Preparing for Distance Learning: Designing An Online Student Orientation Course

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Abstract

This paper describes the analysis undertaken to design a 1-credit-hour online orientation course for students new to online learning. An instructional design team, as a part of an advanced instructional design course, worked with a university-based client. The client identified specific problem areas encountered by novice students of online courses and the team designed a comprehensive program to meet those needs. Analysis of the data revealed surprising differences in expectations between instructors of online courses and their students of what an orientation to online learning should include. The team also conducted a task analysis to aid in further identifying the skills, knowledge and attitudes required by students for success in online courses. Findings indicated that there is a need for online learners to understand the time commitment required of an online course and possess or develop strong time management skills. Because of small sample size, results cannot be generalized beyond the respondents. The authors found a mismatch in the perception of instructor technical skills versus student technical skill. Based on their findings, the paper provides recommendations on the appropriate design, development and implementation of an orientation to online learning.

Keywords

Online learning, Distance learning, Skills assessment, Task analysis, Instructional design

Training Situation

Introduction

As a requirement of an advanced instructional design course at North Carolina State University (NCSU), a group of students embarked on a project to design an online orientation course for new online learners. The project team consisted of four students, all employed as training professionals by commercial or government organizations. The client was a school within a local university that had been in the distance-learning arena for some time. The client had specific requirements for the course and delineated needs that the course was to address. The outcome of the project was to be a pre-requisite course to prepare new students for the online educational environment.

Emphasizing a need to focus on issues besides just the technical, the client identified four areas as potential topics to include in this online course:

- Setting appropriate expectations
- Guidance in online etiquette
- Information on available support resources
- An assessment of the readiness of the student for online learning.

Reason for Study

Typically, the client university has a "hit or miss" approach to preparing students for online learning. Often these orientation meetings consist of short face-to-face sessions or sessions in which students must share computers. In their request, the client identified several key problems resulting from their current orientation methods supporting their conclusion that the school needs a course that focuses on more than the technical training. These problems include:

- Students are not trained properly because the training is more an afterthought.
- Students cannot apply the lessons directly with their home or office computers.
- Training approaches lack consistency and completeness.
- Students cannot request assistance with configuration issues with their computers.
- Students cannot test the technology in a realistic setting.
- The approach does not reach beyond campus and limits the number and type of students served.

Instead of technical training, the client was looking for a course that orients students to the online learning environment, including managing the unfamiliarity of an online course management interface.

Additionally, a review of the literature revealed support for development of an online orientation course. Online learning requires different skills and talents than the classroom setting, from new communication patterns to more finely honed time management skills. Berge (2001) and Willis (1992) discuss the different skills demanded of online learning versus the more familiar classroom, from new communication patterns to more finely-honed time management skills, and stress the need for students to be adequately oriented to the new online environment in order to facilitate their success.

Main Assumptions

Upon reviewing the client's request and discussing the needs with the client, the project team concluded that a training course was indeed needed. The team also recognized that such a course would be beneficial to other University of North Carolina (UNC) system schools as well. In particular, the course could be of significant interest to the Department of Adult and Community College Education (ACCE) at NCSU, as that department is about to begin a degree program completely online beginning in the fall of 2002.

Study Objectives

A study was proposed to determine the content and structure of the orientation course. The project team's goal was to utilize survey instruments to:
- Identify the expectations instructors had of students entering an online course.
- Identify the expectations students had of what an online course would entail and how the instructor would manage the course.
- Determine whether gaps exist between instructor and student expectations of online learning.
- Identify the specific topics that the instructors and students deemed as important to include in an online pre-requisite course.
- Identify the key problem areas for students in online courses.
- Identify frequently asked questions that online instructors receive from students.
- Identify the average student dropout rate from online courses and the reasons for attrition.
- Identify how many hours per week instructors typically expect students to devote to an online class.

Scope of Study

Based on client input, the team concluded at the outset of the analysis that this course is not intended to sell online learning to wavering students or to instill in students, basic computer literacy. Given that parameter, the project team designed survey questions to uncover key topic areas that the students and instructors might identify to include in the training program design. The questions were designed to also elicit information about students' assumptions about online learning. Understanding these assumptions will help the team to prioritize topics and add additional information during the design phase to dispel any incorrect assumptions that potential students may have. Additionally, the team felt that designing a questionnaire specifically geared toward instructors would uncover students' limitations with online learning and offer suggestions to aid in the course design.

The project team identified several target audiences to survey:

➢ The client's instructors (with and without experience in online teaching)
➢ NCSU instructors (with and without experience in online teaching)
➢ The client's students (with and without experience in online learning)
➢ NCSU students (with and without experience in online learning)
➢ Students currently participating in online courses at University of Phoenix

NCSU and client students and instructors were key groups from whom the project team wanted to receive feedback. These groups would provide firsthand accounts of their experiences, assumptions and beliefs associated with online learning. The team chose another e group from which to receive feedback: University of Phoenix online students. The team hoped these respondents would "round out" the survey responses and allow for triangulation of the data. The University of Phoenix group was comprised of individuals from a local employer that were currently enrolled in online courses via the University of Phoenix. This provided the team with a benchmark to which to compare the client/NCSU online learning system. This information strengthened the team's perspective and position and guided us in the design of some of our core introductory topics.

Upon reviewing the survey data, the project team agreed that a need had been identified and began designing the course to orient students to the online learning environment.

