

Chapter 1

Technology in Higher Education: Asking the Right Questions

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ABSTRACT

Leading technology integration in higher education requires an inquisitive, reflective approach. This chapter discusses key questions that university administrators, policy makers, faculty, and other stakeholders must address in order to effectively integrate technology into higher education. The questions are divided into three categories. First order questions are conceptually simple questions that can be answered with basic information and little controversy. First order questions primarily relate to the cost, availability, and capabilities of technology. Second order questions build on first order questions and require more data, greater participation, and deeper analysis to be effectively answered. Examples of second order questions include how to effectively implement technology, the costs and benefits of technology, the unintended consequences of technology, and how to move from operational to strategic planning. Third order questions involve the most complex, controversial, and profound issues of technology and higher education. These questions will likely never be definitively answered but force us to continually reassess and evaluate our fundamental beliefs about higher education. Third order questions relate to the role of higher education in society, the control and ultimate impact of technology, and how technology affects the essential elements of the higher education experience.

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INTRODUCTION

The ability to conceptualize, develop, and effectively employ tools is one of the defining characteristics of human beings. Beginning in the earliest days of pre-history, tool use has had a tremendous impact on the biological and social development of humankind (Watson, 2005). Even today, technology continues to play a central role in the development of our world. The tools we develop and employ drive the social and economic development of the human race and are the basis for humanity's hope for a better future (Arthur, 2009). It would be difficult to think of any area of human activity in which technology is not viewed as an essential aspect of future growth. As a society, we expect technology will improve our health care, lengthen our life expectancy and that of future generations, reduce crime, protect us from natural disasters, and improve our economic condition.

Technology also plays a central role in the development and growth of organizations. Technology allows organizations to reduce costs, increase productivity, improve efficiency, develop new products, and reach new customers. Technology links people to processes and vice-versa, and it is often an artifact demonstrating humanity's expression of how we want to work, communicate and exist as an organization. The long term success of any organization, from a small local business to a multi-national corporation, depends on that organization's ability to continually adapt to the ever expanding power of technology. Colleges and universities are no exception. The most successful higher education organizations in the future will be those that most effectively plan for, implement, utilize, and manage technology.

While most people would agree that technology plays a vital role in the development of societies and organizations, there is a great deal of debate about the specific role that technology plays. People disagree about virtually every aspect of technology. There is intense disagreement on

such fundamental questions as the meaning of the word "technology" (Kline, 2003), whether technology is autonomous or under human control (Ellul, 1967), whether technology's impact has been generally positive or generally negative (Surry, 2008a), what role the market should play in technological development (Nye, 2006), and even the best way to categorize the various characteristics of technology (Surry, 2008b). Because there is such widespread disagreement about technology, individuals, organizations, and societies have an obligation to be intelligent developers and consumers of technology. If technology use is an inherently human activity, then we have an inherent responsibility to develop and employ technologies in a critical, thoughtful, rational, and humane manner.

In this chapter, we will discuss a number of key questions that colleges and universities must address if they wish to be intelligent developers and consumers of technology. Our goal for this chapter is not to answer the questions. That would be an impossible task. Our goal is to present the key questions and briefly describe the important associated issues related to each question. We hope university administrators, policy makers, faculty members, change agents, students, and other stakeholders in higher education will use these questions as a framework for discussion and debate on their own campuses. The answers to each question will likely vary, and probably should vary, widely from campus to campus.

THE KEY QUESTIONS

In this section, we will discuss key questions related to the integration of technology in higher education. We have organized the questions into three categories. First order questions are the least complex, easiest to answer, and least controversial questions. Second order questions are more complex, more difficult to answer, and more open to interpretation than first order questions. Third

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