors. A lime green with a purple accent would be especially appealing to the teen and preteen audience. Usually, courses designed for the adult are lengthier. Here, you can vary your color choices within the weekly assignment. One week's assignment may have an Earth tone theme, while the next week may be a textured theme.

Most online courses contain a masthead or banner that the student sees upon entering the course. The colors chosen for the masthead should be the anchor colors for the remainder of any short course.

Using color to alert the student to specific text is also effective. For attention grabbers, use opposite colors on the color wheel (i.e. yellow and purple, orange and blue, etc.). The opposite color may be used no matter what color theme you have chosen as your dominate and subordinate colors. An upcoming quiz or a homework reminder using orange in lieu of the traditional black helps to direct the reader's attention. A constant color associated with a particular content concept will enhance the student's comprehension. For example, in an Earth Science course, the course builder may use the color blue for all concepts or vocabulary words relating to water or the color brown for all newly posted materials and the color red for project assignments.

Trading Spaces, continued

Clips

Clips include any graphic material imported into the course such as graphic organizers, maps, photographs, video, diagrams, and picture clips. Informational clips should directly correspond to the text with clearly identifiable labels, drawings, and font. The size of the clip is relative to the size of the text. A single line of text does not warrant a four-inch clip, whereas a large body of six-inch text may be enhanced by a one-inch graphic. If the clip is a diagram that clearly is the focus of the content, then the size should be significantly increased. Keep in mind that large clip files will increase downloading time. Diagrams, maps, and other informational clips should be crisp. Using tools such as shadow fonts or frayed edges for creating informational clips deter from comprehension. Using too many clips within one page can also lead to reader confusion and points the attention of the student to the graphics rather than the course content. Likewise, animated clips are both eye-catching and fun, but the unnecessary motion detracts from the content.

Within a weekly assignment, graphics that depict similar characteristics should be consistently used throughout the assignment. Examples of similar theme graphics are below.


Graphic theme for a younger audience



Graphic theme for an older audience

Inserting video clips certainly adds to visual and content enrichment. All video clips should be accompanied by expository captions. The course builder should clearly state a purpose for the clip and give the student a specific assignment relating to the clip. An example of a video caption is below.

Video Clip

The clip above highlights several turning points during the Civil Rights Movement. As you view the clip, record these events and think about how they contributed to the overall success of the movement.

Trading Spaces, continued

Notice that the reader has been provided with the topic of the clip, the purpose for viewing the clip, and a prompt for further content synthesis.

Younger students enjoy cartoon-type figures that represent children of their own age. Photographs and more complex graphics can be used in adult and young adult courses. Figures should be engaged in activities described within the text and represent ethnic as well as gender diversity.

Audio clips greatly enhance courses such as foreign language and speech courses. Musical clips, when paired with video, contribute to the aesthetic appeal of the content. Using musical clips without video is not recommended.

The music, unless directly related to the content (example: music written during the Civil War in a history course), will distract the reader.

Using the mantra of the design world, form follows function, you will find that the decorating possibilities are endless. Discovering your own particular style within the course contributes to a feeling of success for your students. The placement of furniture within a physical classroom rarely changes throughout the school year. Students know where to sit, know the location of the computer lab, and know where the teacher can be found. Your cyber-room is much like the physical classroom in that the students need a comfortable routine for locating information. They know where information will be because it is consistent. They know that certain colors indicate certain activities. And they know they will be safe and secure in the warm and inviting environment that you have so thoughtfully created.

Article Resource URLs

- Microsoft Clip Art and Media: http://dgl.microsoft.com
- Free Clip Art Kingdom: http://www.clipartcastle.com
- Barry's Clip Art: http://www.Barrysclipart.com
- Tech4Learning: http://www.tech4learning.com
- Clip-Art.com: http://www.clip-art.com
- Discovery's School Clip Art Gallery: http://school.discovery.com/clipart/

Trading Spaces, continued

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Best Practices for Using Microsoft Word to Create Simple Web Pages

by Mark D. Webster

Web development applications like *Microsoft FrontPage*, *Macromedia Dreamweaver*, and *Adobe GoLive* expedite the process of creating and editing web pages. These and other programs have become increasingly more popular and more powerful in their capabilities. However, despite readily available training and a reasonably gentle learning curve, many educators are still hesitant to venture into web page design. Perhaps part of the reason is due to the mystique related to HTML and confusion surrounding the many technologies that intersect in bringing us the Internet. For users reluctant to venture into web development, Microsoft Word can be a viable option for someone just beginning to develop web pages.