Literature Review

In approaching course design the project team also looked at current literature on distance learning. Berge (2001) supports the notion of some sort of "orientation" for new distance learners: "Instructors have a right to expect that participants will come to distance learning experiences prepared to study effectively at a distance…(such materials as)…a student handbook, a preliminary screening survey, or even a mini-course that would help ensure that learners acquire appropriate study and learning skills and understand their rights and responsibilities in a distance learning course" (p. 20-21). Willis (1992) echoes this: "Make students aware of and comfortable with new patterns of communication to be used in the course…Assist students in becoming familiar and comfortable with the delivery technology and prepare them to resolve the technical problems that will arise" (p. 3).

The research on learner characteristics supports what was found in the survey of NCSU and UNC students. Hardy and Boaz (1997) surveyed 200 academic distance learners and found that the students, in identifying factors for success, felt that they needed to be more independent, assertive, self-disciplined and motivated than the average college student. Additionally Sherry (1996), citing Charp, writes that crucial characteristics include active listening and the ability to work independently in the absence of a live instructor. Citing Brent and Bugbee's (1994) study, Sherry (1996) reports that students who passed their courses "differed significantly in primary strategies from those who failed: in testwiseness, concentration, and time management skills" (p.10). On the issue of time management, Mason (2001) describes time as "the new distance" and argues that lack of time, rather than problems arising from distance, has become one of the primary reasons for student dropout.

The assessment team felt that the review of literature supported the need for an orientation to online learning course, as well as content geared toward enhancing technological and self-management skills, while providing a realistic image of the online learning experience.

Situation Analysis

Methodology

Students and instructors were interviewed via questionnaire. Respondents may or may not have had experience in online courses. Questionnaires were developed to include both closed- and open-ended questions to gather a variety of feedback. The team worked jointly to formulate questions based on their own experiences as students in online environments. Referring to the issues originally identified by the customer and issues team members themselves experienced and encountered as online students, the team was able to settle on key areas about which to construct questions, including technical skills, assumptions about online learning, and challenges of online learning. Questionnaires were distributed to one group of students at a time, usually the members of an online course and, as results were returned, the team was able to refine the questionnaire to elicit more useful and complete data. Student questionnaires are found in Appendix A.

Questionnaires for all audiences were distributed in a variety of ways. Student questionnaires were posted directly to the discussion forum of online classes or were distributed by an online instructor to other online classes. Instructor questionnaires were e-mailed to selected instructors willing to participate. Questionnaires targeted to University of Phoenix students were distributed by e-mail to respondents.

A focus group was conducted with online instructors to gather feedback regarding experiences in teaching online. The purpose of the group was to elicit more discussion and insight around key issues identified by instructors in the survey data: an emphasis on needed technical skills of students, and instructor expectations. The focus group was informal with team members asking questions as they arose from the conversation. Minutes of the focus group were recorded and discussed by the team members for data extraction.

Limitations

A convenience sample was used in this study. Therefore the results may not be widely representative of all distance learners, only for the people who responded to the instrument. Also, response rates from populations to the surveys were lower than expected and desired. The small sample size makes this study unable to be generalized to the wider population.

Results

Instructor Survey Results

The team assumed, based on the client's request that new online learner performance was not in keeping with the expectations of their instructors. An assessment needed to be developed to determine instructor expectations of new online learners, instructors' reasons for feeling those expectations were not met, and instructor expectations of students who had completed an introductory/orientation course such as the one proposed. Additionally, the project team was seeking information that would suggest the cognitive, psychomotor, and affective objectives of the course they were charged with developing. In creating the assessment it seemed that surveys and, time allowing, group interviews, would help to uncover that information. The team wrote questions targeting those specific areas, including:
➢ If a student had already completed a 1 credit hour course preparing them for online learning, what would you expect them to know upon entering your class?
➢ What are the top problem areas that students have encountered?
➢ What is the dropout rate for an online course? Of the students who dropped, what were their common reasons for dropping?

The team also wanted to assess the particular technologies that such a course might need to address, as well as develop an understanding of what issues might not be within the control of the student or instructor. Thus we added

the questions, "What problems are not within the students' control?" and "What frequently-asked questions do you receive that are not within your expertise?" Finally, all members of the assessment team are experienced online learners. Based on their experiences they knew that many students are surprised by the time commitment required for of an online course and expected this to be a major component of the final product; thus, they chose to include the question, "How many hours per week does a student devote to an online class?" Additionally, as 3 of the 4 team members felt that their experience with online learning had been adversely affected by enrolling in classes in which there were simply too many students, they also included the question "How many students in an online class is too many?" Instructor surveys are located in Appendix B.

The survey was distributed to instructors with whom the assessment team had access: 45 instructors of online courses at NCSU and 8 instructors of online courses in the client institution. 17 of the 53 surveys were returned, resulting in a return rate of 32%. In every case the entire questionnaire was completed. No questions were left blank or answered "no response" or "not applicable."

A common theme among instructor responses was the misperception among students that online courses would demand only that they log in once a week to get an assignment or provide a posting; instructors reported that students often seem surprised at the level of interaction and frequency of contact demanded by many courses. Instructors (Figure 1) stressed the need for students to develop a plan for completing the course, learning to be independent in scheduling their own time, staying on schedule, avoiding procrastination and finding ways to be efficient. Additionally, instructors stressed the importance of the students taking the initiative in clarifying expectations, taking the initiative to participate in discussions and otherwise develop relationships with other classmates, and in general simply learning self-management skills.

