

# Chapter 1

## Educational Foundations Supporting IT in Higher Education

**Robert D. Tennyson**  
*University of Minnesota, USA*

### ABSTRACT

*Technology has always been welcomed in higher education as a means to improve student learning. However, technology application in higher education is usually driven by the technology fad itself without support from educational foundations in learning. This chapter argues that successful employment of IT in higher education requires a careful consideration of basic foundations in learning philosophy and learning. These foundations provide both the theoretical and empirical support to sustain technology as an integral component of technology in higher education learning. In addition to the historical and contemporary comments on educational foundations, examples are provided to assist the reader in implementing the suggestion to strengthen learning by the promise of technology to improve learning in higher education.*

### INTRODUCTION

This chapter provides a survey of educational foundations directly associated with instructional design for IT employment in higher education. My goal is to present sufficient information in the subject areas of learning philosophy, learning theory, and instructional theory so that educators in higher education can begin employing instructional design methodology without first having to acquire formal and disciplined study in educational foundations. However, it is not my intention to replace or to negate the importance

of formal study in educational foundations. Rather it is my hope that the novice instructional designer will seek out additional study in this important domain of instructional design. For the apprentice instructional designer, this chapter will illustrate the role of educational foundations in instructional design and fill in knowledge gaps missing from formal studies. The ID expert should view this chapter as a means to formalize their personal educational foundations in the three areas of learning philosophy, learning theory, and instructional theory.

At the conclusion of each section on learning philosophy, learning theory, and instructional theory, I present examples of educational foundations statements written by instructional designers from

DOI: 10.4018/978-1-4666-4233-1.ch001

a variety of settings. In addition to the examples, learning the topics presented in this module on educational foundations can be improved if the learner, by using the Educational Foundations Worksheet, prepares written definitions within their individual context. The educational foundations worksheet is located at the end of the chapter. I recommend that the learner use the worksheet when completing each major section of the chapter.

I will first present an introduction to educational foundations followed by major sections on the three foundational areas of learning philosophy, learning theory, and instructional theory.

## FROM PHILOSOPHY TO ID MODELS

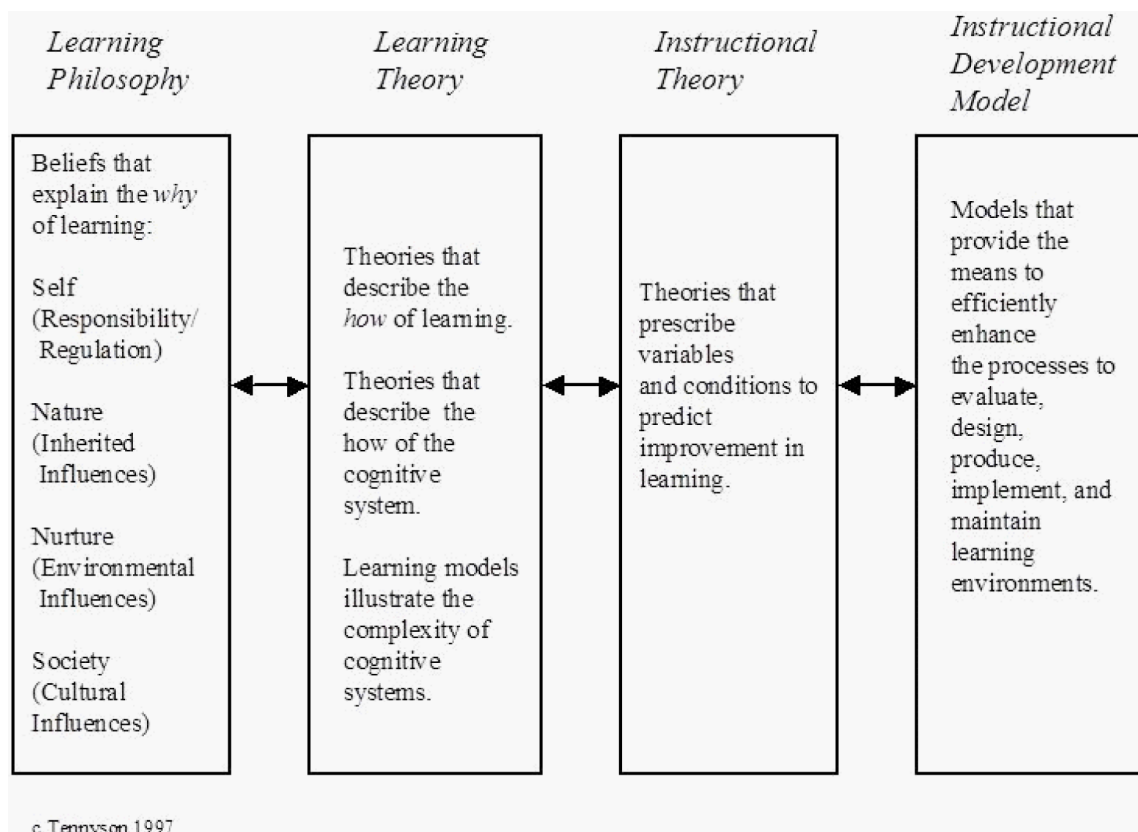
The focus of this chapter is on educational foundations; the goal is to help the reader understand the foundational relationships between learning