Microsoft Word has essentially become the standard word processing application and for good reason; it's an excellent, general-purpose application for creating a variety of documents. With the increasing popularity of the Internet, Microsoft has made progress over time in integrating Word and the other Microsoft Office applications with the web. By utilizing Microsoft Word, those seeking to develop simple web pages can begin with a tool and application interface with which they are already familiar. By following some best practices, perhaps forgetting a few bad habits, and using various utilities to cleanup the extraneous HTML code that Word generates, the average user can create simple, static web pages that are acceptable. However, for more dynamic documents that feature interactive elements or more sophisticated page layouts, a web development tool like Macromedia Dreamweaver would be needed.

Those using Word for web page development will need to use Word with the mindset that the ultimate product will be a web page. Web documents are written in HTML, or Hypertext Markup Language, a document language that defines the structure and layout of a web document by using a variety of tags and attributes. While learning how to write HTML code is not necessary for creating web pages, it is important to understand that there are certain constraints imposed by HTML, and a user cannot do everything he or she may be accustomed to doing in using the word processor. Because of the nature of how HTML displays web pages, those using Word in creating a web page will recognize that there are special ways to format the content in a document that might be different from what they are accustomed to doing.

Simple Web Pages, continued

Getting Started

In beginning a new document, you can either start with a document in Word format, or an HTML document. Selecting ***File > New*** opens the window you see in the screen capture below:

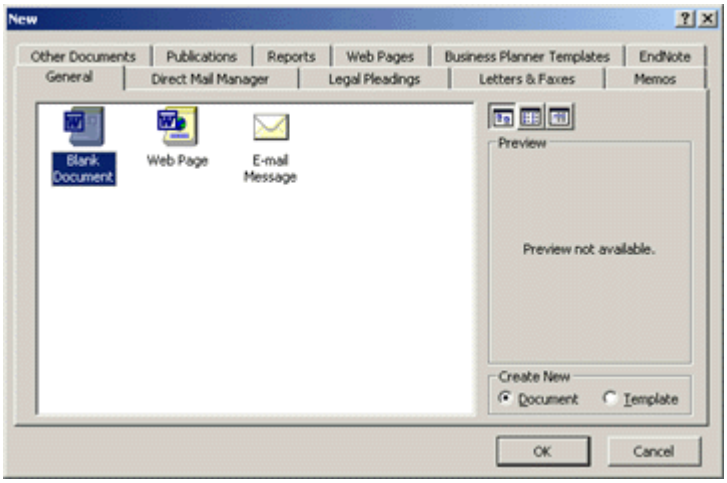

Figure 1: Create new document

If you know from the start that your document will essentially be a web page that will not be printed or saved as an Adobe PDF file, it makes sense to begin with a new Web Page. However, for documents that will likely be printed out, it's important to realize that it's often difficult to print out a web page because you can't use page breaks to lay out the pages, and the pages often break in undesirable places within the document. Therefore, choosing to begin with a blank Word document is often your best option, provided that you follow best practices in creating your document, with the understanding that the ultimate product will be a web page.

There are three layouts that you can select when composing a document in Microsoft Word: Normal, Web Layout, and Print Layout. To change your screen layout, use the View menu. When using Word to create a web page, it is best to work in *Web Layout* mode, although occasionally you should switch to the other modes to check the appearance of your document, especially if it will be printed. Note that in Web Layout view, the margins are close to the edge of the page. When you're in Web Layout, the ruler should be removed from the toolbar. The width of text on your page is dependent upon browser and display settings on the computer that you are using to view your page. Therefore, having the ruler present in Web Layout would serve no purpose when creating your web page. To remove the ruler, go to your View menu and uncheck Ruler.

Forgetting Bad Typing Habits

OK, now don't get too defensive. The first step is to honestly look at how you typically use a word processor. There are several bad habits that will cause trouble in creating web pages. You may get away with these bad habits in typing

Simple Web Pages, continued

word processing documents, but this will not be the case in creating web pages!

Tab key: *Please forget that your keyboard has a Tab key!*

Outside of using it to move from one cell or field to another in a table, form, or spreadsheet, it has virtually no other purpose in creating a web page document. Do not use the Tab key to indent paragraphs because HTML clean-up utilities, like the one included with Dreamweaver, will remove indentation created with the Tab key.