A striking difference in the responses of students and instructors came on the issue of technology skills. 60% of instructors wrote, several of them strongly and at length, about the lack in many cases of what they considered to be basic computer skills (Figures 2 and 3). Deficits ranged from understanding how to configure browsers, using discussion and chat features, and using different software programs to tasks like opening PDF files or sending attachments. Two instructors commented that some students seem unwilling to "try out" technology before asking for help, or are not clear that many technical problems would be better addressed by contacting the school's help desk or other support resources. Three instructors commented that in some cases students, when enrolling in course, fail to perform the "tests" (such as sending an email to the instructor) often required in the first days of class. Finally, 5 instructors wrote that often students simply overestimate their own technical abilities or seem to ignore the list of prerequisite skills required of online students. Noteworthy here is the large gap in the perceptions of the instructors versus those of students: based on the strength of language and length and frequency of responses, it is clear that the instructors perceive the technology skills deficits as a much bigger problem than do students. This will be further explained in the "student responses" section.

Additionally, the team had an opportunity to interview a group of 3 instructors from NCSU's ACCE department. Because the team also wanted to learn more specifics about technology requirements, they invited a member of NCSU's computer help desk service to participate. The team based their interview format on the surveys previously sent out; as the instructors had already completed this written survey, the team wanted to further probe the answers they had given. Though on the written surveys instructors had focused primarily on technology skills, in face-to-face conversation they focused more on students' need for self-discipline and time management. One instructor outlined detailed suggestions for success over the span of a semester: look over the course outline and identify resources needed—library time, reading time, trips to campus, when projects will be due, etc.—then lay out a plan for managing time. Another commented, "They [students] don't plan well and then, when they realize how to structure their time, it's too late." When asked if they felt this contributed to student dropout, all the instructors said that various manifestations of time management problems (students surprised

Instructor Expectations

Instructor Question 1: If a student had already completed a 1 credit hour course preparing them for online learning, what would you expect them to know upon entering your class?

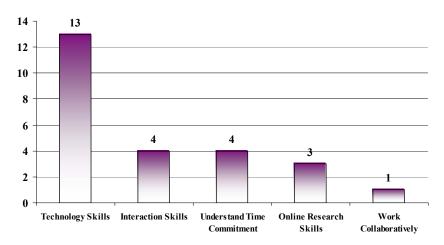**Instructor Expectations of New Students**

Figure 1: Instructor Expectations

Specific Technology Skills	How to Interact online	Understanding of Time Commitment	Online Research Skills	How to Work Collaboratively
13*	4	4	3	1

(*Nearly every respondent listed specific technology skills. Answers included such varied skills as using attachments, using spreadsheets, using graphics programs, using chat, opening PDF files, taking digital photos, using text-rich format, signing up for listservs, saving files, using WinZip, and converting text and graphics from Word and PowerPoint to HTML. Technologies specified by more than one respondent are shown in Figure 2.)

Instructor Technology Skills

Technology skills specified by instructors in response to Question 1 (Figure 1):
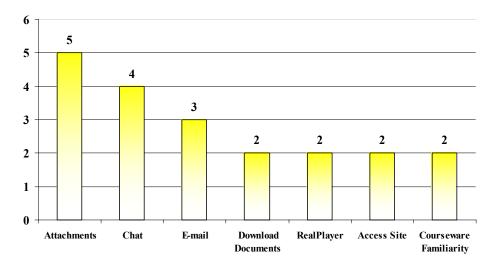
Specific Technology Skills

Figure 2: Instructor Technology Skills

Attachments	Chat	Email	Download Documents	RealPlayer	Access Course Site	Familiarity with Courseware
5	4	3	2	2	2	2

Student Problem Areas Noted By Instructors

Instructor Question 2: What are the top problem areas that online students have encountered?
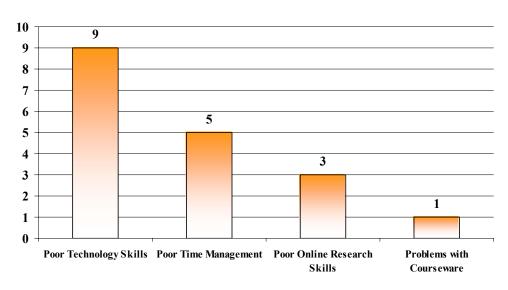
Student Problem Areas

Figure 3: Student Problem Areas as Noted by Instructors

Poor Skills with Particular Technology	Poor Time Management Skills	Poor Online Research Skills	Problems with Courseware
9	5	3	1

by the amount of work required, overwhelmed by the assignments, feeling the course was just "too much work") were often at issue. They additionally said that dropout occurred because students needed credit, assumed an online course would suit their needs but then found the content uninteresting and that, sometimes, students found the online format simply didn't suit their particular learning style. Instructors took care to say, though, that they often did not know why students dropped. The one technology skill that did generate much discussion was the subject of discussion forums, particularly in terms of the student learning appropriate "netiquette," when items would be more appropriately posted privately rather than to the group message board, and understanding that it is the student's responsibility to speak up and ask questions. One instructor said, "If you'd ask it in class, then you should ask it online."

