

# Not the Wand but the Wizard

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## ABSTRACT

A team of experienced distance educators, from three separate faculties at the University of New Brunswick, conducted a two-stage study that examined learners'/participants' perceptions of factors affecting their learning in courses offered by audio-conferencing, audio-graphic conferencing, and video-conferencing. Study findings determined that, regardless of the technology used, learners were most influenced by instructor teaching style. These findings underscore the importance of maintaining and refining the more relational and interactive aspects of effective pedagogical practice within the contexts of adult learning and distance education.

## RÉSUMÉ

Une équipe chevronnée de spécialistes à distance, venant de trois facultés différentes à l'Université du Nouveau-Brunswick, a mené une étude à deux degrés examinant les perceptions d'apprenants/participants sur les facteurs affectant leur apprentissage dans des cours offerts par audio conférence, par conférence d'images sonorisées et par vidéoconférence. Les résultats de l'étude indiquent que, sans tenir compte de la technologie utilisée, les apprenants étaient les plus influencés par l'enseignement de l'instructeur. Ces résultats soulignent l'importance du maintien et du raffinement des aspects relationnels et interactifs d'un exercice pédagogique efficace à l'intérieur des contextes d'apprentissage des adultes et de formation à distance.

## INTRODUCTION

Both educators and learners are becoming increasingly more involved in university courses that use different delivery media. The proliferation of delivery technologies indicates a need for ongoing assessment of their influence upon learning. This exploratory study looked at the issue of technology and learning by asking learners in three different disciplines, using three different technologies, to identify factors they perceived to have affected their learning. All the courses in the study were established distance courses, ran concurrently, and were offered through the Department of Extension and Summer Session at the University of New Brunswick. Educators for the courses were generally present at one of the sites, but would make field trips during the course delivery to each of the other sites. An undergraduate course in educational assessment was delivered by audio-conferencing. Learners were connected to the educator's location by phone lines and used push-to-talk microphones to communicate with one another. An introductory undergraduate administration course was delivered by audio-graphics, which included both audio and computer connections. An introductory level course for Registered Nurses was transmitted by two-way video-conferencing with cameras and microphones; this allowed for visual and auditory interaction between educator and learners.

## CONTEXT

Numerous studies have compared the effectiveness of distance and face-to-face instruction. Much of this research concluded that distance instruction can be as effective as traditional instruction if student needs are taken into consideration (Eiserman and Williams, 1987). Researchers have examined student reactions to distance education from a number of perspectives, including the reactions of adults and children. Most of these studies assess the level of satisfaction with particular programs and offer recommendations on how to change attitudes towards distance learning, thus stemming high drop-out rates from distance education programs (Brindley, 1987; Cross, 1981; Garland, 1992; Mason and Kay, 1989).

Moore and Kearsley (1996) report that most distance learners are self-motivated adults who choose distance learning for its relative ease of access to institutions of higher learning—not out of any preference or desire for learning by distance technologies. Mood (1995) reports that “some learners

study through distance education because they prefer it; most do so because it is the option that fits most easily into an already busy life" (p. 101). As university educators, we deliver courses by distance education to reach learners who would otherwise find a university education inaccessible. For the most part, both educators who employ alternate delivery modes and those who continue to participate in them report distance delivery to be a positive experience (Barker and Platten, 1989; Cross, 1981, and Harasim, 1990). Nelson (1985) and Kirby and Chugh (1993), among others, also offer assurances that student achievement levels in distance learning are comparable, if not slightly higher, than those learning in the traditional face-to-face classroom.

Nonetheless, student assumptions about, and frustrations with, distance technologies still abound. There are several reasons why some learners resist taking or continuing in distance courses: a) the perception that distance education will be of lesser quality than traditional instruction; (b) the realization that distance courses often require more work and more responsibility on the part of the learner; and c) anxiety surrounding the hands-on application of the technology (Moore and Kearsley, 1996, p. 166).

It should be noted, however, that several of the above-mentioned studies have been limited by relatively small samples and by concentrating on only one mode of distance delivery.

The purpose of this study was twofold: 1) to identify factors that affect perceptions of learning in a distance education environment, and 2) to understand the influence of the delivery technology on learning. It encompasses two years of data collection from learners in three faculties of the same university, each using different distance technologies and teaching strategies. The researchers were brought together by a common belief that learners' perceptions are important in guiding understanding; thus, the research turns to the learners for illumination.

