

Instructional Methods for Distance Education¹

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Teaching with distance education technologies, much of the time, is a matter of adapting the teaching styles and instructional methods you've been using in the "traditional" classroom for years. This Extension fact sheet will provide you with basic teaching principles and how they apply to distance education.

Other fact sheets in this series on distance education include *Introduction to Distance Education*, *Video-Based Distance Education*, *Internet-Based Distance Education* and *University of Florida's Distance Education Resources*. A for-sale publication titled *The Distance Education Handbook: A Guide for University Faculty* is available through the Institute of Food and Agricultural Sciences' Educational Media and Services unit. Request publication No. SP 254.

Instructional Design

Instructional design is the systematic and continuous application of learning principles and educational technology to develop the most effective and efficient learning experience for students (Gaff, 1975). Instructional design comes into play in any educational arena -- not just distance education -- when instructors try to identify which areas need to

be taught to bring about the desired learning outcome in students (Dick & Carey, 1985).

Several distance education instructional design models exist. Monson (1978) noted that such a model should include four elements:

- Humanizing -- Creating an atmosphere that focuses on the importance of the individual and overcomes distance by generating group rapport.
- Participation -- Getting beyond the technology by providing opportunities for the spontaneous interaction among participants.
- Message style -- Presenting what is to be said in such a way that it will be received, understood and remembered.
- Feedback -- Getting information about the message, which helps the instructor and participants complete the communication loop.

Other researchers have developed their own instructional design models. However, common to most models -- whether for a traditionally taught class or a distance education course -- are the following questions that must be answered:

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- What is the *need* for the educational program?
- What are the *goals and objectives*?
- Who will be the *learners*?
- What will be the *subject content (message)*?
- What teaching *methods and media* will be used?
- How will learners be *assessed*?
- How will the course or lesson be *evaluated* with a view to improvement?

Needs assessment

The *needs assessment* should take place before the rest of the design process is undertaken. The needs assessment, in essence, determines why the instruction is required. It defines the "need." As Willis (1993) wrote: "What external data verify the need (for the course), what factors led to the instructional need, and what past experiences indicate that the instruction being planned can effectively meet this need" (p.1).

Goals and objectives

Goals and objectives structure your plan of action. Goals and objectives are as important in the distance education arena as they are in your traditional classroom set-up. Following is a brief definition of each and an example.

- Goal -- A general statement of what you hope the course (or program) will achieve, perhaps expressed in terms of what you, the teacher, will be presenting to the learner.
- Objective -- A statement of what learners should be able to do (or do better) as a result of having worked through the course (or program).

Example:

Goal statement: To introduce the learner to healthy eating habits.

Objective statements: a) List the principal components of a balanced diet and describe the function of each in the body. b) Name six diseases caused by inadequate or unbalanced diet.

The learners

In any instructional environment, it is imperative to know as much about the *learner* -- the intended audience -- as possible. This is equally true for distance education. What are the audience members' ages, cultural backgrounds, interests and educational levels? What is their familiarity with distance education technology and delivery systems? The audience for each course most likely will be somewhat different. However, there are some common characteristics regarding the "distance learner."

Characteristics

- Is older.
- Has established jobs and families.
- Takes distance education courses for a variety of reasons (advanced degree, better job, broaden education).
- Usually isolated.
- Self-motivated. Motivational factors from contact with other students are absent.

What does this learner expect?

- Content.
- Limited interaction with instructor.
- Not sure. Many have been out of school for a while.

How does the learner "feel" about distance education? (Race, 1989, pp. 107-109)

- At the beginning -- excited, apprehensive, curious, exposed and vulnerable, and inadequate.
- In mid-course -- fed-up, intimidated, pressured, alone.
- Toward the end -- frightened about exams. (Will I manage it? Why should I bother? Time seems to be rushing by.)

What can I do to meet the learner's needs?

- Learn about students' backgrounds and experiences.
- Be sensitive to different communication styles and varied cultural backgrounds. (Example: Humor is culturally specific.)
- Assist students in taking an active role in the course by independently assuming responsibility for their learning.
- Make students aware of and comfortable with new patterns of communication to be used in the course.
- Assist students in becoming familiar with the delivery technology and prepare them to resolve technical problems, should they arise.
- Be aware of students' needs in meeting standard university deadlines, despite the lag time often involved in rural mail delivery.

Because the distance learner is self-directed and self-motivated, a professor's teaching style must reflect this. Instruction should no longer be **teacher-centered**, where the professor functions as the "Sage on the Stage," but **learner-centered**, where the professor's role is the "Guide on the Side."