When asked what new online learners should expect, instructor responses included, "They should anticipate that their work will be interdependent, so they should get to know their fellow students in a variety of ways and interact with them," and "they should expect (just as with live classroom courses) that all courses will be different." When asked what advice they would give new online learners, one instructor said, "Define expectations with the professor early on. If 'participation' is scored, the student who is unclear about what that means should clarify it." On the issue of what an introduction to online learning should cover, suggestions included providing a glossary (i.e., define the

phrase "post to the discussion forum"), giving students practice time with various tools, and clarifying where—and when—students should turn for help.

The interviewee from the NCSU help desk service added the input that the proposed course could not encompass every conceivable technological skill and, therefore, could not serve as "introduction to computers." He did add, however, that instructors may make too many assumptions about proficiency levels and, as he said, "They assume that the technology makes sense when sometimes it just doesn't."

Student Survey Results

The team also wanted to hear from students, particularly to learn about their expectations, versus the reality, of their initial experiences with online learning. Based on their own knowledge of distance learning, the team developed a number of questions, including:

- If you could have learned something about online learning prior to beginning an online course, what would have been helpful?
- What were your original assumptions about online learning and how have they changed?
- What do you think is the most difficult aspect of online learning?
- What advice would you give someone preparing to take an online course for the first time?

The team was also interested in finding out whether students perceived the need for an introductory course and included the question, "If a free 1-credit hour course were offered online to help you learn more about how to be an online student, would you take it?"

The resulting survey was distributed to students currently enrolled in online courses at NCSU (the 45 instructors of online courses were asked to distribute this to their students; thus, the number of potential recipients is unknown) and 8 at the University of Phoenix, all of whom are employees of a local pharmaceutical company. 29 surveys were returned. Departments represented included ACCE, Business Management, Communication; 1 respondent did not say with which department he was affiliated. With the exception of one respondent answering "not applicable" to one question, every respondent answered every question.

Student responses dealt overwhelmingly with the time commitment required from an online course as shown in Figures 4 and 5. Seven commented that they had expected the online experience to be "correspondence" or self-study/independent study, where a student might perhaps read a lesson, complete an assignment, and turn it in before moving to the next lesson. Nine students responded that they found time management to be the most difficult aspect of online learning, with another 4 mentioning specifically the volume of reading required (Figure 5); when asked if they could have known one thing about online learning before taking their first

Student Learning Prior To Online Course

Student Question 1: If you could have learned something about online learning prior to beginning an online course, what would have been helpful?
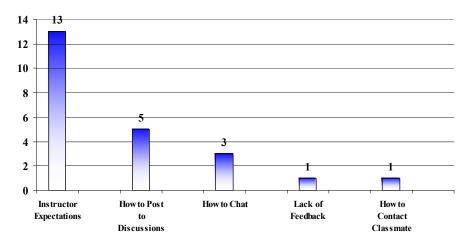
Helpful to Learn Prior to Online Course

Figure 4: Student Learning Prior to Online Course

Instruct-or Expect-ations	Time Commit ment Required	How to Post to Discus-sions	Knowl-edge of Course platform	How to Chat	What Skills I'd Need	Lack of Feed-back	How to Parti-cipate in Group Work	How to Contact Class-mates	How to Install Plug-ins
13	8	5	3	3	2	1	1	1	1

Most Difficult Aspects Of Online Learning For Students

Student Question 4: What is the most difficult aspect of online learning?
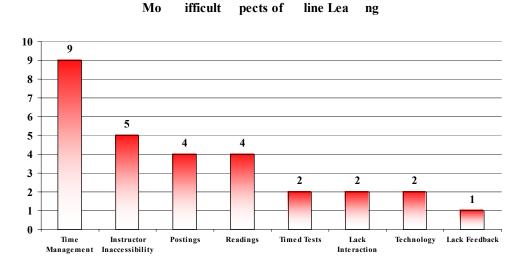

Figure 5: Most Difficult Aspects of Online Learning for Students

Time Management / Self-discipline	Inaccessibility of Instructor	Posting to Discussions	Volume of Reading	Timed Tests	Lack of Interaction	Specific Technologies	"Not knowing where I stand"
9	5	4	4	2	2	2	1

online course, 8 said it would have been the time commitment (Figure 4); 11 wrote that the advice they would give a novice online learner would speak to the need for time management skills (Figure 6). These 11 responses included such comments as: "If you are a procrastinator, this might not be the class you want to take," and, "make sure you are personally motivated and disciplined to do the work." Comments by students described their own failure to anticipate the need for near-daily check in, the need to frequently read and respond to discussion postings, or the expectation that they would work interdependently with other class members. Two students said that while they were excited about taking a distance course, as they would otherwise face a long commute, they had failed to take into account the additional time the course would require (one of these wrote, "It certainly puts fewer miles on one's car but I think the time and effort needed are greater than for a regular class"). Seven students volunteered some strategies for self-management and time management, which will likely be included in the content of the final product; of these 7, 4 students mentioned particularly the need to set up a comfortable, quiet workspace (Figure 6).

As for the technology demands of online coursework, 3 students did write that a basic understanding of the particular course's platform (WebCT, BlackBoard, etc.) would have been helpful for them. Five revealed that they found reading from a computer screen difficult; 2 respondents mentioned the need for an ample supply of paper and printer cartridges, indicating that they were printing out much of the course material. In terms of specific technologies, one student mentioned installing plug-ins and three mentioned online chat (Figure 4). In response to the question, "What is the most difficult aspect of online learning?" four students mentioned about discussion forums: responses mentioned both the technology requirements as well as the need for competence in composing postings and participating in discussions. Three students reported their frustration with problems beyond their control, such as the university's network going down, poorly designed features of particular courseware, etc. It seems important to note, though, that students for the most part did not perceive deficits in technology skills to be a significant problem. This is a striking contrast to the responses of instructors, many of whom spoke at length about their perception that many students were sorely lacking in basic technology skills. This may be attributed, in part, to students' lack of awareness of magnitude: that is, where one student may have a problem opening a particular file, she or he may not realize that the instructor is dealing with that problem with all 20 members of the class at once.

