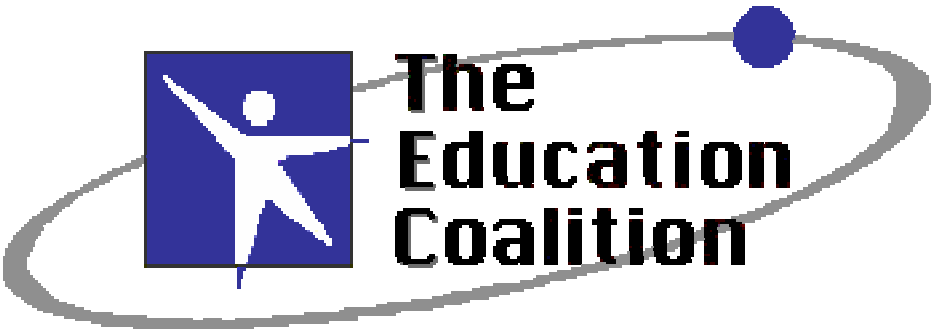


31 Segovia, San Clemente, CA 92672
(949) 369-3867 • TECemail@aol.com

This file can be found on the TEC website at
http://www.tecweb.org/eddevel/high/rubrics.pdf

Rubrics Cubed

David S. Bail

One of the hardest parts of teaching is grading--evaluating how much or how well a student has learned. The task grows more daunting when the numbers of students increase, or when the subject to be learned becomes more complex, or both. Hence the rise of objective tests, true/false and multiple choice. But beyond testing the level of memorization, this assessment method does little to evaluate whether a student can apply what has been learned, or reason from the specific to a generalization.

Precisely the same problem applies when trying to evaluate the success of a given program or method of learning. In addition, unless only one respondent is doing the assessing, different respondents can have different definitions of success. Applied by all evaluators, rubrics remove this subjectivity.

Rubrics visibly present the contents of various levels of expected performance in a structure that enables an assessment more authentic than

objective tests. The use of rubrics reinforces a situated, understandable or “real” outcome, in terms of “real” application, in a framework of three mutually reinforcing learning principles--thus, ***rubrics cubed***. That is to say, while the first dimension is presenting a common standard of expectations of levels of successful performance, the other two dimensions are motivating evaluators through the presence of clearly evident standards applied by all evaluators equitably, and for student evaluators, serving as a summary review of expected outcomes.

Other advantages of the use of rubrics are:

- they focus the teacher to clarify his/her criteria for evaluation in concrete, specific terms—benchmarks,
- they can clearly communicate to the student what is expected and how their work will be evaluated, and
- they can provide valuable feedback to the teacher regarding effectiveness of instruction.

Students and teachers completing evaluation surveys are more motivated to give a critical, yet fair appraisal of the subject matter when they have a rubric against which to judge. The equity theory of motivation holds that the subject will be more motivated to perform the more that:

1. the task seems doable,
2. the subject perceives that performance will be judged fairly and equitably,