Formatting Paragraphs

If you need to indent your paragraphs, then use Word's paragraph formatting feature. Select ***Format*** > ***Paragraph***, and the window like you see on the right will open. Open the drop-down list under ***Special*** to select ***First line*** to indent your paragraph. Indenting your paragraphs this way will insure that your HTML code will indent your paragraphs using the text-indent property that is a feature of the Cascading Style Sheet standard.

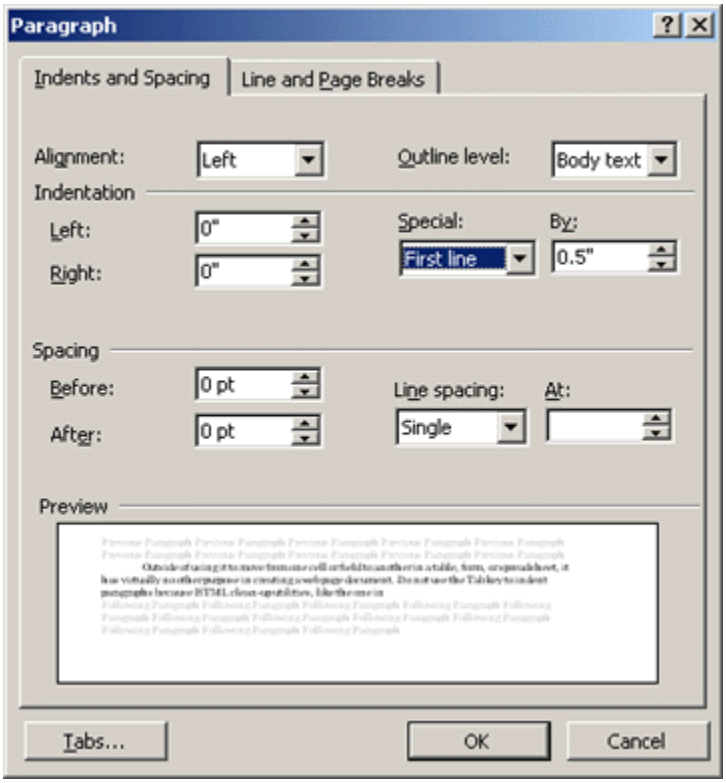

Figure 2: Paragraph window

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Simple Web Pages, continued

Inappropriate use of the Spacebar

Inappropriate use of the Space Bar can get you into trouble when creating documents destined for the web:

- Don't use the Spacebar to indent paragraphs; indent your paragraphs using the paragraph formatting method described above.

- Never use the Spacebar for aligning text or graphics on the page. Use the *Center* tool to center text or images, and use the *Increase Indent* or the *Decrease Indent* to indent entire paragraphs or a list of items. If three page elements need to be spaced across a page, even on a single line, the user needs to follow best practice and create a three-column ***table***.

Inappropriate use of the Enter key

The *Return* or *Enter* key can also get you into trouble:

- Very few users are actually guilty of this, but don't hit the *Enter* key at the end of each line like you're using a typewriter. The Enter key should only be struck once at the end of each paragraph, unless you are creating a bulleted or ordered list or inserting blank lines on a page. Allow the lines in a paragraph to automatically wrap from one line to the next.

- Do not hit the *Enter* key several times to force text to start on a new page. Inserting a page break for this purpose will allow you to print your document the way you desire, without causing your document to look awful in a web browser because of the extra spaces.

Formatting Issues

Selection of fonts

You should use fonts that are common to both the Windows and Macintosh platforms, and which will be installed on the majority of computers that will be browsing your web pages. If someone views your page and his or her computer does not have the font installed, your page will be displayed using the browser's default font, which is typically Times New Roman. There are basically two major types of fonts: **serif fonts**, in which the letters have little serifs or embellishments on the edge of the type, and **sans serif fonts** that are simpler and lack the serifs. Generally speaking, in printed documents, serif fonts are often used for the main body of text in order to aid in reading and the recognition of characters because the little serifs help to guide our eyes and our brain, while sans serif fonts are often used for headings. However, on a computer screen, many people believe that sans serif fonts are easier to read because serifs tend to disappear on the screen, especially with small type. The sans serif font Arial is a popular font used for web pages. Some serif style fonts like **Courier New** are mono-spaced fonts where spacing is not adjusted to accommodate letters of different sizes (typewriter style fonts).