A number of responses dealt with instructors: thirteen students spoke of unclear instructor expectations, with one adding that the lack of non-verbal instructor feedback, such as body language and eye contact, made them uncertain as to how to gauge their own performance. Though the question was not specifically asked, it appeared that students, for the most part, were not taking the initiative to clarify that information. Five students reported that they had concerns with the inaccessibility of online instructors, and 3 noted that instructor skill levels at teaching online were critical to student success (Figures 4, 5 and 6).

Interestingly, though most students did report some problems, only 20% of respondents said they would take a course on "how to be an online learner" even if it were offered free for 1 hour of academic credit. As will be noted later, learner resistance may thus be a problem to the success of the proposed course.

Advice For New Students

Student Question 5 (EAC 783 question 6): What advice would you give someone preparing to take an online class for the first time?
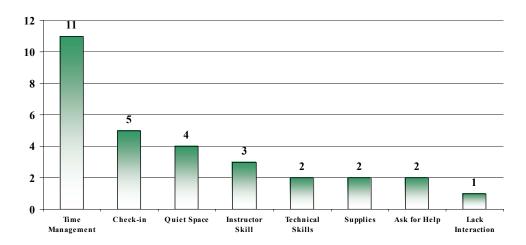
Advice for New Students

Figure 6: Advice for New Students

Time Management Skills	Frequent Check-in	Set up Quiet Workspace	Determine Instructor's Skill Level Before Enrolling	Prepare for Technology Skills Required	Buy Good Printer, Paper, Toner Cartridges	Ask for Help When Needed	Be Aware of Lack of Interaction
11	5	4	3	2	2	2	1

Additional Data

As the team was concerned about the extent to which the proposed online course might deal with technology issues, they interviewed two members of the NCSU Learning Technology Services which specializes in assisting instructors in putting their courses online. Both were asked, "What do you see as the biggest problems new online learners encounter?" They listed several of the specifics noted by the instructors, such as saving files, installing plug-ins, and configuring browsers. The biggest problem, in their estimation, is that many students just seem to have a psychological block when it comes to new technology: "They don't try to figure things out, click on the buttons, go to the links, experiment and test; I'm especially surprised that we see so much of this from graduate students." They also mentioned skills such as using e-mail and attachments, but stressed that some skills are discipline-dependent: where students in the humanities may need little more than experience with word processing, students in geography might have to post a map to the web, and those in business fields might need to be proficient in Excel. The respondent added that because of this, "The instructor may have to take over the first week of class and help their students with these specific skills" rather than try to incorporate everything into a single orientation course for new online learners.

Summary of Findings

The point on which respondents clearly agreed was the need for online learners to understand the time commitment required of an online course and possess or develop strong time management skills. Both students and instructors hinted, or wrote directly, that online learning was simply not for everyone and students should make an honest assessment of their interests, commitment and abilities before enrolling in an online course. The point on which

respondents differed most was the proficiency level and necessity of technology skills: where instructors found these skill deficits to be a large problem, students reported that bigger issues for them were unclear instructor expectations and, again, time management concerns. Of the particular technologies specified in both student and instructor responses, the most frequent was the use of the discussion forum, both in terms of actual technical competency as well as understanding how to compose messages and when to post privately versus publicly. Finally, though most students described having some problems during their initiation to online coursework, few indicated that they would enroll in a 1-credit-hour 'orientation to online learning course' even if it were offered for academic credit at no cost.

Implications of Sample size

Due to the small sample size, there is a limitation to generalizing the findings of this study. A low response rate raises questions about several aspects of the study. First is the notion that those people who returned the instrument may be different from those who did not return it. This is called non-response bias (Hawkins, Best, & Cooney, 1992; Jobber & O'Reilly, 1996; O'Rourke, 1999). If the response rate had been higher, there would have been a better representation of the sample. This lack of representativeness does not ensure biased results, but it does allow for greater potential for bias (Bachman, 1999).

It is possible that respondents were more interested in the study. This could cause them to be more motivated, interested or opinionated than those of non-respondents. It has been shown that people who have highly critical or favorable opinions are more likely to respond to a survey (O'Rourke, 1999). The low response rate also restricts aspects of the analytical techniques used to analyze the data. Overall, it reduces the power of the statistical testing (Jobber & O'Reilly, 1996). Low response rates limit the probability that anything other than the strongest differences are detected (Hollman & McNamara, 1999).

As a result of the low response rates, the results of this study cannot be generalized to the populations from which the samples were drawn. However, the study does provide insights about the perceptions of those people who returned the instrument. Therefore analyses were run, results were aimed at, and implications directed to only those people who responded to the survey.

Task Analysis

Duties / Task List
A job analysis was conducted to obtain a detailed listing of tasks necessary to perform the job of "online learner." Team members used their own expertise as online learners to identify key duties and tasks associated with the job, acting as Subject Matter Experts (SME). Additionally, feedback from surveys was analyzed to determine other key duties and tasks. The tasks identified in this analysis will become a source for identifying the knowledge, skills and attitudes an online learner must posses for success in an online course. Tasks are identified beneath the corresponding duty.

