

Chapter V

Using Technology to Reintegrate Learning and Doing: IBM's Approach and its Implications for Education

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ABSTRACT

“Learning” has classically been subdivided into education and training. Whereas education occurs in classroom-type settings and takes one away from work, the vocational nature of training means that much of the learning goes on in the process of work or preparing for work. In addition, pressures arising from globalism and the transition from a manufacturing-based to an information-based economy have led to an increased need to train our workforce. In order to survive and remain competitive in this changing landscape, companies such as IBM have over the past two decades taken a renewed look at learning and embraced technological innovations that allow training to dovetail seamlessly into work. This chapter looks at some of the learning solutions IBM has developed to meet these challenges. The solutions have implications for how we as a society view the construct of education.

INTRODUCTION

In 1994, after three consecutive years of losses and drastic employee layoffs, IBM posted a small profit. The company's turnaround was part of a redefinition in which IBM moved from a manufacturing organization to one oriented toward information and services and committed to align-

ing itself to a rapidly changing global market. Also beginning in 1994 the company committed itself to learning as a social responsibility. IBM made public education (first in the United States, then worldwide) its primary corporate citizenship obligation. A good part of this obligation rests in IBM's role in promoting technology and access to information in “traditional” classrooms. The

rapidly-changing technological landscape of the *Information Society* requires both corporations and educational institutions to re-examine the role of traditional- and experience-based orientations to learning.

This chapter examines the educational paradigm of learning and how it differs from the experiential learning valued in the workplace. This is followed by a discussion of how a senior learning executive at IBM, Nancy Lewis, challenges academic assumptions regarding learning and offers an alternative paradigm that weds traditional and experiential learning, utilizing technology-enabled formats as well as innovative approaches to knowledge management. The implications of globalism and advanced technology on traditional and experiential models (e.g., Kolb, 1984) of learning are investigated, followed by a brief discussion of how public education may benefit from integrating technology-enabled, experiential models of learning into the curriculum.

BACKGROUND

The Educational Paradigm

The American model of education has a number of characteristics that distinguish it from what we conceptualize as “training.” Its focus is on the development of skills and knowledge in the largely decontextualized setting of the academic classroom. Actual application of science, mathematical, or technological learning is often neither required nor offered. This traditional approach to education as an end in itself is carried over into college, at least to the undergraduate level, where “applied” learning as a focus for majors is often only offered at the Master’s or Doctoral levels. Learning that serves specific vocational aims, or *training*, is largely absent from U.S. education. *Vocational education*, originally based on a *master-apprentice* model of learning (the dominant model prior to the adoption of a national

education policy), has lost a great deal of status as a result. In fact, even today highly-skilled workers who lack formal socialized education are referred to as “uneducated” in our society, and they are portrayed as deficient in this respect. A further consequence of socialized education is the segmentation of modern life into an “educational” phase and a “vocational” phase such that education precedes vocation. *Adult education* (U.S. Department of Education, 2007) refers largely to the education of adults who desire the development of personal skills, socialization into the U.S. or citizenship, while *adult training* consists of a series of career development moves and is not considered “education” per se.

Public education is non-vocational; the skills it promotes are considered social goods by society regardless of future employment. However, although public education is non-vocational, it is responsible for developing both the work-ethic and the skill sets children will need as they enter the workforce. Science, technology, engineering and mathematics (STEM) are the skill areas that have been identified in public education as most needed in an information- and technology-based society. Collectively, they are frequently referred to as STEM-skills.

TAKING A SECOND LOOK AT LEARNING

Challenging an Institutional Frame

Nancy Lewis, Vice President of On-Demand Learning at IBM, identifies herself as a learning professional whose expertise in the field comes from *practice*, thus creating a space for “learning” as existing outside the primary framework of education: “So my experience and my talents have really been gained not academically but through practice.” Nancy subdivides learning into two main categories, the first being academic education, which she describes as ‘classical’ and

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