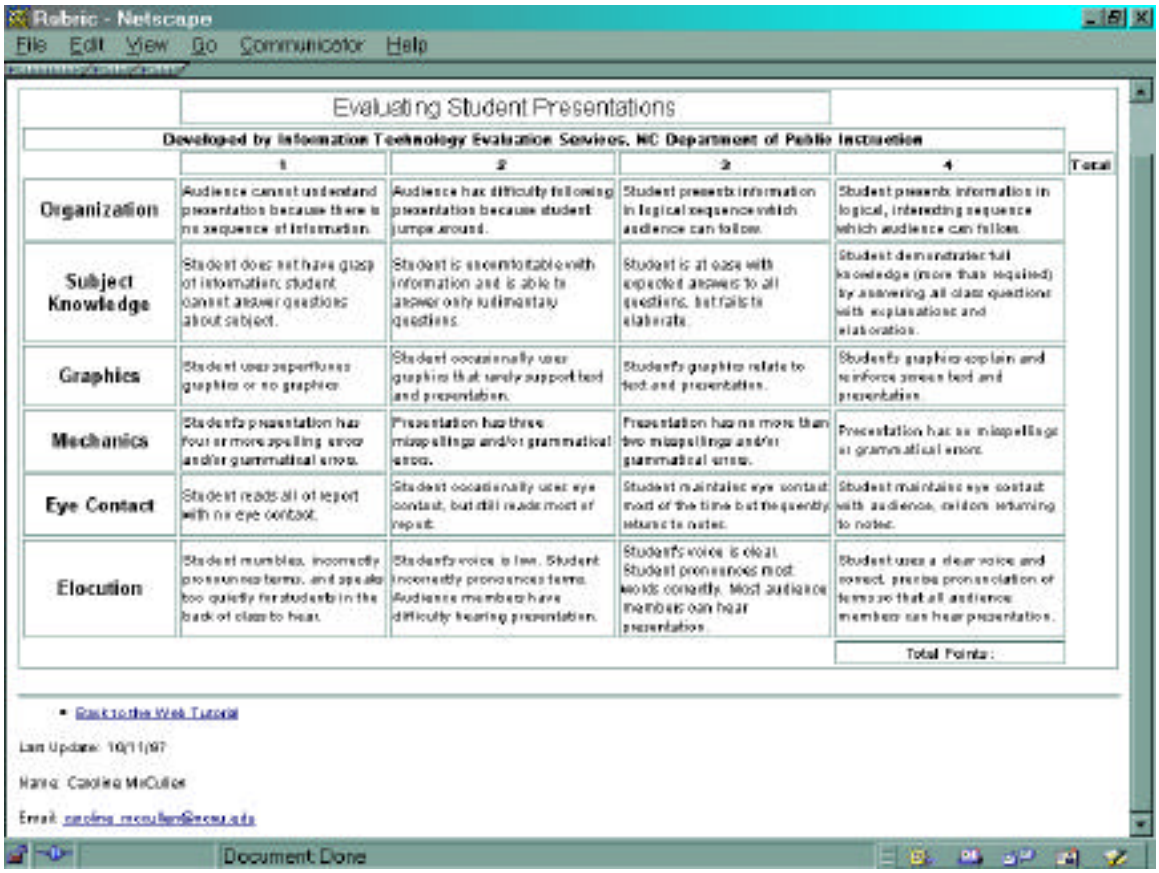
3. and when the reward is seen as being worthwhile in comparison to the effort perceived to be required.

Rubrics provide a framework providing statements of typical characteristics of each level or grade of condition that the subject can use to make evaluation and judgment into categories more easily. Each subject is presented with the same descriptions of the levels or grades, thereby having at hand uniform standards of descriptive quality levels of performance. Subjects motivated by intrinsic rewards should take their evaluation responses more seriously, since they are being seriously and thoughtfully supported with standards to aid their judgment.

Writing the rubric for the evaluation requires an accurate portrait of distinctive levels of understanding and application of the subject or program. A clear summary of each point can form a statement of a standard of expectation, and varying levels for each point can reflect varying successions of understanding and application. Application of these rubrics by evaluators can serve as summarization of the desired learning, and can be equally effective for students evaluating learning programs or systems they have used.