Regardless of which fonts you use, a general principle for most situations is the rule that ***you should never use more than two fonts on the same page***.

Simple Web Pages, continued

Using too many fonts on a page can be a bit of an eyesore. The text of this article, for example, is sans serif. While the safest fonts to use are probably Times New Roman and Arial, there are other fonts that are a relatively safe bet, and which will be found on most computers. The following table lists fonts that are good for web pages:

Serif	Sans Serif	
	Arial	The quick brown fox jumped over the lazy dog.
	Arial Black	**The quick brown fox jumped over the lazy dog.**
	Comic Sans	The quick brown fox jumped over the lazy dog.
Courier		The quick brown fox jumped over the lazy dog.
Courier New		The quick brown fox jumped over the lazy dog.
Georgia		The quick brown fox jumped over the lazy dog.
	Impact	**The quick brown fox jumped over the lazy dog.**
Times New Roman		The quick brown fox jumped over the lazy dog.
	Verdana	The quick brown fox jumped over the lazy dog.

Figure 3: Font chart

Use Styles

Often, those using Microsoft Word for word processing will spend a lot of time highlighting text throughout a document and manually changing the font and font size over and over again. There is a better way. Using ***Styles*** allows you to quickly format a document in such a way that you're consistently applying the same font attributes throughout the document. For example, let's assume you want certain sub-headings to all be the same font and size, in bold text. Rather than manually having to make these three changes repeatedly for each sub-heading, you can use Styles to simply the process. For example, the title at the top of a page might be set for Heading 2, section headings might be Heading 4, while the main body of text is Normal text.

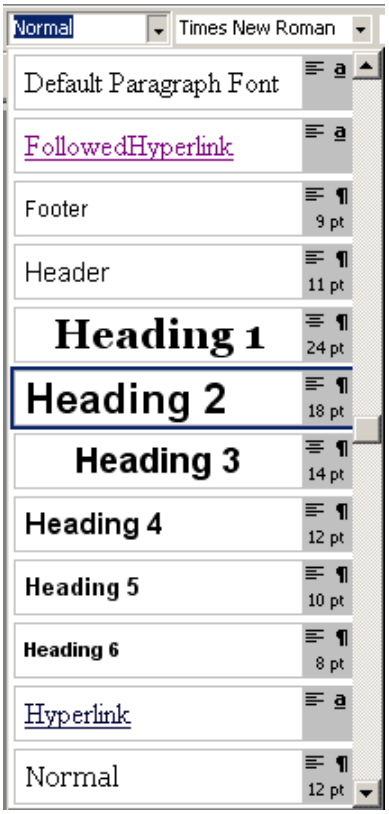


Figure 4: Style selector

Not only does using Styles save time and labor for general word processing, but using Styles is also important for documents that will later become web pages. When a document that uses Styles is saved to HTML, Word will save your document using the HTML heading tags such as H1, H2 and so forth. To use the Paragraph styles in Word, highlight your paragraph or text, and select ***Format > Style***, or use the drop-down list on the Formatting toolbar.

Simple Web Pages, continued

Use Bulleted and Numbered Lists and Decrease and Increase Indent

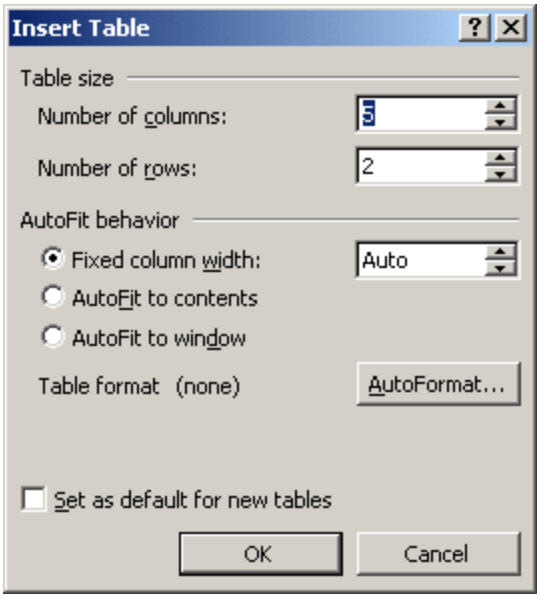
Use automatically formatted bulleted and numbered lists for both documents in Word format, as well as web pages. Note that if you start trying to type a list manually by beginning the first line with 1. (number 1 followed by a period) and then a space, Word automatically converts your text to a numbered list. Automatically formatted lists format well when saved in HTML.

