



Rubric for Quality Online Education
NAEMSE Educational Technology Committee

Table of Contents

Introduction	3
Organizational Resources to Support Student Learning	6
Online Course Organization	8
Online Course Design	10
Instructional Design and Delivery	12
Assessment and Evaluation of Student Learning	15
Innovative Teaching Technology	17
Instructor Use of Student Feedback	18



National Association of EMS Educators Rubric to Quality Online Education

Background

Online education is fundamentally changing the way teaching and learning occurs. The barriers of time and place are disappearing as technology offers new choices and opportunities for students and educators. In 2007, according to the Sloan Consortium, online enrollments have continued to grow at rates that are far in excess of the total higher education student population, albeit at slower rates than for previous years.

The origins of the distributed learning can be found as far back as the 19th century. With its substantial growth in the 1990s, the Internet became a more inviting environment for learning to occur. Most colleges and universities have added online courses to expand their curricula. A number of large open universities around the world exist without a physical classroom – totally online! Because of its popularity, there are several colleges and universities that offer certificates and degrees in Online Learning.

Online courses have a certain appeal. They are accessible 24-7 so students can work on them at times that are more convenient to them instead of rearranging their schedules to work around the class. This access allows the students to learn at a pace more comfortable to them instead of the short time allocated on campus. Students who live a distance from the educational institution can utilize the online classroom for all or a portion of their learning. Their time is better spent learning online than being on the road getting to and from the school. It is because of these benefits and more that the number of students participating in online courses is large and growing dramatically.

The ideal online classroom of today is a collaborative learning environment that promotes interactions among all those involved. It is student centered and requires active participation. It is this increased involvement by the student that can make the learning experience more meaningful and more likely to retain the course content.

Why online education in EMS?

Upon our entry into the 21st century, online education is starting to take its place as a viable mode of instruction. “The nature of EMS lends itself well to Internet Based Distributed Learning (IBDL)” (NAEMSE, 2003) due to the strange work schedules of EMS personnel and the geographical distances to/from training. According to William Horton, Web based training can reduce costs as much as “30 to 80%” overall (Horton, 2000) which is often a major concern for employers. According to NAEMSE, IBDL can certainly accommodate the development of cognitive and affective skills and with appropriate technology investment it can be used for psychomotor training (NAEMSE, 2003).

In 1995, the National Association of EMS Educators was established to “strengthen the EMS education profession” (US DOT NHSTA, 2002). EMS education is grounded in the concepts of andragogy where “adults learn best in a flexible environment that promotes participation” (Parvensky, 1995). Learning is easier and more meaningful when the instructor incorporates activities designed to target how the student receives, perceives, processes and stores information (Dalton, 2002). Combining this approach with online learning is a natural fit. Online instruction changes the center of attention from the instructor being the primary figure to the students and “offers more freedom” (Ko & Rossen, 2001) to them. Skilled



IBDL Instructors can use IBDL effectively in conjunction with regular classroom meetings, moving some typical classroom activities to an interactive and/or facilitated interactive IBDL format (NAMESE, 2003). According to Sarah Horton, “Web teaching is all about connections: connecting your students to one another and to resources around the world” (Horton, 2000). Online teaching in EMS if done correctly will allow students a better opportunity to learn and it will take skilled educators to accomplish that.

Why are standards needed for online learning in EMS?

By addressing quality measures for online courses offered to EMS students, this document fills a particular void. We know that online education is relatively new to the EMS field. Currently, EMS educators have varying degrees of knowledge ranging from no formal instructor training to doctorates in education. It is anticipated that very few EMS educators, regardless of the amount of formal education, have received any training in how to properly deliver courses online. Fewer still have certificates or degrees in online education.

Through experience and the growing amount of research devoted to online learning, it is becoming evident that this new method of instruction requires standards that address the nuances unique to this educational medium. Most of the current standards for the delivery of instruction never anticipated these new tools. They are based on teaching in a physical classroom. Our aim in preparing this rubric is to provide a practical tool for educators to develop and conduct quality online courses and to provide a tool to measure that.

It is important that these standards will evolve as the times change. It is particularly important that educators use tools of the information age to help students succeed academically

and in the EMS workplace by equipping them with the skills to retrieve information needed for life long learning.