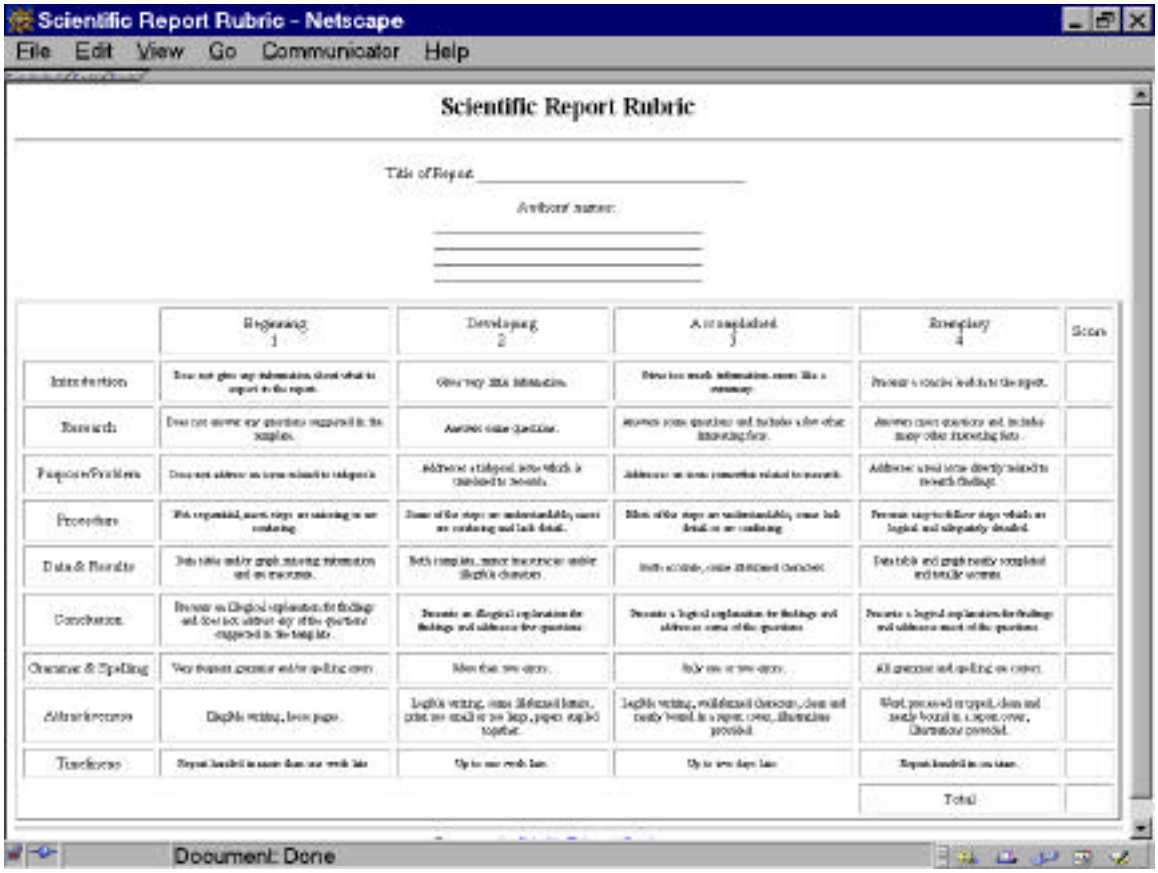
A rubric for a live presentation from North Carolina State University has sections assessing the preparation, the presentation itself, and the student's (or teacher's) presentation skills.

(The web address or URL is: http://www.ncsu.edu/midlink/rub.pres.html):

