

A Rubric for Assessing the Interactive Qualities of Distance Learning Courses: Results from Faculty and Student Feedback

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Abstract: Results of studies of distance learning courses indicate that interactive qualities seem to be a major factor in determining course quality as reflected in student performance, grades, and course satisfaction. That is, the more interactive the course, the more effective it is. However, the field reflects considerable disagreement on what these interactive qualities are and how they should be assessed. This paper offers a rubric to help instructors begin to identify and self-assess these qualities in ways that assist them in improving their distance courses. Included in this paper are: an explanation of rubrics and their uses; a review of literature related to interactive qualities that led to identifying elements for the rubric; a discussion of methods used to gather feedback and revise the interactive qualities rubric draft; and a copy of the revised rubric itself.

Introduction

Distance learning research literature supports the observation that a primary factor shaping course quality and effectiveness is the amount of interaction in the course (Fulford & Zhang 1993; Klesius, Homan, & Thompson 1997; Zhang & Fulford 1994; Smith 1996; Zirkin & Sumler 1995). Zirkin and Sumler found that interaction seemed to have an impact on students' achievement, as well as their satisfaction: "The weight of evidence from the research reviewed was that increased student involvement by immediate interaction resulted in increased learning as reflected by test performance, grades, and student satisfaction" (p. 101).

However, there seems great variation in what faculty and students view as "interactive qualities." In order to clarify the role of this important factor and encourage faculty to make their distance courses more interactive, the authors decided to design a rubric for faculty to use to determine the degree of interactive qualities in their own distance learning courses (Roblyer & Ekhaml 2000). Such a tool, based on information obtained from a review and analysis of a considerable body of literature and research on this topic, was seen as an ideal mechanism for focusing the attention of distance learning instructors on the importance of interactive qualities and the elements that might contribute to them.

What is a Rubric and How Can it Help?

Rubrics are assessment tools that have seen increasing application in technology applications, especially in problem-based, constructivist environments (Jonassen, Peck, & Wilson 1999). Jonassen,

et al. say that a rubric has come to be defined in education as “a tool used for assessing complex performance” (p. 221) in a way that gives input and feedback to help improve the performance. A rubric consists of a set of elements that describe the performance together with a scale (e. g., 1-5 points) based on levels of performance for each element.

Malone, Malm, Loren, Nay, Oliver, Saunders, and Thompson, (1997, October) point out that both students and faculty have additional responsibilities in a distance environment. Faculty must alter both course design and teaching strategies to take advantage of technologies and assure maximum interaction. But they say that students must assume more responsibility for their learning taking the initiative for requesting clarification and feedback to make up for the immediacy offered by face-to-face formats. Malone et al., cite the need for well-researched criteria to help faculty know what they are aiming for when they evaluate the effectiveness of their distance courses. Thus, an interactive qualities rubric may address a need that currently is unmet. If effectively done, a rubric that presented such criteria could help develop distance learning as an effective instructional delivery format.

How Do We Define “Interactive Qualities” in Distance Learning?

As a first step toward identifying qualities and activities that would enhance distance learning courses and that could be assessed in a rubric, the authors reviewed definitions of terms used in the research literature related to interaction. We found not only one word but two: “interaction” and “interactivity.” Also, we discovered some consensus and some areas of disagreement in defining and using these terms.

Based on their review of literature, Gilbert and Moore (1998) define interactivity on computer-mediated instruction as a reciprocal exchange between the technology and the learner, a process that he says is referred to as “feedback.” Gilbert and Moore use the terms “interaction” and “interactivity” interchangeably. However, Wagner (1994, 1997) draws a sharp distinction between the terms. Like Gilbert and Moore, she says that “interaction” is an interplay and exchange in which individuals and groups influence one another. Thus, interaction is when there are “reciprocal events requiring two objects and two actions (p. 20). On the other hand, she says “interactivity” seems to have emerged y for establishing connections from point-to-point ... in realtime” (p. 20). Thus, interaction focuses on people’s behaviors, while interactivity focuses on characteristics of the technology systems.

This distinction may add precision to our efforts at assessing distance learning courses, but it is evident that both qualities are necessary to achieve the aspects students find so desirable and that appear to be major contributors to course effectiveness. Also, it is clear there is a close relationship between these qualities; one cannot exist without the other. Technologies that allow high INTERACTIVITY seem necessary to allow high person-to-person, person-to-group, and person-to-system INTERACTION.

Can Distance Learning Offer Enough Interactive Qualities?