## METHOD

The study was guided by phenomenology, which refers to "an inductive, descriptive qualitative methodology developed . . . to describe experiences as they are lived by study participants" (Polit and Hungler, 1995, pp. 197–198). In other words, a phenomenological study focuses on how people experience some phenomenon and how they interpret their experiences. In this instance, the phenomenon of interest is the experience of learning at a

distance through the use of a variety of distance delivery technologies. The data were collected in two phases over two years.

## PHASE ONE

Data were collected from learners in three different courses, each being delivered by a different distance technology. An undergraduate nursing course was delivered by video-conferencing to 21 learners at three sites. Audio-graphics was used to deliver an undergraduate administration course to 23 learners at three sites. Finally, an undergraduate course in education was delivered by audio-conferencing to 31 learners at four sites. At the beginning of each course, learners completed an open-ended questionnaire asking them to reflect on the factors they expected would influence their learning during the course. This questionnaire was repeated mid-way through the term to determine what factors were currently affecting learning, and again at the end of the course to gather a retrospective view. The words and phrases in these data were analysed to generate descriptive codes. The common themes from this analysis shaped an open-ended interview guide that was used to interview a sample of learners following the courses. These transcribed interviews were then analysed and coded for descriptive, interpretive, and explanatory categories and themes. Five major themes emerged from the explanatory coding, that is, pedagogical strategies, learning process, learning environment, personal factors, and technology. These findings have been presented at educational conferences and seminars (Herbeson (Carusetta), 1997; MacIntosh, 1996; Maher et al., 1996; Post, 1998).

## PHASE TWO

### *The Questionnaire*

In the second phase of data collection, which took place the following year, a questionnaire (see Table 1) was developed based on the factors and themes identified in phase one; it was then completed by the learners currently enrolled in the three courses described in the introduction. The nursing course was delivered to 32 learners at three sites, the administration course to 19 learners at three sites, and the education course to 25 learners at four sites. The purpose of the questionnaire was to confirm the importance of the identified factors and determine their relative significance. Near the completion of each course, learners were asked to

rate 22 factors (see Table 1), representing the five major themes. They were asked to rate the influence of each factor on their learning using a 5-point Likert-type scale, with 1 representing very positive and 5 representing very negative. Learners could also rate items as not applicable. The questionnaire also asked learners to indicate which of these 22 factors had the most significant and the second most significant impact on their learning and whether the impact was positive or negative. A final open-ended question asked for other comments about their learning experiences in the course that were not reflected in the 22 factors. Completed questionnaires were not examined or analysed until course marks had been submitted. Of the 76 learners who were asked to anonymously complete the questionnaire, 52 returned completed questionnaires.

### *Focus Groups*

In the final two weeks of each course, one-hour focus groups were conducted with groups of learners at sites from each course. Forty-two learners participated in six focus groups. Each focus group was led by a graduate research assistant, and the conversation was tape-recorded with the participants' permission. Each session began with a description of the study and the five major themes: pedagogical strategies, learning process, learning environment, personal factors, and technology. Each theme was discussed separately, and statements were recorded on flip-chart pages. A discussion about how the course could be further improved concluded each session. The tapes were transcribed, removing any identifying information, and a content analysis was made of the transcripts, the flip-chart pages, and the responses to the open-ended questions on the questionnaire.

### *Analysis*

The analysis of the qualitative data from the first phase, from the focus groups, and from the open-ended questions in the questionnaire, was reported in relation to the five major themes. The remaining data obtained from the questionnaire were used to determine consistency with the analysis of the qualitative data. The 52 questionnaires were analysed as one group because the returns from the individual courses were too disproportionate to generate statistically significant results. Means and standard deviations were computed for the 22 factors and recorded in Table 1. Any mean below 2.0 was interpreted as highly positive.