Goals for this document

By developing this document and establishing these standards, it is hoped that this will provide the guidance and framework for the development of quality online courses in EMS. Secondly, it is the intention to demonstrate to EMS Administrators and State Officials that proper academic rigor is being applied to online EMS courses.

Specifically, we believe that:

- Each state’s EMS office should objectively look at online courses and programs based on their merit for content quality. These standards should be equal to that of face-to-face instruction.
- Each institution should determine guidelines for the development and use of online courses.
- Each EMS training program must identify their own goals in using online programs and must have the tools to assess their appropriateness and effectiveness of these programs.
- Instructors must know what comprises quality online teaching and to what standards they will be held accountable.
- Students must become aware of what is required for success in online courses.
- Developers and providers of online education must meet identified standards to ensure delivery of high quality, relevant, and effective resources in the education marketplace.

Even though this has been devised for EMS program doing online instruction, it can also be utilized by non-EMS institutions.



Acknowledgements

The document was developed because of a need identified at the Distributed Learning (changed to Educational Technology in 2010) Committee meeting at the 2007 NAEMSE symposium. The committee is to be commended for spending the time to make these guidelines a reality. A special thanks goes to past committee chairperson, Madeline O'Donnell, for initially reviewing the literature and compiled this into a single document.



ORGANIZATIONAL RESOURCES TO SUPPORT STUDENT LEARNING

	Not Evident	Evident but needs more development	Fully Evident	Points Awarded
Information for the online learner				
<i>Introductory:</i>				
<ul style="list-style-type: none"> a statement of introduction and broad description of the purpose of the course 	0	1	2	
<ul style="list-style-type: none"> a list of names and a brief biography of the course developers 	0	1	2	
<ul style="list-style-type: none"> a statement of copyright or disclaimer to identify the owner(s) of the course and the source(s) of the material students are about to use 	0	1	2	
<i>Technical:</i>				
<ul style="list-style-type: none"> a list of minimum computer hardware and software requirements for the course. 	0	1	2	
<ul style="list-style-type: none"> special technical requirements are identified such as modem speed, internet bandwidth, software plug-ins needed, and where to get them. 	0	1	2	
<ul style="list-style-type: none"> advice about computer settings, internet security tools such as pop-up blockers and client based software firewalls 	0	1	2	
<ul style="list-style-type: none"> guidelines for participating in online discussions (netiquette) as well as suggestions for handling incoming email, email attachments, viruses, and email filters 	0	1	2	
<ul style="list-style-type: none"> links to technical assistance resources 	0	1	2	



ORGANIZATIONAL RESOURCES TO SUPPORT STUDENT LEARNING

	Not Evident	Evident but needs more development	Fully Evident	Points Awarded
Information for the online learner				
<i>Learning Management System Instructions:</i>				
<ul style="list-style-type: none"> instructions for how to use the Learning Management System tools 	0	1	2	
<ul style="list-style-type: none"> a link to Frequently Asked Questions about the Learning Management System 	0	1	2	
<ul style="list-style-type: none"> contact information for technical support or Help Desk 	0	1	2	
<ul style="list-style-type: none"> a description of the function of each icon or button 	0	1	2	
<i>Course support and learning resources:</i>				
<ul style="list-style-type: none"> instructions for conducting online research 	0	1	2	
<ul style="list-style-type: none"> guidelines for reference format of papers and citations 	0	1	2	
<ul style="list-style-type: none"> links to online remedial resources 	0	1	2	
<ul style="list-style-type: none"> links to library learning resources 	0	1	2	
<ul style="list-style-type: none"> instructions about how assignments are to be written 	0	1	2	
<i>Information for the Online Learner Comments:</i>				