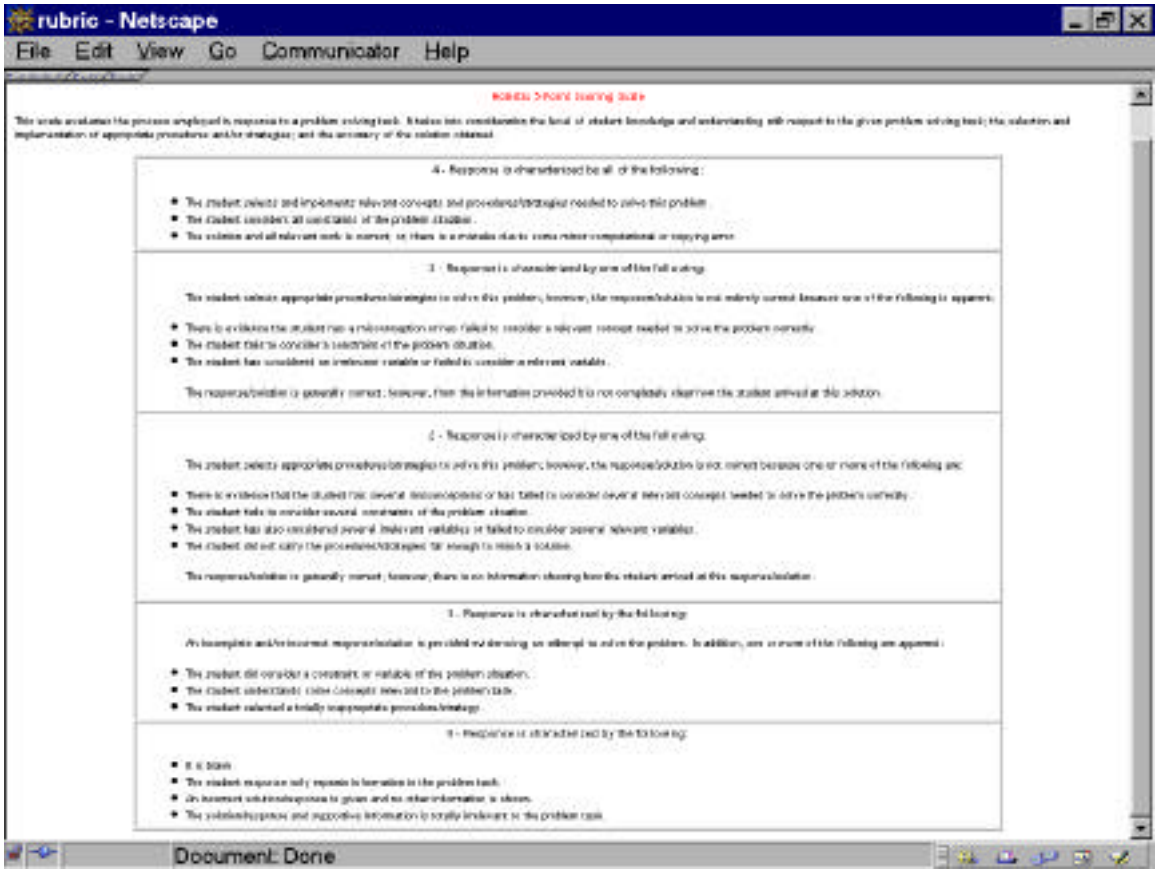

Rubric - Netscape
File Edit View Go Communicator Help
Evaluating Student Presentations
Developed by Information Technology Evaluation Services, NC Department of Public Instruction
1
2
3
4
Total
Organization
Audience cannot understand presentation because there is no sequence of information.
Audience has difficulty following presentation because student jumps around.
Student presents information in logical sequence which audience can follow.
Student presents information in logical, interesting sequence which audience can follow.
Subject Knowledge
Student does not have grasp of information; student cannot answer questions about subject.
Student is uncomfortable with information and is able to answer only rudimentary questions.
Student is at ease with expected answers to all questions, but fails to elaborate.
Student demonstrates full knowledge (more than required) by answering all class questions with explanations and elaborations.
Graphics
Student uses superfluous graphics or no graphics.
Student occasionally uses graphics that rarely support text and presentation.
Student's graphics relate to text and presentation.
Student's graphics explain and reinforce screen text and presentation.
Mechanics
Student's presentation has four or more spelling errors and/or grammatical errors.
Presentation has three misspellings and/or grammatical errors.
Presentation has no more than two misspellings and/or grammatical errors.
Presentation has no misspellings or grammatical errors.
Eye Contact
Student reads all of report with no eye contact.
Student occasionally uses eye contact, but still reads most of report.
Student maintains eye contact most of the time but frequently returns to notes.
Student maintains eye contact with audience, seldom returning to notes.
Elocution
Student mumbles, incorrectly pronounces terms, and speaks too quietly for students in the back of class to hear.
Student's voice is low. Student incorrectly pronounces terms. Audience members have difficulty hearing presentation.
Student's voice is clear. Student pronounces most words correctly. Most audience members can hear presentation.
Student uses a clear voice and correct, precise pronunciation of terms so that all audience members can hear presentation.
Total Points:
Back to the Web Tutorial
Last Update: 10/11/97
Name: Caroline McCullers
Email: caroline.mccullers@ncmail.net
Document Done

Another rubric on a student's participation in a group comes from NASA. (URL is http://www.athena.ivv.nasa.gov/curric/weather/adptcty/assess2.html):

A rubric to judge written reports of a research project comes from San Diego State University. The rubric addresses the report's sequence as a logical reasoning structure and the importance of the question being researched, as well as the use of data and the mechanics of the writing. (The URL is http://edweb.sdsu.eu/triton/tidepoolunit/Rubrics/reportrubric.html):



The following rubric (a Holistic 5-Point Scoring Scale) from UCLA "evaluates the process employed in response to a problem-solving task. It takes into consideration the level of student knowledge and understanding with respect to the given problem solving task; the selection and implementation of appropriate procedures and/or strategies; and the accuracy of the solution obtained." (The URL is http://www.cse.uda.edu/CRESST/pages/Rubrics.htm#Holistic).


rubric - Netscape
File Edit View Go Communicator Help
Document: Done

Appendix

Rubric for Advanced Teacher Computer Use

Please judge your level of achievement in each of the following competencies
.
Circle the number which best reflects your current level of skill attainment (Be honest, but be kind.) (Level 3 is considered mastery.) This tool is to help measure the effectiveness of the professional development program and to help you do an analysis to determine the areas in which you should continue to learn and practice.

I. Basic computer operation

Level 1 I do not use a computer.

Level 2 I can use the computer to run a few specific, preloaded programs. It has little effect on either my work or home life. I am somewhat anxious I might damage the machine or its programs.

Level 3 I can set-up my computer and peripheral devices, load software, print, and use most of the operating system tools like the scrapbook, clock, note pad, find command, and trash can (recycling bin). I can format a data disk.

