At many institutions, students’ academic experiences have changed in just a few years. Wireless networks, course management systems, multimedia, and other technologies add richness and complexity to the learning experience. Instructors and students can use a mixture of Web sites, multimedia, and traditional textbooks as learning tools. Course discussions can occur in a classroom, in a chat room, or via videoconference. Class time is now anytime, because instructors and students communicate, complete or review assignments, or access course information online at all hours.

Research Goals

While technologies offer many new learning possibilities, they also present new challenges. Instructors must adapt pedagogy, technical proficiency becomes vital, and effective e-learning requires a reliable and robust technical infrastructure. This translates into a host of new instructor and student support requirements that institutions must address. Many in higher education feel that these new demands will outstrip available resources (see Figure 2-1).

To help institutions manage this issue, the EDUCAUSE Center for Applied Research
(ECAR) and IDC, a provider of technology intelligence and industry analysis, investigated current e-learning activity in higher education to
- ascertain current instructor and student support requirements;
- discover effective practices in the areas of e-learning infrastructure, training, course/curriculum development, and support/help; and
- examine longer-term e-learning support challenges.

**E-Learning Definitions**

The term “e-learning” has many connotations and forms. This study focuses on three e-learning course types.
- **Online distance-learning courses**: The instructor conducts class sessions online—not via mail or telephone. This usually requires no face-to-face meetings between students and instructor either in the classroom or via video during the course. (Some instructors do require a face-to-face orientation meeting before course commencement.)
- **Traditional courses supplemented with technology**: The instructor teaches all sessions in the classroom but incorporates technology in some or all classes. Technologies might include PowerPoint, Web-based activities, multimedia simulations of key concepts, virtual labs, and online testing.
- **Hybrid courses**: The instructor combines the elements of online distance-learning courses and traditional courses to replace some classroom sessions with virtual sessions, online forums, or Web-based activities. These courses are also referred to as blended courses.

For this study, we use the umbrella term “e-learning course” to refer to all three course types.

**Research Scope**

This study focuses primarily on institution-wide or central e-learning support practices. The term “central” refers to the combination of centrally administered departments and organizations that offer e-learning technical infrastructure, training, curriculum and course development, and support resources across the entire institution. Examples include central information technology (IT) departments, instructional technology departments, and central faculty resource centers.

This study examines both instructor and student e-learning support requirements. The term “instructor” includes an institution’s entire spectrum of teaching personnel. The quantitative research addressed instructor and student needs equally. The results indicate that institutions identify instructors as the greater support challenge. Therefore, the focus of the qualitative research shifted to emphasize instructor requirements.

This study intends not to provide a definitive assessment on the state of e-learning in higher education but to highlight effective e-learning resources and support practices at a sample of institutions. To accomplish this, ECAR and IDC conducted an online survey of the EDUCAUSE membership and overlaid these data with effective e-learning resource practices and strategies garnered from in-depth interviews with representatives of higher education institutions that have illustrative e-learning programs.

**Study Contents**

The remainder of the study is structured as follows:

*Chapter 3: Methodology and Participant Demographics* details the research scope and process.

*Chapter 4: An Overview of E-Learning Activity* looks at the extent of current online distance-learning, hybrid, and technology-
in-the-classroom course activities at the institutions participating in the online survey.

Chapter 5: Drivers Behind E-Learning Initiatives examines the forces that have influenced e-learning development.

Chapter 6: Impact and Challenges of E-Learning focuses on user requirements and examines the challenges that arise when instructors and students teach or take an e-learning course.

Chapter 7: Central Support Providers for E-Learning examines the web of resources required to address equipment and technical infrastructure issues, ensure technical proficiency, develop or transform a course into an e-learning course, and assist while teaching or taking a course.

Chapter 8: Institutional E-Learning Support Practices illustrates select institutional strategies to create an optimal mix of infrastructure, training, course/curriculum development, and assistance resources.

Chapter 9: Challenges to E-Learning Support discusses how institutions must adapt resource offerings as instructors’ technical proficiencies rise and the penetration of e-learning course offerings grows.

Chapter 10: Lessons Learned, Trends and Issues, and Conclusions summarizes key findings and lessons learned from participating institutions, key trends in e-learning, and general conclusions on this research.