Please note what was emphasized above under the sections relating to inappropriate use of the Tab key and Space Bar. If you want an unordered list without bullets, then you can type your list of items, highlight the text and use Decrease Indent or Increase Indent to indent the list of items. If you want a bulleted list, then simply type your list, highlight the text and create a bulleted list.

When creating bulleted lists, don't try to get too fancy with the style of your bullet. Using customized bullet styles relies typically upon the Wingdings font, so that the computer being used to view your page must have Wingdings installed (however, most computers will have Wingdings installed).

Use Tables!

Tables are an excellent tool for organizing and displaying information in rows and columns. As mentioned earlier in the section relating to inappropriate use of the Tab key, the practice of typing and using the Tab key to manually move over a set amount of space for each column is not best practice (unless you're using an old typewriter that you happen to pick up from an antique store).



Those creating web pages must become proficient with tables because web page layout is typically highly dependent upon effective use of tables. Word provides you with some decent tools for creating tables. There are generally two main ways to create tables in Word:

Use the *Table* menu to insert a table

You can select ***Table > Insert > Table*** to create a table and specify the number of columns and rows.

Simple Web Pages, continued

Draw Tables

You can draw a table using the *Tables and Borders* button on the Standard toolbar.

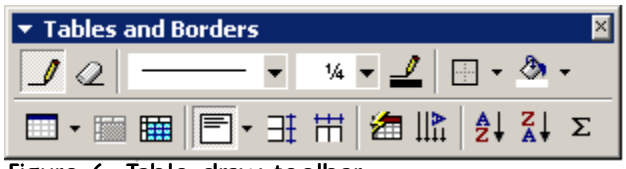


Figure 6: Table draw toolbar

While drawing tables is an easy way to create tables, there is a serious drawback if you're creating tables for a web page with this method. When you draw tables, Word, of course, creates a table with the exact dimensions that you drew. However, tables that are drawn do not automatically scale very well in the web browser to suit different display settings. In most cases it is best NOT to draw tables, or even overly "tweak" the height of rows or the width of columns. While sometimes you will need to adjust the height of rows or the width of columns, leaving these settings undetermined will allow a table to automatically scale to suit different display settings and whatever content is placed in the table. Therefore, our focus will be on using the Table menu to create tables and on becoming proficient with ways to customize tables and edit their properties.

Table Properties

After you create your table, it is easy to adjust the properties of the table. Place your cursor anywhere within the table, and select *Table > Table Properties*. The best way to learn how to create tables is just to do it. Create a practice document and experiment

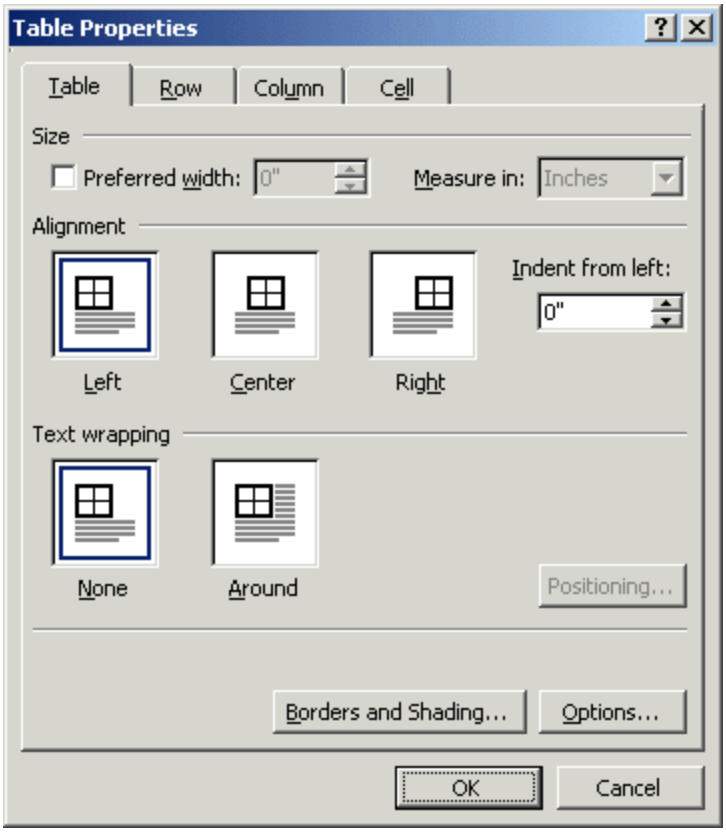


Figure 7: Table properties (table tab)

Simple Web Pages, continued

with creating different tables and changing properties. In the screen capture on the right, notice you can change the properties of the table as a whole, or the properties for a row, column, or even an individual cell.