Duty 1.0: Adapt to the online learning environment

    1.1 Prepare for online learning
    1.2 Prepare for online course

Duty 2.0: Establish technical resources for online learning

    2.1 Obtain hardware resources for online learning
    2.2 Obtain software resources for online learning
    2.3 Access support resources for technical resource troubleshooting

Duty 3.0: Access course web site

    3.1 Log on to university course listings web site

3.2   Access correct class
3.3   Configure browser for use with class following course recommendations
3.4   Access support resources for web site troubleshooting

Duty 4.0: Navigate course web site

4.1   Navigate course sections via navigation links
4.2   Navigate subsections within main course sections (i.e. things like the course schedule, student home pages)
4.3   Access support resources for navigation troubleshooting

Duty 5.0: Use e-mail to communicate

5.1   Access e-mail program
5.2   Send and receive e-mail
5.3   Manage attachments in e-mail
5.4   Access support resources for e-mail troubleshooting

Duty 6.0: Manage course assignments

6.1   Submit course assignments on time
6.2   Manage team assignments
6.3   Use other software programs applicable to course
6.4   Access support resources for course assignments

Duty 7.0: Participate in online discussion

7.1   Access discussion board
7.2   Access posts
7.3   Post an original thread
7.4   Post responses to a thread
7.5   Attach a file to a discussion post
7.6   Access support resources for online discussion troubleshooting

Duty 8.0: Participate in synchronous chat

8.1   Access chat
8.2   Use chat
8.3   Access support resources for chat function troubleshooting

Duty 9.0: Complete online quizzes

9.1   Access online quiz
9.2   Take online quiz
9.3   Access support resources for online quiz troubleshooting

Duty 10.0: Complete online assignments

10.1   Create a student homepage
10.1   Submit a photograph

Trainable Tasks

Once the complete list of tasks was determined, it was necessary to select those tasks that require training. Acting as Subject-matter Experts (SMEs), the team categorized each task according to its criticality, difficulty and frequency of

performance and used the Criticality-Difficulty-Frequency (CDF) model (Figure 7) to determine trainability. The criticality of performance points to the need for selecting tasks for training that are essential to job performance, when required, even though the tasks may not be performed frequently. Difficulty of task performance refers to the time, effort and assistance required to achieve proficiency. Frequency of performance is a measure of how often the task is performed. Using the straightforward CDF model, all tasks were identified as trainable except tasks 10.1 and 10.2. These two tasks were identified as high difficulty, not critical, and with a low frequency of performance, indicating that no training was required.
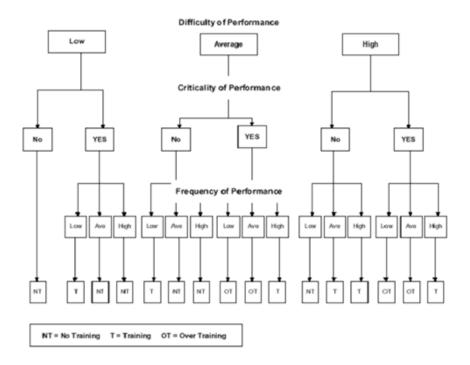

Figure 7: Cdf (Criticality-Difficulty-Frequency) Model

Recommendations For The Online Course

As this online course is developed, it will be important to recognize and address student and instructor concerns that surfaced during the assessment. These concerns should be addressed as part of the course development and design or by other means to enhance the overall effectiveness of this project. Following are recommendations for the development of this course based on information obtained through analysis.

This course cannot and is not intended to be a solution to every problem that students and instructors will encounter while learning online. One of the first points students and instructors will need to understand is that this course is not "Computers 101." Learners will be expected to bring to the table basic computer skills and knowledge. These basic skills should include an understanding of a computer and its use, the ability to keyboard, to power up a computer, sign on, use a mouse, click on icons, etc. In other words, this program is not an introduction to computers.

It will also be critical at the outset to clearly define the course and its objectives to help students and instructors establish a common ground of expectations. To accomplish this, clear, concise information needs to be provided in the course description. The course description should list any student prerequisites and outline learning objectives the course hopes to accomplish. To further establish and reinforce common expectations, it is recommended that students and instructors be provided with a list of competencies that learners would be expected to know upon the completion of the course. These competencies would include the ability to:

- ➢ locate and use support resources for technical troubleshooting.
- ➢ access course web sites.
- ➢ navigate a course web site including use of navigational links.
- ➢ use e-mail.
- ➢ open, close, create and send files.
- ➢ manage course assignments and meet deadlines.
- ➢ participate in online discussions and synchronous chat.
- ➢ complete online tests and quizzes as well as complete online assignments.

If other competencies are then required by an instructor and are not included as part of this course, the instructor should be prepared at the outset of a particular course to provide the training or knowledge that will be unique to that course.

