

# Chapter 11

## Charting Student Physical Locations in the Virtual World

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### EXECUTIVE SUMMARY

*Distance-learning courses are primarily designed for Internet-based asynchronous delivery of instruction. This case describes the use of Web 2.0 GIS technologies to create a graphic representation of student locations on an interactive map. This class map then became a multi-purpose resource for online class members and the instructor: to locate and highlight students' distances from the instructor and among themselves; to remind the instructor to be sensitive to possible effects of locations on students due to environmental factors such as weather conditions; to help the instructor tailor proximity-based resources or course requirements for students; to help the instructor connect distance-learning students with each other geographically for group projects based on their locations; and to facilitate the efforts of students and the instructor in identifying locally available resources relevant to their coursework.*

### EDUCATIONAL SETTING

The students in this case were enrolled in online courses in order to achieve a variety of career goals. Some focused on becoming technology-using developers of materials and media for their own and their students' learning, and others intended to become leaders in the use of educational technology within their organizations.

The online course sections were offered to students who were enrolled in educational technology courses comprising a graduate educational technology track within several master's-degree majors or serving as electives within the educational leadership program. The majority of the students were educators in K-adult organizations. Geographically, the students resided within the state in which the course originated. However, during the terms in which the courses were offered, some of the students as well as the instruc-

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tor traveled beyond state and national borders. These students ranged in technology experience from sophisticated users of media and Web-based technologies to others who possessed only the basic skills necessary for enrolling in a distance-learning course. The instructor for the courses described in this case was an assistant professor of instructional technology with 26 years of teaching experience across all levels of public education, 11 of those years as an educator using distance-learning formats in higher education.

The university offering the courses described in this case is a comprehensive, state-supported, fully accredited institution located in the southeastern region of the United States with a total enrollment of approximately 16,000 students and a graduate enrollment of approximately 15% of the total enrollment. Of the university's courses offered in a particular term, Internet-delivered, distance-learning courses comprise between 4% and 6% of the total course offerings, depending on the semester. The courses in the case were offered by the College of Education, which is accredited by the department of education at the state level, accredited by its regional association, and accredited by professional organizations at the national level.

## **THEORETICAL FRAMEWORK**

Distance-learning experiences are becoming increasingly common within professional teacher-education courses. These experiences may be synchronous or asynchronous and may occur within blended courses or be the defining characteristic of the courses. Indeed, they comprise significant elements of the ecology of professional learning and teaching within universities at the beginning of the 21st century.

Given rapidly changing technologies, the development and implementation of courses including distance learning have been dynamic and fluid experiences in pedagogical innovation.

As faculty design the structure of these courses, they also experiment with particular pedagogical strategies and tools to achieve their instructional goals. Understanding how such pedagogical decisions occur and the nature of their impact on subsequent learning and teaching not only can inform the further development of the courses themselves, but also can contribute to professional knowledge about the potential of individual pedagogical tools within distance-learning environments. In addition, examination of the processes behind these decisions can provide insight into how innovation occurs as faculty and students work with instructional tools within the context of distance-learning courses.

Asynchronous, Internet-based, distance-learning courses have become common in online learning environments for the delivery of postsecondary education. During the 2006–2007 school year, 66% of the 2-year and 4-year degree-granting postsecondary institutions in the U.S. offered college-level distance-education courses, with approximately 11,200 college-level programs designed to be completed totally through distance education (National Center for Education Statistics, 2008). Asynchronous Internet-based technologies were the most widely used technology for instructional delivery within the courses offered.

Although many students may be selecting online courses for convenience or increased access, their educational needs still extend beyond the provision of the delivery of content. The North American Council for Online Learning (NACOL, 2007) has identified elements for effective distance-learning courses including student-centeredness and the use of constructivist pedagogies such as projects to build upon students' current understanding (Bruner, 1966). Distance-learning courses and programs should be designed to meet students' learning needs by providing content and activities delivered across a spectrum of options that align with different visual, auditory, and hands-on learning styles and address many of Gardner's Multiple Intelligences (1993).

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