Level 4 I can run two programs simultaneously, and have several windows open at the same time. I can customize the look and sounds of my computer. I use techniques like shift-clicking to work with multiple files. I look for programs and techniques to maximize my operating system. I feel confident enough to teach others some basic operations.

2. File management

Level 1 I do not save any documents I create using the computer.

Level 2 I save documents I've created but I cannot chose where they are saved. I do not back-up my files.

Level 3 I have a filing system for organizing my files, and can locate files quickly and reliably. I back-up my files to floppy disk or other storage device on a regular basis.

Level 4 I regularly run a disk-optimizer on my hard drive, and use a back-up program to make copies of my files on a weekly basis. I have a system for archiving files which I do not need on a regular basis to conserve my computer's hard drive space.

3. Word processing

Level 1 I do not use a word processor, nor can I identify any uses or features it might have which would benefit the way I work. Level 2 I occasionally use the word processor for simple documents that I know I will modify and use again. I generally find it easier to hand-write or type most written work I do.

Level 3 I use the word processor for nearly all my written professional work: memos, tests, worksheets, and home communication. I can edit, spell check, and change the format of a document. I can paginate, preview and print my work. I feel my work looks professional.

Level 4 I use the word processor not only for my work, but have used it with students to help them improve their own communication skills.

4. Spreadsheet use

Level 1 I do not use a spreadsheet, nor can I identify any uses or features it might have which would benefit the way I work.

Level 2 I understand the use of a spreadsheet and can navigate within one. I can create a simple spreadsheet that adds a column of numbers.

Level 3 I use a spreadsheet for several applications. These spreadsheets use labels, formulas and cell references. I can change the format of the spreadsheets by changing column widths and text style. I can use the spreadsheet to make a simple graph or chart.

Level 4 I use the spreadsheet not only for my work, but have used it with students to help them improve their own data keeping and analysis skills.

5. Database use

Level 1 I do not use a database, nor can I identify any uses or features it might have which would benefit the way I work.

Level 2 I understand the use of a database and can locate information within one that has been pre-made. I can add or delete data in a database.

Level 3 I use databases for a personal applications. I can create an original database – defining fields and creating layouts. I can find, sort and print information in layouts that are clear and useful to me.

Level 4 I can use formulas with my database to create summaries of numerical data. I can use database information to mail merge in a word processing

document. I use the database not only for my work, but have used it with students to help them improve their own data keeping and analysis skills.

6. Graphics use

Level 1 I do not use graphics in my word processing or presentations, nor can I identify any uses or features they might have which would benefit the way I work.
Level 2 I can open and create simple pictures with the painting and drawing programs. I can use programs like PrintShop or SuperPrint.

Level 3 I use both pre-made clip art and simple original graphics in my word-processed documents and presentation. I can edit clip art, change its size, and place it on a page. I can purposefully use most of the drawing tools, and can group and un-group objects. I can use the clipboard to take graphics from one application for use in another. The use of graphics in my work helps clarify or amplify my message.

Level 4 I use graphics not only for my work, but have used it with students to help them improve their own communications. I can use graphics and the word processor to create a professional looking newsletter.

7. Hypermedia use

Level 1 I do not use hypermedia (HyperStudio), nor can I identify any uses or features it might have which would benefit the way I work.
Level 2 I can navigate through a pre-made hypermedia program.

Level 3 I can create my own hypermedia stacks for information presentation. These stacks use navigation buttons, sounds, dissolves, graphics, and text fields. I can use an LCD projection device to display the presentation to a class.

Level 4 I use hypermedia with students who are making their own stacks for information keeping and presentation.

8. Network use

Level 1 I do not use the on-line resources available in my building, nor can I identify any uses or features they might have which would benefit the way I work.

Level 2 I understand that there is a large amount of information available to me as a teacher that can be accessed through networks, including the Internet. With the help of the media specialist, I can use the resources on the network in our building.

Level 3 I use the networks to access professional and personal information from a variety of sources including networked CD-ROM reference materials, on-line library catalogs, the ERIC database, and the World Wide Web. I have an e-mail account that I use on a regular basis.

Level 4 Using telecommunications, I am an active participant in on-line discussions, can download files and programs from remote computers. I use telecommunications with my students.

9. Student assessment

Level 1 I do not use the computer for student assessment.