Changing Cell Properties

Knowing how to change the Vertical Alignment of a cell is something that will be useful in formatting your table. In this particular cell, the vertical alignment is set so that the text starts at the top of the column.

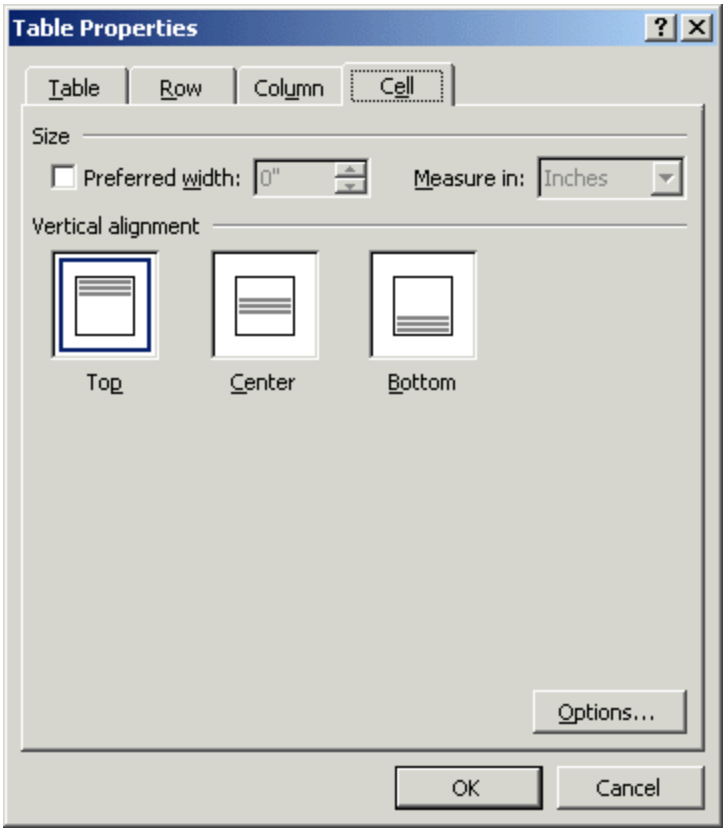


Figure 8: Table properties (cell tab)

Using Horizontal Lines

To add a horizontal line to your document, select ***Format > Borders and Shading***, and then click on the button on the Borders tab.

This opens the Horizontal Line window, seen in the screen capture. Please note that all of the options on the ***Pictures*** tab use images for the horizontal lines, except for the first option. Choosing the first option allows you to create a horizontal line without adding additional download time to your document because Word takes advantage of the horizontal rule <HR> tag in HTML for this particular option.

