Expert Review at a Distance: A Hybrid Approach

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Abstract: This paper describes a distance-based collaborative process undertaken to evaluate an asynchronous web-based course designed to teach web design skills to students enrolled in a distance-based Master s program. Several forms of collaboration were used to allow two expert reviewers to share their opinions on the course without actually meeting face to face. Comments and suggestions were passed between the reviewers and the course designer, culminating in a comprehensive review document containing aggregated suggestions for revision of the course. Although the process proved successful, care should be taken when undertaking such a process to avoid stumbling blocks brought about by the psychological distance involved.

Introduction

The purpose of this paper is to describe a distance collaborative evaluation method employed to analyze an asynchronous web-based course. This course is offered through the Instructional Technology department at Virginia Tech as part of a distance education Master's program. An initial Expert Review of the course was commissioned by the Virginia Tech Instructional Technology department as part of an assignment for a graduate course in product evaluation. A first year doctoral student from Virginia Tech followed specific guidelines provided by the department to complete the review process. Several leading instructional design models were utilized to conduct this initial review and will be described below. After completion of this initial review, a second doctoral student, this one from the University of Georgia, reviewed both the web-based course and the first reviewer's comments. The cumulative review of the first two students was then passed on to the course developer. The course developer added his own comments and incorporated student feedback into this collaborative review. All of the information was then re-circulated and a consensus reached that incorporated all the information into a collective list of evaluative recommendation. All correspondence between the three reviewers was accomplished using a variety of distance-based collaborative processes, including phone, email and videoconferencing. The background behind the initial online course offering will now be discussed.

Background

With the recent adoption and mandate of the Virginia Standards of Learning (SOLs), k-12 instructors throughout the state are now required to take coursework for re-certification that demonstrates a set of core technology competencies. In efforts to support this statewide endeavor, Virginia Tech developed and implemented an Instructional Technology Distance Education Masters Program (ITMA). This online program consists of 13 unique ITMA modules that can be taken independently of each other as needed to satisfy Virginia SOL re-certification requirements, or in total toward the Virginia Tech Master's degree program. The instructional delivery methods Virginia Tech utilizes employ an assortment of strategies such as intensive workshop-style courses offered within individual school districts (on-site); interactive television courses offered

through a number of state-wide facilities; web-based courses; week-long, on-campus summer courses; open-studio development; and individual computer-based programs.

Our evaluation concerned itself specifically with "Module 4: Web Site Development" (available at http://psyche.ed.vt.edu/module04/). The intent of this module is to provide learners with basic HTML design skills using Netscape Composer, such that they develop a 7-8 page standalone web site. Should the learners not be taking this module independently, but as part of the overall Virginia Tech ITMA program, their product will be integrated into a larger electronic portfolio. There were 51 students who participated in the first iteration of the module. These students were divided into three cohort groups based on their geographic location within the state of Virginia. They constituted a diverse mixture of elementary and middle school teachers, librarians, and instructional technologists in the public school system. The initial Expert Review evaluation process will be discussed next.

The Initial Review Process

The overall model of the Expert Review was patterned after the procedure outlined in the book *Planning and Conducting Formative Evaluations* (Tessmer, 1998). Tessmer delineates the steps and values behind conducting the following types of reviews: One-to-One, Expert Review, Small Group Evaluation, and Field-testing. The Expert Review conducted on Module 4 focused specifically on the following areas: General product description, instructional components, instructional contexts and functions, and overall instructional message display. A brief description of these areas will now follow.

The general product description delineated the developers, clients, module objectives, learning environment and media characteristics incorporated in Module 4. The "instructional components" section evaluated the overall structure of the module from a Walt Dick and Lou Carey instructional design perspective (1996). In addition, several other ID research theories were employed which will be discussed later. The instructional context of the module was examined to evaluate the synergism between all the factors influencing the appropriateness of context chosen and under what functions it was intended to facilitate instruction. The overall message display was additionally evaluated with respect to the following: layout, color, density of information, perceived units of information, rate of information presentation, and appropriateness of images and/or audio used. Now that an understanding of evaluation components has been described, an elaboration of the ID research models employed will be discussed.