ONLINE COURSE ORGANIZATION

	Not Evident	Evident but needs more development	Fully Evident	Points Awarded
Course specific statements				
• a statement of requirements for successful course completion	0	1	2	
• a statement of instructor expectations of students' participation	0	1	2	
• identification of pre-requisites and co-requisites of the course	0	1	2	
• a program map that identifies how the course is related to other courses in the program	0	1	2	
• the credit value of the course	0	1	2	
• contact details of the instructor, academic department	0	1	2	
• a list of required and recommended reading resources	0	1	2	
• estimated amount of time needed to complete the course	0	1	2	
• information of instructor availability and student contact	0	1	2	
• detailed instructions and tips for completing assignments	0	1	2	
• due dates for all assignments	0	1	2	
• rubrics for all assignments which identify assessment guidelines	0	1	2	
• explanation of the grading scale	0	1	2	
Course specific resources for learning				
• links to web sites that provide information relevant to the course	0	1	2	
• links to web sites of organizations or associations related to course content	0	1	2	
• a glossary of terms, definitions of new vocabulary	0	1	2	



ONLINE COURSE ORGANIZATION

	Not Evident	Evident but needs more development	Fully Evident	Points Awarded
Content organization and course navigation				
<ul style="list-style-type: none"> accurate and up-to-date links to each part of the course and external sources 	0	1	2	
<ul style="list-style-type: none"> instructional material which is easily located 	0	1	2	
<ul style="list-style-type: none"> page headers or footers to identify where the student is in the course. 	0	1	2	
<ul style="list-style-type: none"> course content is clear and organized in a logical format 	0	1	2	
<ul style="list-style-type: none"> consistent formatting is used throughout the course documents 	0	1	2	
<ul style="list-style-type: none"> units of instruction are divided into subunits or subtopics 	0	1	2	
<ul style="list-style-type: none"> printer-friendly course materials are available 	0	1	2	
<ul style="list-style-type: none"> resources are categorized to identify differences between those that are <i>required</i> or <i>optional</i> 	0	1	2	
Syllabus includes:				
<ul style="list-style-type: none"> a list of topics to be covered. 	0	1	2	
<ul style="list-style-type: none"> a description of the course, the learning objectives and learning outcomes 	0	1	2	
<ul style="list-style-type: none"> a list of the module objectives 	0	1	2	
<ul style="list-style-type: none"> summary of the course schedule 	0	1	2	



ONLINE COURSE ORGANIZATION

	Not Evident	Evident but needs more development	Fully Evident	Points Awarded
Aesthetic design				
<ul style="list-style-type: none"> easy to read typeface which is appropriate for the content and common to all programs and computers 	0	1	2	
<ul style="list-style-type: none"> bold-face type is used sparingly, to highlight important terms 	0	1	2	
<ul style="list-style-type: none"> underlining is used only for hyperlinks 	0	1	2	
<ul style="list-style-type: none"> sufficient contrast between text and background to make information easy to read 	0	1	2	
<ul style="list-style-type: none"> images are appropriate, support course content and add visual interest 	0	1	2	
<ul style="list-style-type: none"> page layout to keep course pages at a comfortable length 	0	1	2	
<ul style="list-style-type: none"> layout is appropriate for the content and audience. 	0	1	2	
<ul style="list-style-type: none"> organized content using headings and subheadings 	0	1	2	
<ul style="list-style-type: none"> the format is uncluttered and includes white space 	0	1	2	
<ul style="list-style-type: none"> ragged right margins are used or letters are kerned 	0	1	2	
<ul style="list-style-type: none"> effective use of color 	0	1	2	
<ul style="list-style-type: none"> graphic elements such as diagrams, tables, and photographs illustrate or clarify information presented in the text 	0	1	2	
<ul style="list-style-type: none"> illustrations can be viewed easily on a computer screen, and JPEG files are used to accommodate different download speeds 	0	1	2	
<ul style="list-style-type: none"> text explaining a graphic is aligned with the non-textual material 	0	1	2	
<ul style="list-style-type: none"> the material is displayed attractively 	0	1	2	
<ul style="list-style-type: none"> learner expectations for download speed are managed particularly for dialup modem users 	0	1	2	



ONLINE COURSE DESIGN

	Not Evident	Evident but needs more development	Fully Evident	Points Awarded
Consistency in course material includes:				
• visual and functional consistency in page layout	0	1	2	
• clear, simple and user friendly navigation	0	1	2	
• consistent and accurate spelling and grammar (which models course expectations)	0	1	2	
• concisely written material, familiar and common language	0	1	2	
• writing style which is clear, direct, supportive and friendly	0	1	2	
• a conversation tone that employs the second person; the tone is supportive and encouraging	0	1	2	
• verbs are active, not passive	0	1	2	
• short sentences and brief paragraphs	0	1	2	
• terms are used consistently	0	1	2	
• symbols and abbreviations are defined	0	1	2	
• instructions are stated simply and are easy to understand	0	1	2	
• writing style does not convey explicit or implicit bias relative to age, culture or ethnicity, race, gender, or sexual preferences	0	1	2	
Online Course Design Comments:				