The message and teaching methods

What are you trying to say? The message should be decided even before a medium is chosen. Is it appropriate for distance education? How's the best way to integrate the message with the technology?

Rule of thumb: A professor usually wants to cover **too much content** in a distance education class. Plan to cover about two-thirds of what you would in a regular classroom situation. The reasons? Time differential; giving students a chance to interact; the media slow down the interaction. Make up the lost content with handouts or other media (e-mail, computer conferencing, and telephone office hours).

Does this mean that you cover less material, that the distance education experience is a "watered-down" version of your regular class? Not at all. Many professors have found out that much of the

material left out of their distance education classes really wasn't missed. Distance education helped them tighten up their presentations and focus on what is really important. They were able to incorporate the improvements in their traditional class, as well.

The medium/media

You want to select the technology to meet the **needs** of your class. The medium/media choice should come **after** you decide what you want to say. In your courses, you want to provide media variety to your students; integrate voice, video, and print resources. Refer to the Extension fact sheet *Introduction to Distance Education* for more information on particular distance education media.

Assessment and evaluation

Students should be assessed of their knowledge of the content over the duration of the course. Students can be assessed through conventional exams at regional testing centers, "take-home" exams, written reports and projects, peer evaluation of group activities, and student self-evaluation. They also should be an instrumental part of the evaluation process through formative and summative evaluations. The purpose of the evaluation should be improvement of the course. Decide on the criteria you will use to measure the distance education program's effectiveness and success. More detail on assessment and evaluation is provided later in this section.

Interaction

Perhaps the most striking difference between the traditional and distance education classrooms is in the area of communication and interaction; faculty members in the distance education environment do not have the benefit of seeing students' nonverbal cues to gauge how well they are teaching. You must have confidence in yourself and the content that is being taught. The feedback you receive from students' evaluations, telephone calls and electronic mail messages will help you to gauge how well you are doing.

Distance education requires different communication methods than those needed in traditional classrooms (Zvacek, 1991) because

information technologies are predominantly visual, as opposed to the textual and auditory environment of the conventional classroom (Dede, 1991). Garrison (1989) explained that the major technologies of distance education must be "capable of supporting explanatory feedback" (p.17). Examples of one-way communication are lecture (direct) and broadcast signals (mediated). Examples of two-way communication are face-to-face dialogue (direct) and teleconferencing (mediated).

However, interaction does not have to occur in "real time" to be effective (Russell, 1994). Russell stated that "virtual interactivity," occurring through asynchronous ("non-real-time") means, such as computers (e-mail), facsimile, and surface mail, are effective in bridging the communication gap between instructors and off-campus students.

Interaction must be planned and orchestrated. The key, then, to interactivity is *thoughtful instructional design* that takes into account the teaching objectives, creative teaching methods, and appropriate distance delivery technologies (Murphy, 1992).

Types of Interaction

There are three types of instructional-based interactions. Each one should be considered when developing courses or programs (Murphy, 1992).

- Learner-instructor -- Involves presentation of information to students and the students' responses to the information. Lectures, question and answer sessions, brainstorming activities, case studies, celebrity guests and interviews, typify this form.
- Learner-learner -- Occurs when the instructor provides opportunities for students to work together in small or large groups. Teaching strategies include cooperative learning, debates, role-playing, and panel discussions.
- Learner-content -- Occurs when students reflect on and interact with the ideas and concepts presented in the content. Distance education learners interact with the content through individual projects, homework assignments,

interviews and surveys, and computer-assisted instruction.

Encouraging Interaction

To encourage interaction at a distance, you may wish to use some of the suggestions below:

- Call on sites. When there are many off-campus sites watching or listening to a live broadcast (satellite, videoconference, audioconference), you must call on specific sites for questions or comments.
 - "Roll call." Open each session with an informal "roll call" to give participants a chance to become accustomed to using the equipment.
 - 0-Second Rule. When you ask for a question from a site, give the site a chance to respond. Wait at least 10 seconds before saying anything else or going to another site.
 - Timing. Interaction should be short (15-20 minutes) and well-planned to maximize involvement and generate results.
 - Question and answer. Distance education interaction takes more time. Budget about **one-third more time** than you think it will take for question and answers.
 - Delivery systems. Integrate a variety of delivery systems for feedback and interaction, such as fax, electronic mail, individual or conference calls, e-mail chat sessions, and, when possible, personal visits.
 - Detailed syllabus and personal message. Develop a detailed course syllabus and provide it, as well as printed course materials, well before the class starts. Also include a "personal message" about who you are and what you expect from the class. You also might want to include a picture of yourself in the personal message.
- How can you use these suggestions in your course? Following are various distance education technologies and ways to implement some of the interactive strategies listed previously (Murphy,

1992). This is not an exhaustive list, so feel free to move strategies around.