Level 2 I understand that there are ways I can keep track of student progress using the computer. I keep some student produced materials on the computer, and write evaluations of student work and notes to parents with the word processor.

Level 3 I effectively use an electronic grade book to keep track of student data and/or I keep portfolios of student produced materials on the computer. I use the electronic data during parent/teacher conferences.

Level 4 I rely on the computer to keep track of outcomes and objectives individual students have mastered. I use that information in determining assignments, teaching strategies, and groupings.

10. Ethical use understanding

Level 1 I am not aware of any ethical issues surrounding computer use.

Level 2 I know that some copyright restrictions apply to computer software.

Level 3 I clearly understand the difference between freeware, shareware, and commercial software and the fees involved in the use of each. I know the programs for which the district or my building holds a site license. I understand the school board policy on the use of copyrighted materials. I demonstrate ethical usage of all software and let my students know my personal stand on legal and moral issues involving technology. I know and enforce the school's technology policies and guidelines, including its Internet Acceptable Use Policy. I have a personal philosophy I can articulate regarding the use of technology in education.

Level 4 I am aware of other controversial aspects of technology use including data privacy, equitable access, and free speech issues. I can speak to a variety of technology issues at my professional association meetings, to parent groups, and to the general community.

Evaluation Rubrics for Advanced Teacher Computer Use

Use this evaluation if you feel that you are at an advanced level in computer use.

I. Instructional software use

Level 1 I do not use instructional software as a part of my instructional program, nor am I aware of any titles that might help my students meet their learning goals.

Level 2 I use a few computer programs as an instructional supplement, as a reward, or with special needs children.

Level 3 I use several programs (drill and practice, simulations, tutorials, etc.) chosen by my department or grade level to help all my students meet specific learning objectives. The software allows me teach and/or reinforce concepts more effectively than traditional methods. When it is available, I use the software's management system to help assess individual student performance. I use technological resources to meet the needs of students who do not respond to traditional methods of instruction.

Level 4 I seek out new programs for evaluation and adoption. I know sources of software reviews and keep current on new developments in computer technologies through professional reading and conference attendance. I share m y findings with other professionals.

2. Information literacy skills

Level 1 I am not familiar with the term information literacy, nor do I know why such skills are important.

Level 2 As a part of my curriculum, I have library research projects and I support the library skills taught by the media specialist. I am aware that there are electronic resources available to my students.

Level 3 My curriculum includes multiple projects that have an information literacy component. These are team taught with the media specialist. I understand the Big Six or a similar information literacy process and design student projects so that they require higher level thinking skills, use electronic information sources, require the use of computer productivity software, and are authentically assessed. I guide my students in accessing, evaluating and using information and experts from worldwide sources through the Internet and video conferencing.

Level 4 I am actively involved in curriculum planning teams and advocate for multidisciplinary units and activities that require information literacy skills. I share

successful units with others through print and electronic publishing and through conference presentations and workshops.

3. Modification of instructional delivery

Level 1 I have one or two effective methods of delivering content or teaching skills to my students. I do not use technology that requires that I change my instructional methodology.

Level 2 I have tried units or projects which are student-directed, use small groups, or are highly individualized, but I primarily use teacher-directed, whole group instruction.

Level 3 I use a variety of instructional delivery methods and student grouping strategies routinely throughout the year. I can design activities and approaches which both best fit the learning objectives and the availability of the technology available to me. I can use small groups working cooperatively or in rotation to take advantage of student to equipment ratios of greater than one to one. I modify instructional methods to take advantage of the learning styles of individual students.

Level 4 I continuously try new approaches suggested by research or observation to discover the most effective means of using technology to engage my students and meet curricular goals. I work with a team of fellow teachers to create, modify and improve my practices in this area.

4. Assessment of student performance

Level 1 I evaluate my students using objective tests only.

Level 2 I evaluate some student performances or projects using subjective criteria. I save some student work for cumulative folders and parent conferences, and print some electronically produced student work.

Level 3 I use a wide range of assessments to evaluate student projects and performances. I can create assessment tools like check lists, rubrics and benchmarks which help the student assess his own performance and allow me to objectively determine the quality of student work. I ask students to keep both a physical and electronic portfolio of their work. Students and their parents have the means to continuously access the recorded progress students are making toward their learning goals through networked grade books and portfolios. Students are given the opportunity to demonstrate skills through performance to a wide audience via data and video networks. I have a means o f aggregating performance data for my class that I use to modify my teaching activities and strategies.

