Chapter 13

Integrating Creative Thinking Skills into the Higher Education Classroom

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ABSTRACT

The Torrance Incubation Model (TIM) provides a simple and highly effective mechanism for integrating creativity into the teaching of any subject. The model provides guidelines for educators who wish to develop their students’ creative skills, but struggle to find the space in the curriculum in which to teach creativity as a subject. The TIM allows creativity to be woven into lesson plans by deliberately incorporating one, or more, of the core creativity skills identified by Torrance. This chapter explains the TIM, and provides examples of how it was used to redesign lessons in a higher education class, in order to teach both the subject, and at the same time develop the students’ creative capabilities.

INTRODUCTION

Creative thinking and problem solving are essential skills for the 21st Century workplace (Adobe, 2014; National Center on Education and the Economy, 2008; Partnership for 21st Century Skills, 2008; Trilling & Fadel, 2009). However, an alarmingly low number of K-12 schools are teaching creative thinking skills to our future university students (Adobe, 2013). This, of course, means that the responsibility for developing the skills is passed on to higher education instructors.

If higher education accepts this challenge, individual faculty members will face two big questions: How do I do it? And, when do I find the time to do it with an already-packed syllabus? Fortunately, this chapter has a potential answer that covers both questions.

For over twenty-five years, the faculty at the International Center for Studies in Creativity at Buffalo State have been using a curriculum design method called the Torrance Incubation Model (TIM) (Mur...
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dock & Keller-Mathers, 2002; Torrance, 1979a & b; Torrance & Safter, 1990; 1999;) for the creation of their graduate courses. While this model was originally designed for K-12 educators (Plooster, 1972; Torrance, 1979a) it has been applied in numerous higher education classes with great success (Murdock & Keller-Mathers, 2008). TIM provides a three-stage framework, along with a list of creativity skills, that enables the instructor to marry content and creativity together in a single design, thereby neatly answering the ‘how’ and ‘when’ questions.

The purpose of this chapter is to introduce the Torrance Incubation Model, examine how it has been adapted for higher education classes, and give specific examples and case studies that highlight the benefits of applying the TIM to the problem of designing an engaging curriculum that serves the dual purpose of teaching the content and developing students’ creative thinking skills.

BACKGROUND

TIM as a Classic Framework for Integrating Creativity into Content

E. Paul Torrance, who was known as the “father of creativity in education” (Millar, 2010), originally developed the Torrance Incubation Model of Teaching and Learning (TIM) for K-12 educators (Clymer, 1969; Torrance, 1979a). Torrance understood that with limited time and a curriculum that was already packed with essential content, as well as remedial and enrichment activities, teachers were not going to turn their focus to creativity – an area that might appear to be an “extra.”

Torrance had been considering this problem since the 1940’s. However, it wasn’t until he was asked to act as the learning consultant for the Ginn Reading Series (Clymer, 1969; Plooster, 1972) that he crystalized his thoughts and produced the first version of the TIM. His key insight was that rather than providing activities that might be used in addition to the Series, he could design a learning curriculum that wove the creativity skills directly into the existing lessons. At its heart, the TIM is a way to help educators create lesson plans that extend the creative thinking skills of their students at the same time as teaching the disciplinary content.

Although TIM contains the word “model” in its title, if it were being developed today, Torrance might describe it as a learning design process. As with any such process, the user enters into the TIM with a specific content goal in mind; for example, “students will describe a simple model of photosynthesis”. Where Torrance’s model differs from other design processes is that it then encourages the user to incorporate a second objective. This additional objective is a creativity goal that is drawn from the list of 18 creativity skills that Torrance (1979b) regarded as critical to the development of creative individuals. The amalgamation of these two objectives becomes the input to the core of the TIM. The output from the TIM is a lesson plan that both teaches the content, and delivers it in a manner that develops the associated creativity skill.

Torrance’s model identifies three major stages that are common across any lesson (see Figure 1). The stages are: Heightening Anticipation, Deepening Expectations and Extending the Learning.

The choices made within these broad stages establish the arc of the lesson design, and the selected creativity skill sets the “tone” or the manner in which it will be delivered. The three stages are described in greater detail later in this chapter. At this point it is only necessary to understand that the TIM provides educators with a framework for developing creative thinking skills while teaching content in a way that strengthens the lessons and engages students in meaningful learning experiences. It is designed to set