E-Learning as a Socio-technical System:
An Insight into Factors Influencing its Effectiveness

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Abstract

Effectiveness of e-Learning systems is a matter of debate in corporate and academics alike, with researchers viewing it from course content and instructional design perspective, learner / teacher perspective or delivery medium and technology perspective. We argue that e-learning systems should not consider either of these perspectives in isolation. We analyze the e-learning systems using the socio-technical systems approach, which treats a work system to be made up of two jointly independent, but correlative interacting systems — the social and the technical. The technical system is concerned with the processes, tasks, and technology needed to transform inputs to outputs. The social system is concerned with the attributes of people such as attitudes, skills, values, the relationships among people, reward systems, and authority structures. Outputs of the work system are the result of joint interactions between these two systems. We use Leavitt’s model to analyze e-learning systems as socio-technical systems. The model suggests that organizations form multivariate systems consisting of four interacting components – task, structure, actor, and technology. We observe that an e-Learning system can fit the definition of a socio-technical system, as they involve teachers and learners (actor), the organization and the environment (structure), the knowledge and skills being imparted (task) and the technology used for e-learning (technology). In this research, we measure variables that represent these four components and understand their significance individually and their combined effect on effectiveness of e-learning systems. The outcome of this research tries to understand factors that influence the effectiveness of e-learning systems.

KEY WORDS: e-learning effectiveness, socio-technical system approach, Leavitt’s Model

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