philosophy, learning theory, and instructional theory. The purpose is to set the underlying principles by which IT instructional design process decisions are made (see Figure 1). Two examples are presented to show how a philosophy of learning provides the underlying structure to the theme of a learning environment.

### Example 1: Behavioral-Centered Education

An example of applying educational foundations to controlling a society is Skinner's utopian community (and schooling system) presented in his book, *Walden Two* (Skinner, 1948). Skinner used Plato's philosophy as written in *The Republic*, and the behavioral paradigm as the basis for his society: A community that was controlled by a behaviorist-based philosophy and learning theory. Whereas Plato saw government and society controlled by

Figure 1. Educational foundations: learning philosophy to ID models



83 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/educational-foundations-supporting-higher-education/78433](http://www.igi-global.com/chapter/educational-foundations-supporting-higher-education/78433)

## Related Content

---

### The Economics of Renewable Energy Promotion Policies: A Case of Wind Power in Brazil

Govinda Timilsina (2018). *Sustainable Development: Concepts, Methodologies, Tools, and Applications* (pp. 642-656).

[www.irma-international.org/chapter/the-economics-of-renewable-energy-promotion-policies/189916](http://www.irma-international.org/chapter/the-economics-of-renewable-energy-promotion-policies/189916)

### Framework Oriented Approach to Eco-Tourism

Sanjay Mohapatra and Tripti Naswa (2013). *International Journal of Green Computing* (pp. 71-82).

[www.irma-international.org/article/framework-oriented-approach-eco-tourism/80240](http://www.irma-international.org/article/framework-oriented-approach-eco-tourism/80240)

### Legal Analysis of the Deregulation of the Nigerian Downstream Petroleum Industry and Proposal for Development

Olusola Joshua Olujobi (2021). *International Journal of Environmental Sustainability and Green Technologies* (pp. 45-57).

[www.irma-international.org/article/legal-analysis-of-the-deregulation-of-the-nigerian-downstream-petroleum-industry-and-proposal-for-development/279123](http://www.irma-international.org/article/legal-analysis-of-the-deregulation-of-the-nigerian-downstream-petroleum-industry-and-proposal-for-development/279123)

### Solid Waste Management in Hawassa City, Ethiopia: Practices and Challenges

Akalewold Fedilu Mohammed (2020). *International Journal of Environmental Sustainability and Green Technologies* (pp. 1-14).

[www.irma-international.org/article/solid-waste-management-in-hawassa-city-ethiopia/243401](http://www.irma-international.org/article/solid-waste-management-in-hawassa-city-ethiopia/243401)

### Evaluation of Anti-Cancer Oncology Medicines Pharmaceutical Companies Under Chain of Sustainable Procurement

Anoop Kumar Sahu (2019). *International Journal of Social Ecology and Sustainable Development* (pp. 85-102).

[www.irma-international.org/article/evaluation-of-anti-cancer-oncology-medicines-pharmaceutical-companies-under-chain-of-sustainable-procurement/234490](http://www.irma-international.org/article/evaluation-of-anti-cancer-oncology-medicines-pharmaceutical-companies-under-chain-of-sustainable-procurement/234490)