*Table 1*  
*Questionnaire Items, Means and Standard Deviations*

<u>Statement</u>	<u>Mean</u>	<u>SD</u>
1. The number of sites	2.3	1.0
2. Instructor teaching style	1.8	0.7
3. Side conversations at site	2.5	1.1
4. Site visit by instructor	1.3	1.3
5. My past learning experiences	2.0	0.8
6. The use of discussion as a way of learning	1.6	0.1
7. The distance technology used	2.8	0.1
8. Exposure to the perspective of other participants	1.8	0.7
9. The time of the class	2.2	0.9
10. Textbook/Readings	2.1	0.8
11. Physical environment (i.e., lighting, temperature, room size)	2.5	0.9
12. Manual/Course notes/Syllabus	1.9	0.7
13. Past experience with distance technologies	1.2	1.3
14. Demands on my time	2.8	0.9
15. Method of evaluation	1.9	0.8
16. Group interaction—at site	2.0	0.8
17. Group interaction—as a whole	2.4	1.1
18. My motivation	2.0	0.8
19. My external supports (e.g., spouse)	1.8	1.0
20. My interest in the subject matter	1.9	0.6
21. Opportunity to interact in small groups	1.8	0.7
22. Overall, how would you rate your learning experience	1.9	0.8

Table 1 (continued)

23. Which of the above factors had the most significant influence on your learning experience in the above course?

Factor Number	Positive Influence	Negative Influence
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24. Which of the above factors had the second most significant influence on your learning experience in the above course?

Factor Number	Positive Influence	Negative Influence
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25. Other comments, not reflected above, that you would like to make about your learning experience in this course.

### A. Pedagogical Strategies

Pedagogical strategies, the instructional methods used by the educators, are identified in the phase two questionnaire by item numbers 2, 4, 6, 10, 12, and 15 (see Table 1). The analysis of the qualitative data indicates that these strategies make the greatest positive contribution to the learning experiences. An overall mean in the questionnaire of 1.7 for items referring to pedagogical strategies reinforces this; the fact that 19 of the 80 responses (24 percent) from the open-ended question indicated that educator teaching style had the most positive effect on participants' learning is a further confirmation.

In particular, learners' comments supported the perceived significance of the educator's teaching style. Typical student comments were:

*(The educator) is a knowledgeable, flexible and accommodating individual and has an above-average understanding of adult women learners.*

*I have learned that the Prof. makes the course.*

*I guess what I like best about this course is that although the instructor was enthusiastic about the subject, she admitted when she did not know the answer, and didn't always jump in with it but allowed us time to do some thinking and reflecting on our own.*

Other educator characteristics deemed to have a positive influence on participants' were a perceived abundance of patience, effective organizational skills, and a good sense of humour.

### B. The Learning Process

The learning process is the ongoing educative experience of the learners during the course. This process is indicated in the questionnaire by items 3, 8, 16, 17, and 21, and resulted in a mean of 2.1. The analysis of the qualitative data revealed that group interactions at the site were rated more positively than group interactions as a whole. Responses such as these were typical:

*The discussion and small group work was great, and there was a lot of learning going on even when off topic.*

*Depending on the mood of the group each night, I guess [the learning process] is a mixture of good and bad.*

*When the professor was in the classroom the small group interaction was always good because we could make eye contact with her . . . . As far as the whole group was concerned, because of the time delays with cameras or passing microphones and that kind of thing, you tend to wander in and out of your thoughts and you can't keep track of what other people are saying.*

Questionnaire responses supported these findings, indicating that group interaction at each site was more positive (mean = 2.0) than interaction with the whole group (mean = 2.4). It was also noted that side conversations at sites were seen in a less-than-positive light (mean = 2.5) as they could be distracting to a discussion of course material.

### C. The Learning Environment

Study respondents perceived the learning environment as having two distinct components: the physical properties of the classroom and the psychological atmosphere. They are indicated in the questionnaire by items 1, 8, and 11, and resulted in a mean of 2.3. Most groups were satisfied with the physical layout of the rooms. A few learners offered suggestions for improving lighting and ventilation:

*The chairs are comfortable and there is lots of room to spread out your stuff but a window would be nice.*

*We can see some of the other crowded and dingy locations so we can't complain.*

Responses to the questionnaire also indicated that there was some concern with the number of sites for the courses (mean = 2.3) and the physical environment of the classrooms (mean = 2.5). In general, however, it would appear that learners made the best of their environment. Words like



“safe,” “friendly,” or “competitive” were used to describe the emotive atmosphere in the classrooms, and were reflected in responses like these:

*Sitting around the table like this, we like to square off on issues. I guess you could say we thrive on conflict.*

*We have a good group here in that we all help each other whenever somebody gets stuck*