Videoconference

Arrange small group activities, such as role playing an issue or planning a debate, at local sites before asking groups to respond via the videoconferencing system to all sites. The instructor may determine if a sample of responses is sufficient or if each group needs to respond to the larger group.

Computer-mediated communication

An asynchronous (not in real time) computer conference enables students to react to each other's ideas and encourages collaborative writing assignments. Students can compose their text off-line or on-line.

Printed materials

Provide a viewing or listening guide to supplement video or audio presentations. The guide should assist the students in focusing on issues, prepare them for concepts to follow, and provide opportunities for further learning whether independently, in pairs, or in small groups.

Videotape

Present a concept on videotape and ask the students to turn off the machine to complete the assignment before returning to the videotape for a follow-up.

Teaching Strategies

Effective distance teaching requires enhancing existing skills, rather than developing new abilities. Following are some suggested teaching strategies for use in distance education:

- "Chunk" it. Professors should teach in "chunks." Don't spend more than 15 minutes lecturing without some type of break, such as showing a short segment from a videotape, using computer graphics, having a panel discussion, or initiating a question-and-answer period. The break allows students to process what they have just been exposed to.

- Lay down "ground rules" at the beginning of the semester or meeting and assure that they are followed. For example, every participant should state their name and site each time before they speak.
- Build in enough time for course materials sent in the mail to get to their intended destinations.
- Provide a strong print component to supplement nonprint materials. It's a good idea to provide students with a written outline of each class.
- Develop strategies for student reinforcement. Use several minutes at the beginning of class to review material from the previous week. Use electronic mail as a reinforcement tool (Willis, 1993).
- Content organization. Because of the logistics involved, presenting content at a distance usually takes more time than presenting the same content in a traditional setting. Content must be organized.

Teamwork and Roles

Providing instruction to students at a distance is not the responsibility of the instructor alone. In the distance education framework, teamwork becomes important in the development and dissemination of instructional materials (Brinkley, Pavlechko, & Thompson, 1991; Collins & Murphy, 1987; Kelly, 1990). **Instructional designers, television-production specialists, computer specialists and other technical support personnel** provide expertise in particular areas in which the instructor does not have experience (Kelly, 1990).

Instructor

The first member of the "basic" distance education team is the **instructor**, or **subject-matter specialist**. These people are experts in their areas of content, not experts in the technology used to deliver instruction. However, instructors should understand the workings of the distance education technology used in the course (Thach, 1994). Such skills will provide instructors more comfort when they interact with the technology (Catchpole, 1993; Dillon, Hengst, & Zoller, 1991).

Instructional designer

The distance education **instructional designer** must function in relationship to the infrastructure as a reference for the resources available in that academic institution, must know how certain technologies and media work, and must serve as an intermediary and mediator between the instructor and technical specialists (Brinkley, Pavlechko, & Thompson, 1991).

Educational technologist

Educational technologists, such as computer specialists and educational television producers, have the production expertise to assist in the development of the program or course. Because of their professional backgrounds, they understand the specific instructional design needs dictated by the requirements of the media (Smith, 1991). Many times, the same person performs the instructional designer and educational technologist roles.

Support staff and site facilitators

These people are the backbone for any successful distance education program. **Support staff** ensure that the little details are taken care of so a distance education program can run smoothly and successfully. Staff members handle such tasks as student registration, materials duplication and distribution, securing copyright clearances, facilities scheduling, and textbook ordering.

Site facilitators assist the instructor from the various "receive" sites across the state or country. Site facilitators don't necessarily need to be knowledgeable about the subject matter for the class they are facilitating -- but it helps. Instead, they should be able to handle technical problems that may arise at the sites and be well-versed in interactive strategies to involve the students as much as possible in the course activities.

Evaluations

As described earlier, evaluation should be components of any instructional endeavor. The first step in designing a distance education course or program should be a **needs assessment**, which determines why the instruction is required.

Evaluation should take place throughout the course, from beginning to end. What can be done to improve the existing course? How well did you do? How can you change things? Did it meet the learners' needs? In the context of distance education, these questions should be asked.