The course description should clearly establish a realistic understanding of online courses and the knowledge, skills and attitudes required by online learning on the part of the student. Online learning has evolved greatly over the last few years. In the past, online courses closely resembled "correspondence courses" where assignments were given, due dates established and learners responded accordingly. Online learning, with the advancement of technology, can now be highly interactive, requiring the learner to participate and interact with other learners, teachers and facilitators. To be a successful online learner in this scenario, learners must possess certain skills and knowledge as well an understanding of the time commitment and scheduling requirements that may be involved in participating in a highly interactive online learning experience. Survey results indicated many students had the impression that online learning closely resembled the correspondence course of old. While this format does still exist, most online learning requires much more time, involvement, participation, and interaction than most students anticipate. This gap between a student's understanding of online learning and its reality will have an impact on student dropout rates as well as an impact on the success of students if they do not possess the knowledge, skills and attitudes needed to manage this type of learning experience. Although the purpose of this course is not to "sell" online learning, it is again important to reiterate that expectations for participants (students and instructors) be defined as clearly as possible.

While the surveys and interviews clearly showed that knowledge and use of technology was a key expectation of both the students and instructors, there were other expectations and concerns as well. Technology and technical skills are a very important component of this online course, but the course will not focus exclusively on these elements. The team recommends that instructors be made aware that students need and want feedback as well as clearly established course requirements and expectations. Some respondents indicated that students were concerned that they would not have adequate feedback from instructors online as compared to a traditional classroom situation. Students also indicated they were concerned that course requirements and expectations may not be as clear to them as they would be face-to-face where they could personally interact and speak to instructors and other students. Instructors need to realize that learners are concerned that the feedback they get may be inadequate when compared to a live class. Instructors should be aware that learners believe the lack of feedback, eye contact, body language and live interaction may negatively impact the learning experience. This need for feedback identified in the survey results leads the project team to believe that this course should be facilitated in some part or manner to maximize the learning experience. Since the course will represent a learner's first experience with online learning, the project team feels it is prudent to support the student as much as possible to better facilitate the transition from face-to-face interaction to online interaction.

To further meet these and other student needs in an online course, it is recommended that instructors be given additional training in managing and facilitating an online course. Students also expressed a desire to access help when needed, whether it was of a technical nature or related to other concerns. As part of this online course students should be encouraged to explore and seek answers for themselves. It is recommended that the course provide resources for self help and encourage students to explore and seek answers to their questions as part of the learning experience before seeking help from an outside source. The findings indicate that students want someone to solve or answer their questions before attempting to seek a solution on their own. Procedures and sources for outside help and information will be also be provided, but students should be encouraged to seek answers to questions and attempt to solve problems on their own.

Students were concerned about the time commitment in an online learning situation. It is therefore recommended that a segment on time management be incorporated into the course to assist students in preparing for the time commitment that will be needed to successfully take an online course. Also related to the time element was the concern among students the course would be "boring" if they already had a mastery of the required skills and knowledge needed. As a solution to this concern it is recommended the course be designed so students can test out and move as quickly as their individual knowledge and expertise allows.

Although responses from students and instructors indicated there would be a great need for technical skills and knowledge, there was a large gap between what students believed their proficiency levels to be and what instructors actually experienced in online learning situations. Students assessed their skills as much higher than what instructors were actually witnessing. Because they believed their skills were advanced, students indicated they would be resistant to taking a course pertaining to online learning. This information further supports the need for a course in which students could move at their own pace. Since there appears to be a large gap between actual skill levels and perceived skill levels of students, it is recommended that the course be mandatory for all students. This would establish a common ground or baseline of operation for students and instructors. Early in the recommendations it was stated that this course would provide specific information and skill-building activity to assist students and instructors in an online course format. It would be remiss not to recognize that technology is constantly changing and it will be important to review and evaluate the components of this course on a periodic basis.

Lastly, the administration of such a course must be taken into consideration. It is recommended that the university decide how often and when this course will be offered based on its business plan. Administrators will need to decide the time format for the course, whether it should be completed in a few days or over a semester. Although the design of this course is for online, information gathered during the assessment indicates there also may be a need for a traditional face-to-face version as well.

Recommendations For Future Research

This study points to the need for further research in several areas. Instructor skills (or the lack thereof) concerned several students: a list of instructor competencies and eventual development of a similar orientation program for faculty might be indicated. A study should be undertaken to establish these competencies.

As both faculty and students saw communication issues as problematic, a study of the 'rules' of written communication in an academic setting might be appropriate as well. Expectations of both instructors and students should be analyzed.

The delivery of an orientation to online learning program begs for evaluation. Implementation of this course to study its effectiveness is essential. Techniques such as pre- and post- studies of the learning performance as well as a comparison of student performance among populations who did attend the orientation versus those who did not.

Finally, this study should be replicated on a broader scale. A national or international population would add credence to the conclusions as well as a global focus on orientation needs. A larger sample size and randomized sampling should be used.

Conclusion

The study elicited several interesting results. Both student and faculty responses indicate the clear need for adequate student preparation prior to embarking on an online learning program. Surprising, though, is the disparity between the two groups about what such a program should entail. While instructors focused heavily on the need for stronger technology skills, the student responses dealt almost entirely with issues of time management, personal commitment, and the need for realistic expectations. Thus, the orientation to online learning program should strive to address the expressed needs of both faculty and students. Instructors may also need to be educated about the objectives of the program and the content it encompasses, and be prepared to fill in any skill gaps—such as use of a particular tool or software program specific just to their area of instruction—that students may have upon entering the course. Instructors also may need to be clearer about their expectations of students and establish protocols for student-instructor communication and feedback. A final issue: while students admitted they needed more preparation, they

paradoxically did not see the need for an orientation program. Thus, the institution offering such a course will need to consider making it mandatory (though constructed in such a way that students can 'test through' the material) or otherwise marketing it to obtain learner commitment.