#### D. Personal Factors

Personal factors centre around individual variables that influence participants' ability to focus on and learn in the course. Indicated in the questionnaire by items 5, 14, 18, 19, and 20, they resulted in a mean of 2.1. Although most learners described themselves as highly motivated to attend courses, much of their time and energy was spent coping with the multifarious demands of their busy lives. The learners in nursing spoke of the necessity of juggling shift work, family responsibilities, and course load, but at the same time were quick to add that their educator's understanding and supportive attitude motivated them to “go through hell and high water” to get to class. Education learners also expressed these sentiments, as illustrated by this response:

*The facilitator was very flexible and easy to get along with, as well as approachable, encouraging and allowed people to believe they could do it, especially useful to those new to the department.*

The administration learners appreciated the practical applications of the course content to their outside lives, for instance:

*Accounting courses take a lot of outside work but I think mature learners have the advantage because they are willing to give up a lot in order to do the course.*

Education learners liked the interactive and informal aspects of on-line discussions and the wide choice of assignments offered, as in this response:

*Working full time is difficult so the choice of the kind of assignment you want to do is excellent.*

When learners were asked to envision the “perfect” learning situation, they invariably spoke of small, interactive learning environments close to home and facilitated by a “real” [physically present] educator.

Results of the questionnaire lend credence to these qualitative data. A mean of 2.8 indicates that “demands on my time” was perceived negatively.

### E. The Technology

The subject of technology was the most negative of the five themes influencing learning. Responses to questionnaire items 1, 3, 4, 7, 13, 16, and 17 resulted in a mean of 2.0, indicating that the distance technology was perceived in a neutral fashion. From questions pursued in the focus group, however, the technology was perceived to be an intrusion upon "real learning," "harder on the budget than regular classes," and the cause of varying levels of anxiety and frustration:

*Sometimes you have questions about the course and you don't want everyone else hearing your question but everybody is listening. I know I can always call [the educator] but the long distance phone charges are just added on to all the extra costs of photocopying and mailing in assignments.*

*Sometimes [with video-conferencing] the image is blurry and the sound is muffled and we lose a lot of points because we are not really getting clear feedback.*

*Let's face it. It's hard to have a conversation with a machine.*

Learners using video-conferencing said their concentration was negatively affected by the compressed transmission delay. Some were embarrassed by choppy images of themselves on screen: "Sometimes it looks like we're all in a Kung Fu movie." Audio-conference learners missed the subtlety of body language and personal contact with the educator and other class members. Learners at two audio-graphic sites declared the technology, "okay, when it's working," but those at a third site revealed they would probably try to avoid taking any future classes using this kind of technology.

For the most part, learners agreed that the convenience of attending classes and the positive attitudes of their educators outweighed a great deal of the frustration that occurred due to occasionally dead or crackling phone lines and out-of-focus video. One participant summed up the general attitude surrounding technology: "It seems like [distance education technology] is a necessary evil that we have to put up with in order to achieve any kind of higher education these days."

## IMPLICATIONS FOR TEACHING AND LEARNING

Learners indicated that the educators' selected pedagogical strategies made the greatest positive contribution to their learning. They also

appreciated educators who had a sense of humour, were well organized, and were patient with learners and the technology. Learners found that interactions within small group sites enabled them to develop confidence in sharing ideas and later in contributing to larger group discussions. They got to know each other quite well in the small groups and drew on each other's strengths. Being multiple-role learners was often challenging and learners gathered support from others in their site. Although the use of technology was sometimes awkward, learners were appreciative that it provided the opportunity to study. When the technology was appropriate to the course, worked well, and was familiar to learners, it became almost transparent to the learning environment.

Distance education is more than learning to use new and flashy technology. Successful distance educators need a variety of talents and abilities; depending on the environment in which they work, they must also be course planners, instructional designers, technology troubleshooters, researchers, motivators, and cheerleaders (Mood, 1995). The following implications for teaching and learning that were derived from this study, along with a few words of wisdom arising from the authors' collective experience are offered as guidelines for other distance educators who would like to practise a little pedagogical wizardry of their own.