Level 4 I continuously try new approaches suggested by research or observation to discover the most effective means of using technology to help assess student learning. I work with a team of fellow teachers to create, modify and improve my work in this area.

5. Individualization of the educational program

Level 1 I modify my curriculum or instructional methods only for students with identified special needs.

Level 2 I occasionally give students the choice of assignments in my class, but all class members (unless they are in special education) must meet in the same learning objectives within the same time frame. Skill remediation is done during summer school or informally during or after school.

Level 3 With the assistance of the student, parents and appropriate specialists, I create an individualized learning plan for each of my students. I track the accomplishment of learning goals in the plan using a computerized tool. I use this tool during parent conferences and for school or state reporting. Students and their parents have networked access to this tool for continuous monitoring of progress and plan modification.

Level 4 I provide suggestions about the content and design of the individualized computerized planning and report tools.

6. Professional growth and communication

Level 1 I do not use electronic resources for professional growth or communication.

Level 2 I can find lesson plans and some research in on-line databases. I correspond with parents and other teachers using e-mail.

Level 3 I use the Internet and other on-line resources to obtain research findings, teaching materials and information related to the content of my classes. I read electronic newsletters and journals to keep current on educational practices. I participate in electronic discussion groups and chat rooms that are related to my area of education, and both contribute to and use the best practices discussed there. I use a computerized presentation program when giving workshops or speaking at conferences. I use technology to take part in distance learning opportunities for my own professional development.

Level 4 I organize professional growth opportunities for other teachers and feel comfortable teaching other staff members about the use of technology.

7. Research and evaluation of technology use

Level 1 I have not attempted to determine whether the use of instructional technology has made a difference in my students' learning or classroom climate.

Level 2 I gather, use and share anecdotal information and observations about student use of technology in my classroom.

Level 3 I use action research and aggregated data to accurately determine whether the technology and methodology I am using has an impact on how well my students learn and on school climate.

Level 4 I participate in formal studies of the impact of technology on student learning conducted by professional groups and academics. I have designed such studies as part of my own professional education. I report electronically and in print the findings of my research to other professionals.

Evaluation Rubrics for Teacher Internet Use

This is a list of competencies associated with a teacher's successful use of the Internet. It will help to determine your comfort level with the Internet and provide an indicator of the usefulness of the professional development sessions.

I. Internet basics

Level 1 I do not understand how a network works, nor can I identify any personal or professional uses for networks, including the Internet. I do not have an account on any network nor would I know how to get one.

Level 2 I can identify some personal or professional uses for networks, and understand they have a value to my students and me. I've read some articles about the Internet in the popular press. I can directly use network access to a library catalog or CD-ROM.

Level 3 I can describe what a computer network does and how it can be useful personally and professionally. I can distinguish between a local area network, a wide area network, and the Internet and can describe educational uses for each. I can describe the history of the Internet, recognize its international character, and know to a degree the extent of its resources. I have personal access to the Internet that allows me to receive and send email, download files, and access the World Wide Web. I know that I must protect my password, and should restrict access by others to my account

Level 4 I use networks on a daily basis to access and communicate information. I can serve as an active participant in a school or organizational planning group, giving advice and providing information about networks. I can recommend several ways of obtaining Internet access to others.

2. Email and electronic mailing lists

Level 1 I do not use email.

Level 2 I understand the concept of email and can explain some administrative and educational uses for it.

Level 3 I use email regularly and can: read and delete messages send, forward and reply to messages to create nicknames, mailing lists, and a signature file, send and receive attachments, use electronic mailing lists and understand the professional uses of them, read and contribute to a professional electronic mailing list.

Level 4 I can send group mailings and feel confident that I could administer an electronic mailing list. I use activities that require email in my teaching. I can locate lists of subject-oriented mailing lists.

3. The World Wide Web

Level 1 I do not use the World Wide Web.

Level 2 I am aware that the World Wide Web is a means of sharing information on the Internet. I can browse the Web for recreational purposes.

Level 3 I can use a Web browser like Explorer or Netscape to find information on the World Wide Web, and can list some of the Web's unique features. I can explain the terms: hypertext, URL, http, and html. I can write URLs to share information locations with others. I can use Web search engines to locate subject specific information and can create bookmarks to Web sites of educational value.

Level 4 I can configure my web browser with a variety of helper applications. I understand what "cookies" do and whether to keep them enabled. I can speak to the security issues of on-line commerce and data privacy.