Simple Web Pages, continued

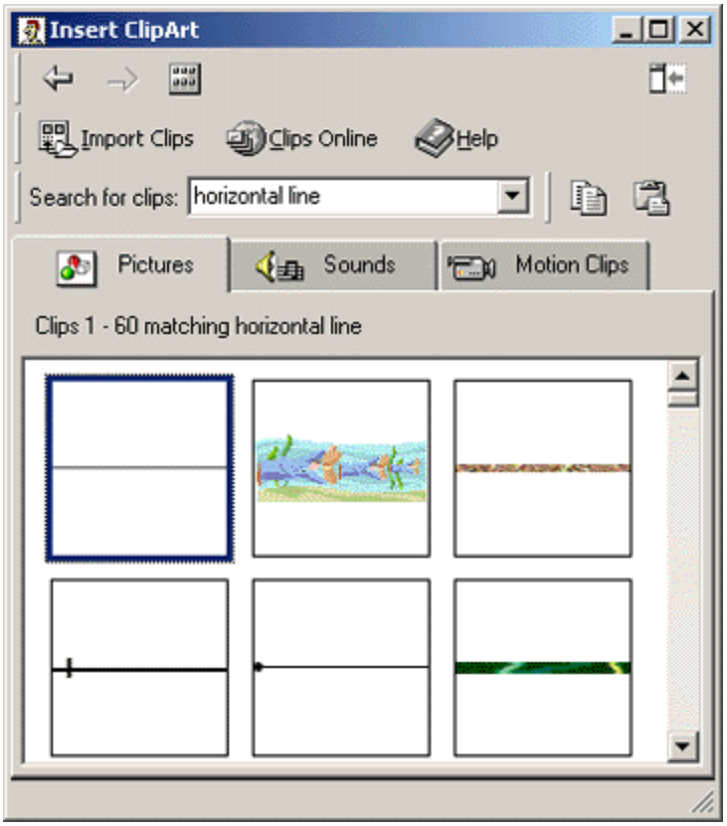


Figure 9: Horizontal line window

Inserting Image Files

Pictures From File

There are several ways to add images to your documents in Microsoft Word. You may have existing image files that you'd like to add, in which case you simply select ***Insert > Picture > From File*** and browse to the location on your drive where the file is stored, and then select the file and click on the Insert button.

When you later save your page in HTML format, you'll need to remember to copy both your web page file as well as image files when you copy the page to another drive, computer, or web server.

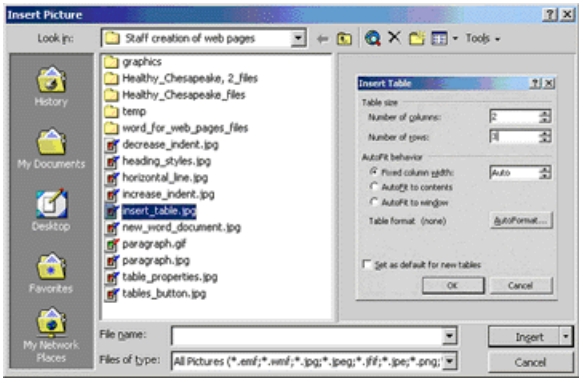


Figure 10: Insert pic window

Simple Web Pages, continued

Copy and pasting images

Virtually any image that you copy to the Windows clipboard can be pasted into your Word document. When you later save your document in HTML format, Word creates a special folder for image files and assigns a file name to each of the individual images on the page. For example, this particular document was saved using the file name *word_for_web_pages.htm*, and Word automatically created a folder entitled *word_for_web_pages_files* to house the images that are embedded in the document.

Using the Microsoft Clip Art Gallery

You can also use the Microsoft Clip Art Gallery to add images to your page, by selecting ***Insert > Picture > Clip Art***. The gallery features a search function that works very effectively. For example, assume you were searching for an image to accompany a hyperlink that you're providing for visitors, so they can contact you by e-mail. Depending upon how many images are installed on a particular computer, using the search function to search for the keyword "e-mail" or "mail" will probably find several images of envelopes or mailboxes.

Saving Your Document and the Microsoft Office 2000 HTML Filter

The first section in this document, *Getting Started*, discussed that in beginning a new word processing document you can either start with a document in Word format or an HTML document. If you opt to create a document in Word format, it is easy to convert your document to HTML format. Simply choose ***File > Save As*** and open the drop-down list for Save as type. Choose *Web Page* for the file type, as seen in the following screen capture.

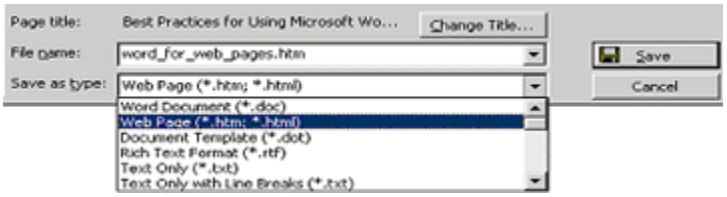


Figure 11: Save as window with .html highlighted

DO NOT include any spaces in the file names of web pages or accompanying image files. You can use an underscore to separate parts of a file name, but do not use spaces.

If you save a Microsoft Word document in HTML and examine the source code generated by Word, you will notice that there are special Office-specific markup tags embedded in the code. These tags are designed to assist with the "round-trip" of a document from HTML format back to Word format. Before beginning to create word documents with Office 2000, it is recommended that you download and install the Microsoft Office 2000 HTML filter, available on Microsoft's web site: http://office.microsoft.com/downloads/2000/Msohtmf2.aspx

Simple Web Pages, continued

This special filter is free, and it allows you to save your document and remove the Office-specific tags. Removing these Office tags from the code makes your document more compact and more HTML compliant, and you reduce the file size of a document, thereby saving on storage space on your hard drive or web server. The Office 2000 HTML filter also adds the ***Copy as HTML*** feature as on option under the Edit menu.

