

Chapter 48

The Role of Metacognition and Knowledge Transfer in Self-Directed Learning

Gina J. Mariano

Troy University, USA

Kirsten Batchelor

Troy University, USA

ABSTRACT

Education is what remains after one has forgotten everything he learned in school. This quote by Albert Einstein embodies the essence of the relationship between metacognition and self-directed learning. It is important for students to remember what they learn in school, but many forget the information because they have not been taught metacognitive learning strategies. The learning strategies we teach students supports them in their effort to become good learners. In this chapter, we discuss the relationships between metacognition and knowledge transfer, critical thinking and self-directed learning. It brings together multiple perspectives on metacognition and knowledge transfer and discusses instructor strategies to engage students in metacognitive learning strategies.

INTRODUCTION

Education is what remains after one has forgotten everything he learned in school. This quote by Albert Einstein embodies the essence of the relationship between metacognition and self-directed learning. It is important for students to remember what they learn in school, but many forget the information because they have not been taught metacognitive learning strategies. The learning strategies we teach students supports them in their effort to become good learners. In this chapter, we discuss the relationships between metacognition and knowledge transfer, critical thinking and self-directed learning. It brings together multiple perspectives on metacognition and knowledge transfer and discusses instructor strategies to engage students in metacognitive learning strategies.

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This chapter begins with a discussion on metacognition and its relationship to cognition. The chapter then evolves into areas that are related to metacognition, which include knowledge transfer and critical thinking. Next is a discussion on the use of metacognitive strategies and how these are related to knowledge transfer. The chapter then discusses self-directed learning and its connection to metacognition and knowledge transfer.

Metacognition is at the core of why we can (or cannot) remember the material we studied the day of the test. Metacognition can be defined as “thinking about thinking” (Downing, Kwong, Chan, Lam, & Downing, 2008). A student with strong metacognitive abilities would be able to assess what he/she has learned and determine if he/she needs to study more to perform well on the exam (Nelson & Shimamura, 2000). While cognitive strategies are used to help an individual reach a goal, metacognitive strategies are used to assess if that goal has been met (Livingston, 2003). Rick & Stacey (2000) stated that, “Metacognition is generally thought to be a key to deeper, more durable, and more transferable learning”. Students can become aware of their own learning process, and rearrange and improve their learning strategies. Not only does metacognition create good learners by helping the student understand their mental weaknesses and strengths, but also by helping the student become aware of anxiety and motivation factors that hinder them from learning thoroughly (Tok, 2013).

This chapter concludes with a discussion regarding how learning strategies that support the development of metacognition skills and self-directed learning can be infused into courses. Metacognition and knowledge transfer are both important concepts to student learning. When these concepts are intertwined in a self-directed learning environment, they have the potential to improve student learning outcomes. There is a paucity in the research that connects metacognition and knowledge transfer to learning strategies. The research is even more limited in the research that connects these concepts to self-directed learning.

These learning strategies can be used to shape college courses and help encourage students to take a more active role in their own learning. This chapter reviews current research on metacognition and knowledge transfer while highlighting ways to effectively use metacognitive strategies in a self-directed learning environment. These strategies can be used by instructors teaching in higher education settings looking to engage students using metacognitive strategies in self-directed learning environments.

BACKGROUND

Metacognition has been gaining increasing attention in recent years. Metacognition in the simplest of terms is “thinking about thinking” (Downing, Kwong, Chan, Lam, & Downing, 2008). In educational environments, metacognition helps students cultivate a plan for the curriculum, monitor their learning process, and adapt their learning plans to secure deeper, more robust and transferrable learning (Zhao, Wardeska, McGuire, & Cook, 2014).

Metacognition is important in education because more students are attending college now than ever before. In fact, Kovacs (2016) found that, “nearly 90 percent of millennials who graduate from high school attend college within 8 years.” However, a report released by the Commission on the Future of Undergraduate Education found that most high school graduates are not prepared for college; in fact, approximately half must take remedial classes (Kovacs, 2016). This unpreparedness is not only present in students entering college, but also students leaving college and entering the workforce. According to

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