Throughout history, higher education has offered a number of instructional methods in the delivery of course material to students. Within the last couple of decades, there has been a dramatic change in how “alternative instructional delivery” of material has occurred. The virtual, or alternative, learning environment is referred to as distance learning or distance education because it allows learners to participate in a learning activity while at some distance from a traditional classroom environment. By definition, distance learning is an experience that takes place through an electronic medium while the instructor or instructional activity and the student are at a distance from one another.

As athletic training education incorporates technology and distance education, it is important to design content and delivery systems that will effectively deliver material. A common criticism heard from students enrolled in distance-education courses is that they perceive the course or activity as impersonal and feel separated from the instructor or classmates. The effectiveness of distance education depends on several types of interaction. The variables to consider are the students, instructor, types of communication, course organization, and method of delivery.

The theory of transactional distance is based on the principle that the learner is separated from the instructor by a distance that requires some form of accommodation. This distance is not necessarily geographic but at the “level and rate of dialogue and structure.” How this distance is perceived could determine the effectiveness of the course or activity. Transactional separation can be seen in all educational environments, but in distance learning it is large enough that instructor and student behaviors are affected. Two variables determine the extent of the perceived distance and effectiveness of the learning: dialogue and structure. A third variable, learner autonomy, describes the students’ behavior.

**Dialogue and Structure**

Dialogue refers to the ability for and type of communication and the relationship between the students and instructor, in addition to the resulting actions. Structure is the way a course or learning activity is organized. For example, responsiveness to the student from the instructor in terms of the pace, content, feedback, and sequencing of events determines the levels of dialogue and structure. The type of dialogue that occurs depends on the students, instructor, course design, and subject matter. If a student is viewing a course through a recorded media (e.g., software, video), only one-way communication occurs. In a correspondence course (via postal mail) dialogue does happen, but extremely slowly compared with a computer-driven course in which dialogue can occur between both parties at a rapid pace, allowing students to perceive themselves as less distant.

The structure of a course can be rigid or flexible, depending on the students’ needs and the instructional design. For example, a course on videotape is a highly structured format in which the material is predetermined and delivered in an orderly manner. The student’s participation is more one-dimensional, limited to viewing the video and taking notes. There is no deviation from the lesson plan because of student’s questions, feedback, or discussion that might redirect the session. An example of a loosely structured course involves students taking an active role in guiding the pace, direction, and levels of interaction in various ways (e.g., chat rooms, e-mail, discussion boards) between the instructor, classmates, and the course material. Each student has an equal opportunity to participate, ask questions, and provide feedback, as...
well as guide the direction of the discussion, deviating into other areas of relevance.

**Learner Autonomy**

Learner autonomy refers to the extent of a student’s maturation and independence in successfully completing an online course. Learner autonomy varies, depending on the transactional distance. Online courses that have high levels of transactional distance (e.g., low levels of dialogue and structure) require the student to be more independent of instructor intervention and to work independently. Environments with low levels of transactional distance (e.g., high levels of dialogue and a more rigid structure) allow the student to depend more on the instructor.

**Putting Them Together**

The interaction between dialogue and structure will dictate the transactional distance. Research has shown that if the balance of control favors students, dialogue increases and transactional distance decreases; when the balance shifts toward the instructor, the transactional distance increases. The key is to find a balance between structure and dialogue that allows transactional distance to be minimized. The level of transactional distance has a direct bearing on the quality of the program, the interest shown by the students, and the level of autonomy needed.

Distance learning often focuses on the individual (student), rather than a class as a whole. Interaction is promoted between the instructor and the students or the course content. Distance-learning courses should place students in the center of the activities. Students in a traditional course engage in three different types of interactions, as do students in a distance-learning environment. These types of interactions are described as learner–content, learner–instructor, and learner–learner.

Learner–content interactions are between the student and the course of study, a central point behind the basis of education. The learner–instructor relationship not only occurs between the students and the instructor but also involves the learning activities that are taking place in the course. Learner–content and learner–instructor exchanges are currently seen in both traditional and distance courses. Perhaps the most challenging aspect to be incorporated into distance learning is learner–learner interaction. The instructor does not necessarily have to be present for this to occur. This form of interaction allows peers to form support mechanisms. For example, students will interact with each other through chat rooms, discussion boards, and e-mail to discuss issues, assignments, and papers. Much like in the traditional classroom, students would work with and learn from each other to reinforce the material. The use of a case study as an example would enable students to work together to discuss the merits of the case and arrive at a possible solution. The students could use e-mail, chat rooms, or threaded discussion boards for communication, and the instructor could supervise and provide feedback when needed.

One problem seen in distance education is the incorporation of only one type of interaction. For example, the student interacts with the content of the class only, similar to an independent-study course. The student would interact with the course material, finishing assignments and turning them in for grading. This interaction might be done well, but it is only one-dimensional in how the student is stimulated and does not necessarily promote learning, thus possibly causing the transactional distance to increase. Educators need to find a way to incorporate multiple methods of interaction in order to keep dialogue and structure at a suitable level for both the students and the instructor. This will maintain a low level of transactional distance, thus increasing student interest and improving course outcomes.

When designing an online course or activity, the instructor should ensure that multiple types of interaction are included. The instructor needs to respond to and communicate with the students in a timely manner, as well as allowing the students to have input to increase levels of dialogue. Course learning units should allow the students to become actively engaged; the more active the students are with the course material, other students in the class, and the instructor, the smaller the transactional distance. This in turn could generate a positive attitude toward the class, content, and learning in the virtual environment. Possible methods include but are not limited to chat rooms, research papers, and threaded discussions, wherein students or instructors can post topics, questions, or current research for others to review.