INSTRUCTIONAL DESIGN AND DELIVERY

	Not Evident	Evident but needs more development	Fully Evident	Points Awarded
Promote interaction and communication by including:				
<ul style="list-style-type: none"> an opportunity for students and instructors to introduce themselves and respond to classmate introductions 	0	1	2	
<ul style="list-style-type: none"> students contact with each other and with instructors is encouraged 	0	1	2	
<ul style="list-style-type: none"> student participation is tracked and lower-level participants are drawn in to the discussions 	0	1	2	
<ul style="list-style-type: none"> instructor incorporates various teaching methods to encourage student interaction 	0	1	2	
<ul style="list-style-type: none"> reading and writing assignments are commensurate with course unit load 	0	1	2	
<ul style="list-style-type: none"> respect for diverse talents and different ways students learn 	0	1	2	
Goals and alignment to learning objectives include:				
<ul style="list-style-type: none"> managed pace of delivery of course content 	0	1	2	
<ul style="list-style-type: none"> course content is programmed for appropriate student time on task 	0	1	2	
<ul style="list-style-type: none"> instructional activity is made clear (e.g., is it self-paced, or group-paced) 	0	1	2	
<ul style="list-style-type: none"> expectations of synchronous or asynchronous activities are clearly identified 	0	1	2	
<ul style="list-style-type: none"> Students are informed about group-work activities 	0	1	2	



INSTRUCTIONAL DESIGN AND DELIVERY

	Not Evident	Evident but needs more development	Fully Evident	Points Awarded
Learning objectives and activities are integrated and include:				
• reading assignments match learning objectives	0	1	2	
• activities lead to learning the desired concepts	0	1	2	
• tasks and activities are clarified to determine synchronous or asynchronous, collaborative or co-operative, sequential or to be completed in any order	0	1	2	
• instructional material is reviewed frequently	0	1	2	
• summary of learning is provided periodically to reinforce learning	0	1	2	
Activities to enhance student learning include:				
• video clips of interviews, psychomotor skills	0	1	2	
• screen animations for instructional exercises	0	1	2	
• personal interview reports	0	1	2	
• annotated bibliography	0	1	2	
• student presentations (PowerPoint) as assignments	0	1	2	
• PowerPoint presentations with integrated (recorded) narration	0	1	2	
• student generated podcasts, vodcasts, vignettes	0	1	2	
Activities to develop critical thinking and problem-solving skills include:				
• discussions drawn from questions that do not have a single correct answer	0	1	2	
• compare and contrast exercises	0	1	2	
• case studies	0	1	2	
• critique of journal articles	0	1	2	
• collaborative exercises	0	1	2	
<i>Instructional Design and Delivery Comments:</i>				



ASSESSMENT AND EVALUATION OF STUDENT LEARNING

	Not Evident	Evident but needs more development	Fully Evident	Points Awarded
Assessment of student learning methods include:				
<ul style="list-style-type: none"> acceptable methods for completing assignments are identified (group work, open book) 	0	1	2	
<ul style="list-style-type: none"> a variety of assessment instruments are used eg, short/long answer to questions, multiple choice questions, case studies, orals, online quizzes 	0	1	2	
Assessment activities are aligned with learning objectives and include:				
<ul style="list-style-type: none"> identification of criteria to evaluate participation in online discussion groups 	0	1	2	
<ul style="list-style-type: none"> clearly written study questions 	0	1	2	
<ul style="list-style-type: none"> fair and reasonable quantity and scope of graded assignments 	0	1	2	
<ul style="list-style-type: none"> authentic and validated assessment of learning tools 	0	1	2	
Multiple assessment strategies include:				
<ul style="list-style-type: none"> students' bibliography or reference list that includes a variety of materials such as URLs, books and journals, and videos 	0	1	2	
<ul style="list-style-type: none"> assignment options to allow for different interests, backgrounds, and personal learning styles 	0	1	2	
<ul style="list-style-type: none"> ample opportunities for students to demonstrate proficiency in different ways 	0	1	2	
Assessment feedback includes:				
<ul style="list-style-type: none"> immediate release of self-graded assignments 	0	1	2	
<ul style="list-style-type: none"> prompt, frequent and substantial feedback from the instructor 	0	1	2	
<ul style="list-style-type: none"> samples of assignments provided to illustrate instructor's expectations 	0	1	2	
<ul style="list-style-type: none"> Instructor modeling of assignment(s) 	0	1	2	