To evaluate the overall module from a "Big Picture" perspective the Walt Dick and Lou Carey model was used (Dick & Carey, 1996). The following components were examined in the module for their inclusion of appropriate sub-component characteristics: Introduction, activity, practice & feedback, review, assessment and transfer. Within this overall structure, the individual instructional objectives were examined using the methodology cited in Sullivan & Higgins 1983 book: *Teaching for Competence*. Thus, instructional objectives were examined with respect to observable and measured behaviors, with proper attention to conditional givens and standards.

The work of Tessmer & Richey (1997) was used to classify and evaluate the module with respect to the appropriateness of context and its function within the overall design stages of orienting, instructional, and transfer (Tessmer & Richey, 1997). Module 4 employed the contexts of "Real" and "Tutorial" appropriately. J.M. Keller's ARCS model of instructional design was utilized to evaluate the module from a motivational perspective, attempting to identify if the following strategies were implored: Attention, Relevance, Confidence, and Satisfaction (Keller, 1987). Finally, the work of Gagne and Driscoll was utilized to measure the appropriateness of instructional objectives to specific tasks or lessons at hand (Gagne & Driscoll, 1998). Now that the research behind the initial Expert Review has been presented, the process of the distance collaborative Expert Review model will be discussed.

The Collaboration Process

The original Expert Review (ER) paper was circulated to the second distant expert reviewer. The second reviewer then visited the Module 04 web site, reviewed the ER paper, and evaluated the initial reviewer's criteria against the originally commissioned guidelines and the actual module, inserting comments into the original ER paper using a different colored font. The updated ER paper with comments was then circulated to the module developer and the initial reviewer.

Next the developer's implementation perspectives were incorporated as a separate section at the bottom of this evaluation paper, describing the technical difficulties encountered during the module's first field test, including student impressions of Module 4's effectiveness. This updated document was then sent to both reviewers who additionally commented on the developer's implementation analysis. Finally, having now seen both sets of Expert Review comments in a single document, the developer offered his impression of the expert reviews. Needless to say, this asynchronous distance evaluation approach involved several iterations of circular review, providing a thorough analysis of the module from an ID Expert Review perspective.

The techniques employed in the collaboration process utilized several forms of distance communication. The review document was created in Microsoft Word and passed between reviewers via email attachment. Discussion and debate between the reviewers took place using email, teleconferencing, and videoconferencing. The important realization to come out of this process is that without in-person, face-to-face contact there is a higher probability for miscommunication to occur between participants, especially when those participants have never met face-to-face. At several points during this collaborative project there was confusion due to misunderstandings created by the psychological distance between the three reviewers. Next discussed will be a synopsis of the aggregated conclusions found between the three independent reviews.

Aggregated Conclusions

Both expert reviewers agreed that overall the site was exemplary. The module was well designed, easy to understand, implement and execute. The site was additionally aesthetically pleasing from a graphical design standpoint. Most importantly the asynchronous module was successful in its instructional goal of facilitating the learner with the creation of standalone web sites. Both the director of the ITMA module, Dr. Greg Sherman, and the participants commented favorably in survey reviews at the completion of the module.

From an instructional design standpoint, only a few suggestions were put forth, which may improve the effectiveness and efficiency of the module. The comments that follow were the collective agreement from all three parties. First, there may be a benefit to incorporating an official assessment for each sub lesson within the overall unit by way of a rubric. This rubric would specify evaluation criteria, thus providing a way for the learner to check their work prior to submission. In addition, the Composer tutorial should include instruction specific to the Macintosh platform. This could be done by incorporating Macintosh examples in the existing tutorial, or by creating a new tutorial specific to the platform.

Also, a separate lesson dealing specifically with tables may be warranted, incorporating additional instruction and a student-2-student collaborative constructivist model. Finally, the overall module may be made more effective should all lessons utilize more examples of student work tied to reflective collaboration. It should be made clear though that these suggestions are unproven at this juncture, and their success must still be borne out in future revisions through evaluative field-testing.

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