It should be noted that the literature in this area reveals some doubts among students and faculty that distance learning ever can have the degree of interaction possible in a non-distance environment. For example, a study by Smith (1996) found that about 30% of the nearly 400 respondents to a survey about distance learning options would never choose DL because they felt that it could never provide the qualities they desire in a face-to-face course. However, studies such as one by Miller and Webster (1997) have found no significant difference in assessments of interaction between students in a

synchronous (face-to-face) and asynchronous courses. Horn (1994) and Hirumi and Bermudez (1996) are among those who find that, with proper instructional design, distance courses actually can be more interactive than traditional, face-to-face ones, providing more personal and timely feedback to meet students' needs than is possible in large, lecture hall-type face-to-face courses.

Elements of Interactive Qualities in Distance Learning Courses

Variable #1: Social and Rapport-building Activities

Gilbert and Moore (1998) and Wolcott (1996) note that establishing rapport and collaboration among class members and between class members and instructor is an important role the instructor must undertake in a distance course. They find that interaction in distance courses can have either social and instructional aims. Gilbert and Moore (1998) feel that both purposes are valid and, indeed, necessary, noting that social rapport and increased collaboration can lead to greater levels of interaction related to course content which, in turn, can promote instructional goals and increase learning.

Variable #2: Instructional Designs for Learning

Distance learning studies indicate that effective distance courses are ones in which the instructor promotes interaction in ways that encourage reflection and discussion on course topics and concepts. Much of the literature in this area focuses on instructional designs to increase this kind of participation and feedback (Roblyer & Ekhaml 1999). The focus of this dimension seems to be on increasing not only the number of interactions but the number of people involved in them. For example, having students present and discuss small group results with the class is perceived as a better design than merely having students do small group work and present to the instructor.

Variable #3: Levels of Interactivity of Technology Resources

Many authors describe that various technologies can be used to encourage and facilitate interaction. Recognizing that certain technological capabilities make it easier to encourage interaction, the rubric presented here uses Wagner's (1994, 1997) definition of interactivity as the innate capability of the technology to promote interaction. Desktop videoconferencing (Edmonds 1996) and web-based resources (Hughes and Hewson 1998) currently enjoy increasing popularity. However, it should be noted that equally important to the innate capabilities of technology resources are the techniques, designs, and methods used to take full advantage of them (Kimeldorf 1995)

Variable #4: Impact of Interactive Qualities as Reflected in Learner Behaviors

The last dimension involved in assessing interactive qualities of courses seems the one most often neglected: the impact on learners. McHenry and Bozik (1997) point out that students respond to effectively (or ineffectively) designed distance courses with observable behaviors. This dimension evidences itself most often in students' increased or decreased willingness to use the various technology resources (e. g., chat features, microphones), to collaborate with other students, to take responsibility for requesting needed information from the instructor, and to initiate and participate in class discussions and other activities. Thus, instructors can tell if their designs are working if, by the end of the course, students show increased willingness to participate and initiate interactions.

Methodology Used to Develop and Revise the Rubric

After the four elements were identified, the rubric was developed by creating a 1-5 scale with descriptions of levels of performance for each element. A checklist for evaluating the usefulness of the rubric was developed based on criteria for effective rubrics in described by Jonassen, Peck, & Wilson (1999, p. 225). This rubric evaluation checklist is shown in Figure 1.

Instructors and students who are currently involved in distance courses at the University of West Georgia were asked to use the checklist to review the rubric and give their feedback on aspects that should be revised to make the rubric more useful. Some 35 instructors and students responded with comments and suggestions, and the rubric was revised based on their feedback.

Elements: Comprehensiveness – Are all of the important elements of "interactive qualities" identified?	
_____	Important elements are missing. Please list: _____
_____	All important elements are all identified.
Elements: Unidimensionality – Are all elements reduced to their most basic components, or do they represent two or more factors that are better addressed separately?	
_____	Elements should be broken down further. Please list: _____
_____	Elements are uni-dimensional. They cannot be broken down further.
Ratings: Distinctiveness – Do ratings represent clearly different categories, or is there overlap or ambiguity?	
_____	The descriptions for the 1-5 ratings of one or more elements overlap. Please tell which:
_____	There is no overlap. Ratings for each element are distinct from one another.
Ratings: Comprehensiveness – Are the correct number of ratings present?	
_____	Five points are <i>not enough</i> or <i>too many</i> for the rubric scale. Please tell which: _____
_____	Five points is the correct number to cover the range of interactive qualities.
Clarity – The extent to which distance instructors and students will understand the rubric.	
_____	Instructor and students will not understand some terms. Please identify: _____
_____	Instructor and students will understand all terms

Figure 1. Checklist for Evaluating Interactive Qualities Rubric Draft

Revised Rubric: Current and Future Uses

The revised rubric is shown in Figure 2. For this rubric to be most useful to distance instructors, they must first have read the descriptions of the elements and be acquainted with the definitions and, ideally, the uses of the technology resources described.