Acknowledgements

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Table 1: Online Resources

Table 1 lists online resources that were accessed and examined as extant data in the analysis process.

Resource	Web Address
Germanna Community College – Time Management for College Students	http://gcclearn.gcc.cc.va.us/adams/time/
Fastfax – Effective Time Planning Strategies	http://www.learningcommons.uoguelph.ca/learning/fastfax/planning.htm
University of Guelph – Learning Time	http://www.webshops.uoguelph.ca/learningtime/
Harcourt College – Time Management	http://www.hbcollege.com/management/students/bktimemg.htm
UNC – CH – Blackboard Course	http://blackboard.unc.edu
NAU – Online Learner's Guide	http://jan.ucc.nau.edu/~d-ctel/OLG/Welcome.php
Central Piedmont Community College – Distance Learning Readiness	http://cww.cpcc.cc.nc.us/readiness/index.asp
Minnesota Virtual University – Online Learner	http://www.mnvu.org/Frame?pg=3035
Technology and Telecommunications for Teachers – Being an Online Learner	http://www.k12.hi.us/~tethree/00-01/content/onlinelrnr.htm
WebCT – Student Orientation Center	http://www.webct.com/oriented/viewpage?
Illinois Online Network – What Makes a Successful Online Student?	http://www.ion.illinois.edu/IONresources/onlinelearning/StudentProfile.html
Illinois Online Network – Self-Evaluation for Potential Online Students	http://www.ion.illinois.edu/IONresources/onlinelearning/selfEval.html
Illinois Online Network – Tips for Online Success	http://www.ion.illinois.edu/IONresources/onlinelearning/tips.html
NCSU – Distance Education	http://distance.ncsu.edu/green/de4me.htm
John's Hopkins – Distance Learning Course	http://distance.jhsph.edu/oll

Table 1: Online Resources

Appendix A –Student Questionnaires

Student Questionnaire, EAC783

Posted in online discussion forum
Students in EAC 783 Fall 2002
Option to post responses to board or reply to surveyors via email

1. If you could have learned something about online learning prior to beginning your first online course, what would have been helpful? (E.g., sending email, chat, downloading, how to post discussion messages, instructor expectations, time commitment.)
2. If a free 1-credit-hour course had been offered online to better prepare you for your first online course would you have taken it? Why or why not?
3. What were your original assumptions about online learning and have they changed? Why or why not?
4. Now that you are participating in an online course, what do you think is the most difficult aspect of online learning?
5. Would you recommend an online course to others? Why or why not?
6. What advice would you give to someone preparing to take his/her first online course?

Student Questionnaire, EAC784

Sent via email
Students in EAC 784 Fall 2002
Responses via reply email (not anonymous)

1. If you could have learned something about online learning prior to beginning your first online course, what would have been helpful? (E.g., sending e-mail, chat, downloading, how to post discussion messages, instructor expectations, time commitment.)
2. If a free 1-credit-hour course had been offered online to better prepare you for your first online course would you have taken it? Why or why not?
3. What was your original assumption(s) about online learning and has it changed? Why or why not?
4. Now that you are participating in an online course, what do you think is the most difficult aspect of online learning?
5. Which would you recommend to others: online learning or standard instructor-led classroom training?

Student Questionnaire, LTS

Posted by NCSU Learning Technology Services for all students enrolled in online classes
Fall 2002
Respondents could elect to submit responses anonymously

1. If you could have learned something about online learning prior to beginning your first online course, what would have been helpful? (E.g., sending e-mail, chat, downloading, how to post discussion messages, instructor expectations, time commitment.)
2. If a free 1-credit-hour course had been offered online to better prepare you for your first online course would you have taken it? Why or why not?
3. What was your original assumption(s) about online learning and has it changed? Why or why not?
4. Now that you are participating in an online course, what do you think is the most difficult aspect of online learning?
5. Which would you recommend to others: online learning or standard instructor-led classroom training?

Student Questionnaire, Corporate Employees enrolled at University of Phoenix

Data collected through email communication with employees from a local corporation who were participating in online learning through the University of Phoenix.

1. If you could have learned something about online learning prior to beginning an online course, what would have been helpful? (E.g., Sending email, Chat, Downloading, How to post discussion messages, Instructor expectations, Time commitment).
2. If a free 1 credit hour course were offered online to help you learn more about how to be an Online Student, would you take it?
3. What was your original assumption about online learning and has it changed?
4. Now that you are participating in an online course, what do you think is the most difficult aspect of online learning?
5. Which would you recommend to others: online learning or standard instructor-led classroom training?

Appendix B – Instructor Questionnaire

Distributed to instructors of EAC 783 (Advanced Instructional Design) and 784 (Needs Assessment and Analysis)
Posted online to all instructors of online courses at NCSU Fall 2002
(respondents had option to reply anonymously)
Distributed to several instructors of online courses at UNC-Chapel Hill

1. If a student had already completed a 1 credit hour online course preparing them for Online Learning, what would you expect them to know upon entering your class? (Technology, online participation, realistic expectations of workload, etc.)
2. What are the top problem areas that online students have encountered in an online class (Technology, Design, User-Knowledge, etc.)
3. What problem areas are not within the student's control?
4. What frequently asked questions do you receive that are not within your expertise?
5. What is the average dropout rate for an online course? Of the students who dropped, what are their common reasons for dropping?
6. How many students in an online class is too many?
7. Typically, how many hours per week does one of your students devote to an online class?