Using the Office 2000 HTML Filter

To export a document using the Microsoft Office 2000 HTML filter, simply choose ***File*** > ***Export To*** and choose *Compact HTML*.

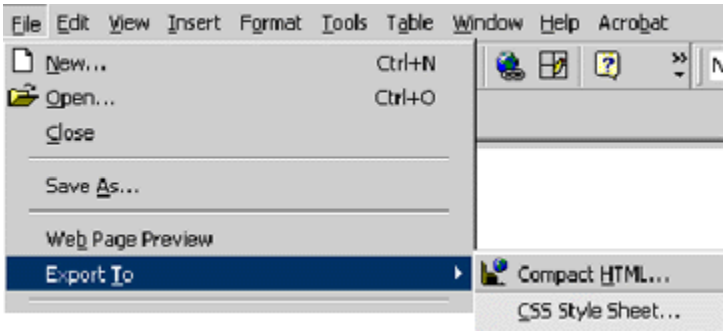


Figure 12: Export to

Microsoft Word and Macromedia Dreamweaver

While the Microsoft Office 2000 HTML Filter does a pretty good job of cleaning up Office-specific HTML code , the professional web development product Macromedia Dreamweaver includes a similar utility that performs much the same function. After opening Dreamweaver, select ***File > Import > Word HTML*** and browse to select and open your Word document. Dreamweaver's import utility

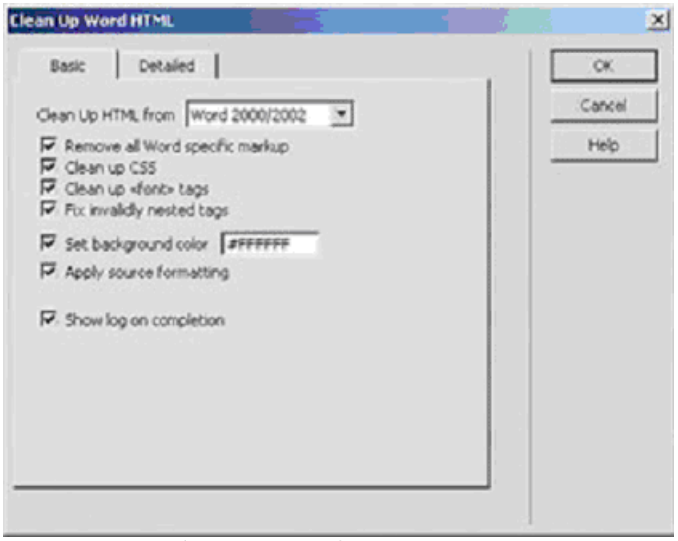


Figure 13: Clean up word HTML

Simple Web Pages, continued

opens a window that allows you to choose the version of Microsoft Word for the document and the specific items that you'd like to clean up.

Experiment with Macromedia Dreamweaver and you'll quickly see that the application provides a treasury of features and advanced capabilities far beyond what Microsoft Word offers for web development.

However, for simple web pages, Microsoft Word can be a viable option for someone just getting started. By using the tool with the mindset and requisite skills that the ultimate product will be a web page, you will find that Microsoft Word will allow you to create simple web pages that are nicely formatted.

Article Resource URLs

- Convert Word to HTML with Minimal Baggage!
  http://www.delta.edu/emptrain/bookworm/word2html.html
- Converting Word Files to HTML
  http://web.pdx.edu/~bowersn/basics/word_to_html.html
- Converting Word to HTML
  http://www.yale.edu/instruct/web/html_info/word_to_html.htm
- Word 2000 Tutorial
  http://www.fgcu.edu/support/office2000/word/web.html
- Building a Web Page with Microsoft Word 97
  http://html.miningco.com/library/beginning/bl_begin070399.htm

About the Author

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www.vste.org/communication/board.html

VSTE Electronic Journal Submission Guidelines:
www.vste.org/communication/journal.html

VSTE Membership Information:
www.vste.org/community/membership.html

VSTE's Annual State Technology Conference:
www.vste.org/conference/2003/

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