### *What Distance Educators Can Do for Learners*

1. Practise patience with learner anxiety over the initial use of technology until comfort levels are achieved.
2. Give as much encouragement and feedback on learner performance as possible throughout the course.
3. Keep your sense of humour and help learners to access theirs.
4. Choose a distance technology that fits the nature of the course, not just because the equipment happens to be available.
5. Remember that learning styles vary within distance education courses too.
6. Be aware that learners have lives outside of the classroom, which add to their stress and can affect their learning.
7. Be approachable, even though you are at a distance.
8. Be organized and flexible. Have materials ready for learners but be willing to adjust content to suit their needs.

9. Be authentic. Let learners know who you are by sharing your experiences.

### *What Distance Educators Can Do for Themselves*

1. Recognize the need to change practices from teaching to facilitating; that is, from teacher-directed to other-directed approaches.
2. Prepare and distribute materials well in advance of class.
3. If you get negative feedback, don't assume you need to change course content, first take a look at the way in which the content is delivered.
4. Employ a simple yet consistent means of evaluating ongoing learner needs.
5. Take time to reflect on your own goals and attitudes by keeping a teaching journal.
6. Practise communicating enthusiasm.
7. Attend, or offer to deliver, workshops and/or conferences that deal with distance education technologies and teaching strategies.
8. Lobby your department or institution for sufficient funding to ensure that all learners have equal access to good learning environments, and suitable technology and support services, for example, comfortable classrooms, enough microphones, and site liaisons.

For the benefit of learners who are trying to put a little magic back into the process of lifelong learning, by distance or otherwise, we offer the following suggestions.

### *What Distance Learners Can Do for Themselves*

1. Bring your *full self* to class, which means keeping an open mind and being prepared to participate in all group discussions and activities.
2. Speak up for your rights, that is, the right to hear and understand your educator and classmates wherever they are and through whatever means is available.
3. Share your own pertinent experiences in the classroom.
4. Maintain respect for the learning needs of others.

5. Accept responsibility for your own learning.
6. Keep your sense of humour intact.
7. Elicit the support of family, friends, and co-workers as you undertake the additional responsibility of a course.

## CONCLUSION

Although this study involved the use of three different distance technologies facilitated by three very different educators, we were encouraged by the finding that learners were most positively affected by the characteristics of the educators and the teaching strategies they used. We agree with Hopey and Ginsburg (1996) that "planning for the future of distance learning requires envisioning how learning should change for a changing world. . . [And that] distance learning will only be successful if it is educationally grounded and not driven by the technology" (p. 23).

Although personal motivation, time management issues, and the technology used by all had an influence upon the learners' distance education experience, the educators' teaching philosophy and their actions in the distance classroom remained the most positive influence in our study. Our findings strongly suggest that distance educators can increase the effectiveness of classroom learning and enhance the distance education experience for learners by:

1. staying mindful of the "little things," like respect, patience, humour, and adaptability;
2. giving learners the opportunity to reflect upon and offer feedback on their learning; and
3. following up on learners' information with innovative and caring action.

We believe a very valuable lesson for the future of distance education has emerged from the study, a lesson that is valuable to course designers and administrators of distance education as it is to practising educators: new technologies, even state-of-the-art equipment complete with bells and whistles, no matter how well they are promoted, are not *the* key factor in improving the quality of learning. The key is people. We are firmly convinced that, without good educators using appropriate pedagogical strategies, the most advanced equipment in the world will be as impotent as a wand without a wizard.

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Elin Maher est professeur adjoint avec la faculté d'Administration à l'Université du Nouveau-Brunswick. Ses intérêts de recherche comprennent les attitudes estudiantines envers la comptabilité et les facteurs affectant ces attitudes; l'influence des technologies à distance sur l'apprentissage; et la prise en compte des instruments financiers.

Judy Macintosh is Associate Professor in the BN/RN Program at the Faculty of Nursing, University of New Brunswick. She has taught by distance technologies for several years. Her research interests include establishing trust in distance learning relationships; the influence of distance technologies on learning; and how homeless persons address their health needs.

Judy Macintosh est professeur adjoint dans le Programme de Baccalauréat en sciences infirmières/Infirmières autorisées à la faculté des sciences infirmières de l'Université du Nouveau-Brunswick. Pendant plusieurs années, elle a enseigné par l'intermédiaire des technologies à distance. Ses intérêts de recherche comprennent l'établissement de la confiance dans les relations d'apprentissage à distance; l'influence des technologies de distance sur l'apprentissage; et la façon par laquelle les sans abri adressent leurs besoins en matière de santé.