

Chapter 13

The Integrated Readiness Matrix: A New Model for Integrating Pedagogy and Technology into Higher Education Faculty Development

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ABSTRACT

This chapter introduces the Integrated Readiness Matrix (IRM) designed to place faculty skills and competencies along two critical aspects of teaching and learning: the pedagogical and technology dimensions of education. Bloom's Taxonomy and Gardner's Theory of Multiple Intelligences provide the foundations for developing faculty into more effective classroom teachers. The Taxonomy for the Technology Domain suggests a new perspective for infusing technology into the traditional and online classroom and provides the spectrum of capabilities that actually produce learning. Faculty should seek to move themselves up on either or both dimensions; the IRM will assist in this endeavor. Technology coordinators can use the IRM as a guide to develop courses that specifically target faculty based on their position in one of the five recognized sectors of the IRM. The IRM model is ready for consideration now; future work will focus on the implementation of the matrix and an evaluation of its effectiveness.

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INTRODUCTION

Educators often voice unity with the appeal of integrating technology with instruction, yet most are not well prepared to use it to its fullest potential in the classroom. Higher education faculties are most often recruited not for the preliminary demonstrations of their teaching ability but for their expertise in a particular discipline. Engineering instructors, for example, often come with mechanical, civil, or electrical credentials. Similarly, computer information systems faculties often have a successful history of applied technology in the business environment. In truth, except for possibly education faculty, college and university teachers have not had appreciable preparation in pedagogical principles or classroom technologies much less a formal preparation in how to integrate these two theoretical foundations into successful instructional strategies.

To be successful in the classroom, faculty must become aware of the various dynamics that come into play when designing, developing, and delivering a lesson. All too often, higher education faculty discover that a lecture or group discussion, delivered and well-received perhaps dozens of times previously, suddenly is a failure among students in their current course. Reflections by the instructor are little help for, in truth, many suggest that they are just as much in awe of their previous successes as their current collapse. Without the fundamental grasp of instructional strategies and learning theories, diagnosis and repair of ineffective deliveries will almost certainly remain elusive.

Instructional technology is another tool of applied pedagogy seeking to increase student learning. Yet it, too, is fraught with penalties and consequences when delivered by ill-prepared faculty. Computers, handheld devices, educational software, learning management systems, and online social networking venues have the potential for infusing excitement and exhilaration into lessons. They are utterly imperative to the online learner. Still, as with pedagogical principles, technology

can be unintentionally misapplied by the novice teacher who mistakes digital presentations for academic content and computers for teaching.

In order to close this gap between learning and teaching, an instrument called the Integrated Readiness Matrix (IRM) was developed to help college faculty locate themselves with respect to both their pedagogical *and* technological aspirations. The IRM was designed to go beyond simply identifying the characteristics of “integrators” and “non-integrators.” It provides information needed to facilitate simultaneous faculty development along both critical dimensions. This diagnostic information can be used by instructional technologists to design faculty classes that will facilitate moving faculty higher on either or both of these dimensions. This review begins with a look at the learning theories and instructional strategies that make for successful lessons.

BACKGROUND

Learning Theories

Obviously, there are numerous theories concerning how we learn. For our purposes here, Bloom’s Taxonomy and Gardner’s Theory of Multiple Intelligences will lay the foundations for the Integrated Readiness Matrix as a model for developing higher education faculty into more effective classroom teachers.

Bloom’s Taxonomy for the Cognitive Domain

Bloom (1956) together with four colleagues and with input from 29 other scholars developed a taxonomy of educational objectives in three domains; here, the cognitive domain is most applicable. With some procedural revisions considered in the latter part of the twentieth century (Anderson & Krathwohl, 2001), the top two levels of the hierarchy

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