ASSESSMENT AND EVALUATION OF STUDENT LEARNING

	Not Evident	Evident but needs more development	Fully Evident	Points Awarded
Self-assessments and peer feedback include:				
• self-tests similar to the final evaluation instruments	0	1	2	
• students generate discussion questions and respond to others' discussion topics	0	1	2	
• opportunities for peer review	0	1	2	
• opportunities for students to apply a rubric to their own work and describe/defend their score.	0	1	2	
<i>Assessment and Evaluation of Student Learning Comments:</i>				



INNOVATIVE TEACHING TECHNOLOGY

	Not Evident	Evident but needs more development	Fully Evident	Points Awarded
Tools to facilitate communication include:				
• discussion boards	0	1	2	
• synchronous chat	0	1	2	
• email	0	1	2	
• listserv	0	1	2	
• web-conferencing, teleconferencing	0	1	2	
• group discussion areas for group activities	0	1	2	
• instant messaging	0	1	2	
• social networking	0	1	2	
Multimedia elements include:				
• Flash animations	0	1	2	
• tutorials with screen captures and voice over	0	1	2	
• audio clips, podcasts	0	1	2	
• graphics	0	1	2	
• video clips, vodcasts	0	1	2	
• PowerPoint presentations with recorded audio narrations	0	1	2	
• CD-ROM or DVD supplemental materials	0	1	2	
• other learning objects, simulations or interactivities	0	1	2	



INSTRUCTOR USE OF STUDENT FEEDBACK

	Not Evident	Evident but needs more development	Fully Evident	Points Awarded
Evaluation of course content:				
• evaluation survey is available (actioned) at end of course	0	1	2	
• student input sought at regular intervals throughout the course	0	1	2	
• open ended questions to seek student feedback	0	1	2	
Evaluation of online technology used within the course:				
• request students to identify flaws of delivery of instruction using technology	0	1	2	
• instructor solicits student feedback to determine improvements for student learning	0	1	2	
Evaluation of instruction and assessment:				
• inadequacies are modified or fixed immediately	0	1	2	
• instructor modifies elements within the course when identified (e.g., fix bad quiz questions, extend deadlines, review methods of achieving course objectives)	0	1	2	

References:

Rubric for online Instruction, CSU, Chico 2003

Dalton 2002 (Think about removing if you do not see her referenced)

Horton, William (2000). *Designing Web-Based Training*. New York: John Wiley & Sons, Inc.

Ko, Susan & Rossen, Steve (2001). *Teaching Online: A Practical Guide*. Boston, MA: Houghton Mifflin Company.

National Association of EMS Educators (November 10, 2003). *Position Paper: The Use of Internet-Based Distributed Learning in EMS Education*. Retrieved on February 1, 2004 from <http://www.naemse.org/positionpapers/DLPositionPaper111003.pdf>

National Association of EMS Educators (November 10, 2003). *Whitepaper: Internet-Based Distributed Learning in EMS Education*. Retrieved on February 1, 2004 from <http://www.naemse.org/positionpapers/DLWhitepaper111003.pdf>

Parvensky, Catherine A. (1995). *Teaching EMS: An Educator's Guide to Improved EMS Instruction*. St. Louis, Missouri: Mosby-Year Book, Inc.

Stevens, S. (2004). Good practices to online teaching checklist. University of Colorado, Colorado Springs.

Van Duzer, J. (undated) Instructional Design Tips for online instruction. Humboldt State University

Wright, C. (undated) Criteria for evaluating the quality of online courses. Grant MacEwan College, Edmonton, Canada

US DOT NHSTA, 2000