The primary reason to evaluate a course should be to **improve** it. Results from the evaluation would be put to use in revising and modifying the class to make it as instructionally effective as possible. Another reason for evaluation is **accountability** to a funding source or decision makers. The funding source wants to know how its money was spent and what the outcomes were.

The following characteristics of good evaluation were established by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education (Zvacek, 1995).

- **Utility** -- Criteria ensure that the evaluation serves the practical information needs of its audience, and that it is informative, timely and useful. The criteria deal with audience identification, report clarity and dissemination of results.
- **Feasibility** -- This looks at the practicality of the educational program. Cost-effectiveness, practical procedures and viability of the evaluation are criteria here.
- **Propriety** -- Regards the rights of the individuals affected by the evaluation and its results. Legal and ethical concerns fall into this category.
- **Accuracy** -- Ensuring the evaluation discovers precise and authentic information is the final standard. Issues of validity and reliability and defensible sources of information fall into this category of criteria.

Formative evaluations can be conducted once or many times over the length of a course to find out students' reactions, attitudes and achievements, always with a view to improving the course (Holmberg, 1977). The idea behind the formative

evaluation is to ensure the course or instructional product is meeting its stated goals.

Example formative evaluation

As you respond to the following questions, please address the relevant issues which include -- but are not limited to -- syllabus, sequence, teaching methods, interaction with other students and with professor, level of reading materials, access to materials, and clarity of class sessions and assignments.

- What do you like about the course so far this semester?
- What don't you like?
- How would you recommend that changes be made?

Summative evaluations are given to students at the end of the course. They are used to determine the overall effectiveness of the class or instructional product. Summative evaluations usually focus on student performance, course relevancy, learner attitudes toward the delivery methods used, and the instructor's teaching style and effectiveness. Responses are used to improve the course for future students.

Example summative evaluation

As you respond to the following questions, please address the relevant issues which include, but are not limited, to syllabus, sequence, teaching methods, interaction with other students and with professor, level of reading materials, access to materials, and clarity of class sessions and assignments.

- What did you like about the course this semester?
- What didn't you like?
- How would you recommend that changes be made?

Student Assessments

Several ways exist to conduct student assessments of the content they are to learn in a distance education course. Following are some suggested ways to assess student performance:

- Peer evaluation of group activities. Groups can produce projects or papers via distance education technologies. Allow group members to assess each other's performance.
- Student self-evaluation. Ask students to evaluate how well they think they did. This requires them to be somewhat introspective and helps them to learn from the experience.
- Offer conventional exams at regional testing centers or by qualified monitors/site facilitators.
- Give "take-home" exams that simulate real-world applications of course content.
- Assign written reports and projects. Written reports or projects provide students the opportunity to synthesize the material they learned.

Course Revisions

Course revisions should be done as a direct result of the evaluation process and feedback from students and colleagues. Willis (1993) says to test revision ideas with small groups of distant learners and/or colleagues, and ask them to review and critique the ideas you're considering. Remember that revisions required for one learner group may be inappropriate for a different student population.

Marketing Strategies

Probably the area that's thought about the least in a distance education production is marketing. But without some **marketing** plan, a distance education program is destined to have low enrollment. How do you get the word out about the program?

The consideration of marketing a program should come on the very heels of the idea for the program itself. When identifying the audience, you should think how you can inform your target audience about

the distance education program. The first question you should ask yourself is "*Who cares?* Who wants this content?" The answer will direct you to the group or groups who would be most willing to take your course or attend your instructional program. By answering "Who cares?" you'll be on your way to focusing where you should spend time and money advertising the program. Courses must be advertised so people will know what's offered and how it will benefit them.

Advertising for distance education means letting the people who care about the content know about the instructional program. Here are some ways to do that:

- Word of mouth/direct contact ­­ Sometimes the direct way is the best way. Ask people to spread the word. Call people who meet the criteria of your target audience.
- Industry/trade magazines and newspapers ­­ These usually have a "What's Up?" section that you can get your course or program advertised in. Make sure the program you're trying to promote fits in some way with the overall scope of the industry magazine or newspaper.
- Partners ­­ If you're partnering with other organizations on a distance education program, ask them to help advertise. Let information be distributed to the organizations' members.
- Paid advertising ­­ If there's a budget for paid advertising, you may want to buy time on radio or television stations or space in magazines and newspapers.
- Newsletters and fliers ­­ Newsletters and fliers can be effective means of getting out information to a specific audience. If there's a special-interest group, there's a newsletter for it. Get on mailing lists. Find out about their readers. Ask to advertise your course or program.
- World Wide Web page ­­ The Web allows you to make contact with potential students across the state, country and world.

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