This rubric is viewed as one of many tools that could help improve the quality of distance learning courses in ways that make them more responsive to student needs. Plans are underway to do additional formative evaluations and revisions of this instrument to increase its usefulness as a self-assessment tool for instructors of distance courses.

<p>RUBRIC DIRECTIONS: The rubric shown below has four (4) separate elements that contribute to a course's level of interaction and interactivity. For each of these four elements, circle a description below it that applies best to your course. After reviewing all elements and circling the appropriate</p>

level, add up the points to determine the course's level of interactive qualities (e.g., low, moderate, or high)

Low interactive qualities	1 - 7 points
Moderate interactive qualities	8 -14 points
High interactive qualities	15-20 points

Scale (see points below)	Element #1 Social Rapport- building Activities Created by the Instructor	Element #2 Instructional Designs for Learning Created by the Instructor	Element #3 Levels of Interactivity of Technology Resources	Element #4 Impact of Interactive Qualities as Reflected in Learner Response
Few interactive qualities (1 point)	The instructor does not encourage students to get to know one another on a personal basis. No activities require social interaction, or are limited to brief introductions at the beginning of the course.	Instructional activities do not require two-way interaction between instructor and students; they call for one-way delivery of information (e. g., instructor lectures, text delivery).	Fax, web, or other technology resource allows one-way (instructor to student) delivery of information (text and/or graphics).	By the end of the course, all students in the class are interacting with instructor and other students <i>only</i> when required.
Minimum interactive qualities (2 points each)	In addition to brief introductions, the instructor provides for one other exchange of personal information among students, e.g., written bio of personal background and experiences.	Instructional activities require students to communicate with the instructor on an individual basis only (e. g., asking/responding to instructor questions).	E-mail, listserv, bulletin board or other technology resource allows two-way, asynchronous exchanges of information (text and/or graphics).	By the end of the course, between 20-25% of students in the class are initiating interaction with the instructor and other students on a voluntary basis (i.e., other than when required).
Moderate interactive qualities (3 points each)	In addition to providing for exchanges of personal information among students, the instructor provides at least one other in-class	In addition to the requiring students to communicate with the instructor, instructional activities require students to work with one another (e. g., in pairs or small	In addition to technologies used for two-way asynchronous exchanges of text information, chatroom or other technology allows synchronous	By the end of the course, between 25-50% of students in the class are initiating interaction with the instructor and other students on a voluntary basis

	activity designed to increase social rapport among students.	groups) and share results within their pairs/groups.	exchanges of written information.	(i.e., other than when required).
Above average interactive qualities (4 points each)	In addition to providing for exchanges of personal information among students, the instructor provides several other in-class activities designed to increase social rapport among students.	In addition to the requiring students to communicate with the instructor, instructional activities require students to work with one another (e. g., in pairs or small groups) and share results with one another and the rest of the class.	In addition to technologies used for two-way, asynchronous exchanges of text information, additional technologies (e. g., teleconferencing) allow one-way visual and two-way voice communications between instructor and students.	By the end of the course, between 50-75% of students in the class are initiating interaction with the instructor and other students on a voluntary basis (i.e., other than when required).
High level of interactive qualities (5 points each)	In addition to providing for exchanges of personal information among students, the instructor provides a variety of in-class and outside-class activities designed to increase social rapport among students.	In addition to the requiring students to communicate with the instructor, instructional activities require students to work with one another (e. g., in pairs or small groups) and outside experts and share results with one another and the rest of the class.	In addition to technologies to allow two-way exchanges of text information, visual technologies such as two-way video or videoconferencing technologies allow synchronous voice & visual communications between instructor and students and among students.	By the end of the course, over 75% of students in the class are initiating interaction with the instructor and other students on a voluntary basis (i.e., other than when required).
Total for each:	_____ pts.	_____ pts.	_____ pts.	_____ pts.
Total overall:	_____ pts.			

Figure 2. Rubric for Assessing Interactive Qualities of Distance Learning Courses

References

Edmonds, R. (1996, July). *Distance teaching with a vision*. Paper presented at the Biennial Conference of the Australian Society for Educational Technology, Melbourne.