4. Search tools

Level 1 I cannot locate any information on the Internet.

Level 2 I can occasionally locate useful information on the Internet by browsing or through remembered sources.

Level 3 I can conduct an efficient search of Internet resources using directories like Yahoo or search engines like Excite, Lycos, or Infoseek. I can use advanced search commands to specify and limited the number of hits I get. I can state some guidelines for evaluating the information I find on the Internet and can write a bibliographic citation for information found.

Level 4 I can identify some specialized search tools for finding software and email addresses. I can speculate on future developments in on-line information searching including know-bots and other kinds of intelligent search agents.

5. Newsgroups, gophers and telnet

Level 1 I have no knowledge of newsgroups, gophers, or telnet functions.

Level 2 I know that there are resources in a variety of formats available on the Internet, but cannot confidently access them.

Level 3 I read the newsgroups that interest me on a regular basis, and I can contribute to newsgroups. I understand the use of gophers and can locate several that help me. I can write directions to locating a gopher so that others can find it as well. I can access a remote computer through the telnet command, including remote library catalogs. I can find the help screens when emulating remote computers and can log off properly.

Level 4 I know how to find, configure, and use the specialized tools for newsgroups, gophers, and telnet access. I use the resources found in these areas with my students.

6. Obtaining, decompressing, and using files

Level 1 I cannot retrieve files from remote computers.

Level 2 I know that documents and computer programs that are useful to my students and me are stored on computers throughout the world. I cannot retrieve these files.

Level 3 I understand the concept and netiquette of “anonymous FTP” sites. I can transfer files and programs from remote locations to my computer, and can use programs or plug-ins that help me do this. I can extract compressed files, and know some utilities that help me view graphics and play sounds an d movies. I understand the nature and danger of computer viruses, and know how to minimize my risk of contracting a computer virus.

Level 4 I use information I have retrieved as a resource for and with my students. I understand the concept of a network server, and the functions it can serve in an organization. I can use an ftp client to upload files to a server.

7. Real-time and push technologies

Level 1 I use only static documents and files I retrieve from the Internet.

Level 2 I have some information sent to me on a regular basis through e-mail and I check some sites on a regular basis for information.

Level 3 I use chat-rooms and customized news and information feeds. I can listen to audio streamed from the web. I know the hardware and software requirements for web-based videoconferencing.

Level 4 I can use real-time applications to design a “virtual” classroom or interactive learning experience. My students use videoconferencing for communication with experts and project collaboration with other students.

8. Web page construction

Level 1 I cannot create a page that can be viewed with a web browser.

Level 2 I can save text I've created as an html file with a command in my word processor. I know a few, simple html commands.

Level 3 Using hand-coded html or a web page authoring tool, I can view web pages as a source documents, create a formatted web page that uses background color, font styles and alignment, graphics, and tables include links to other parts of my document or other Internet sites in my page know basic guidelines for good web page construction and the district's web policies

Level 4 I can use the web as an interface to databases. When appropriate, I can register my pages with search engine sites. I can help write web creation policies for design, content, and use.

9. Learning opportunities using the Internet

Level 1 I am not aware of any ways the Internet can be used with students in my classroom.

Level 2 I occasionally allow my students to use the Internet to find information.

Level 3 I know a variety of projects and activities that effectively use the Internet to instruct and involve students. I know a source for collaborative projects, can direct students to on-line tutorials and learning resources, and encourage a variety of key-pal activities.

Level 4 I can design and implement an Internet project or maintain an educational Internet site.

Netiquette, On-line Ethics, and Current Issues Surrounding Internet Use in K-12 Schools

Level 1 I am not aware of any ethics or proprieties regarding the Internet nor am I unaware of any issues dealing with Internet use in a school setting
.

Level 2 I understand a few rules that my students and I should follow when using the Internet. I understand that the Internet is sometimes a controversial resource that many educators and parents do not understand.

Level 3 I have read a guideline for Internet use such as Rinaldi's "The Net User Guidelines and Netiquette" or other source, and follow the rules outlined. I know and read the FAQ files associated with sources on the Internet. I am aware that electronic communication is a new communications medium that may require new sensitivities. I can identify print and on-line resources that speak to current Internet issues like:

- censorship/site blocking software
- copyright legal and illegal uses
- data privacy
- security

I can list some of the critical components of a good Acceptable Use Policy and know and use our district's policy.

Level 4 I can use my knowledge of the Internet to write good school policies and activities that help students develop good judgment and good information skills.