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# Teaching & Assessing 21st Century Skills



**THE CLASSROOM STRATEGIES SERIES**

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*Italicised entries indicate reproducible pages.*

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# INTRODUCTION

*Teaching and Assessing 21st Century Skills* is part of a series of books collectively referred to as the *Classroom Strategies Series*. The purpose of this series is to provide teachers as well as administrators with an in-depth treatment of research-based instructional strategies that can be used in the classroom to enhance student achievement. Many of the strategies addressed in this series have been covered in other works such as *The Art and Science of Teaching* (Marzano, 2007), *Classroom Management That Works* (Marzano, 2003) and *Classroom Instruction That Works* (Marzano, Pickering & Pollock, 2001). Although those works devoted a chapter or a part of a chapter to particular strategies, the *Classroom Strategies Series* devotes an entire book to an instructional strategy or set of related strategies.

As the 21st century unfolds, the pace of change in the world is accelerating while education often remains stagnant or, at best, progresses in isolated pockets. Concern over the effects of an inadequate education system on the economy and innovative potential is growing, and it seems a crisis point is near – a point when the negative aspects of the education system will outweigh the benefits. The consequences of a poorly educated population would be dire, and in order to correct this trajectory, every level of the education system will have to undergo massive changes. Teachers and administrators must lead this cultural shift, which is perhaps as important and massive as the industrial revolution. In *Teaching and Assessing 21st Century Skills*, we present a model of instruction and assessment based on a combination of cognitive skills (skills students will need to succeed academically) and conative skills (skills students will need to succeed interpersonally) necessary for the 21st century.

We begin with an overview of the major changes in the 21st century and how those changes have affected the education system and overall student achievement. In the second chapter, we review the research and theory behind the cognitive and conative skills addressed in the model. Although you might skip this chapter and move right into those that provide recommendations for classroom practice, you are strongly encouraged to examine the research and theory as they are the foundation for the entire book. Indeed, a basic purpose of *Teaching and Assessing 21st Century Skills* and others in the *Classroom Strategies Series* is to present the most useful instructional strategies that are based on the strongest research and theory available.

Because research and theory can provide only a general direction for classroom practice, *Teaching and Assessing 21st Century Skills* (and each book in the series) goes one step further to translate that research into applications for the classroom. Specifically, this book addresses three cognitive skills (analysing and utilising information, addressing complex problems and issues, and creating patterns and

mental models) and two conative skills (understanding and controlling oneself and understanding and interacting with others).

## How to Use This Book

*Teaching and Assessing 21st Century Skills* can be used as a self-study text that provides an in-depth understanding of how to gear instruction toward 21st century students. At the end of chapters 3 to 8, you will find comprehension questions. It is important to complete these questions and then compare your answers with those in appendix A. Such interaction provides a review of the content and allows you to examine how clearly you understand it.

Teams of teachers or entire faculties that wish to examine the topic of 21st century skills in depth may also use *Teaching and Assessing 21st Century Skills*. When this is the case, teacher teams should answer the questions independently and then compare their answers in small- and large-group settings.



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## Chapter 1

# THE STATUS OF THE 21ST CENTURY

The specific skill set that students will need to succeed in the 21st century has been a topic of interest in education since at least the early 1990s. In 1991, the United States Department of Labor formed the Secretary's Commission on Achieving Necessary Skills (SCANS) and charged it with the task of examining "the demands of the workplace and whether our young people are capable of meeting those demands" (U.S. Department of Labor, 1991, p. vii). The commission's 1991 report, *What Work Requires of Schools*, contrasted the old requirements for success, defined as "a strong back, the willingness to work, and a high school diploma," with what students need in the new workplace, defined as "a well-developed mind, a passion to learn, and the ability to put knowledge to work" (p. 2). The report criticised schools, saying that "despite their best efforts, most schools have not changed fast enough or moved far enough" to prepare students for the demands of the new workplace (p. 4). It also defined the criteria for success in the workplace in terms of five competencies and three foundational requirements. This was one of the first efforts to define 21st century skills and the role that schools should play in teaching them.

The ideas articulated in the SCANS report led to a variety of efforts over the next decades to define what was needed for success in the modern world. Many of these efforts focused on the interests of the organisation doing the work. For example, the US National Communication Association worked on defining speaking and listening skills, the International Society for Technology in Education focused on effective uses of technology, and the American Library Association outlined information literacy standards for students. These efforts were precursors to the Partnership for 21st Century Skills's more comprehensive 2002–2003 project to define 21st century skills in terms of a "unified, collective vision for education and a framework for action" (Partnership for 21st Century Skills, 2003, p. 2). Composed of business and education organisations, the partnership's goal was to close the gap between "the knowledge and skills most students learn in school and the knowledge and skills they need in typical 21st century communities and workplaces" (p. 3).

In a 2003 report titled *Learning for the 21st Century*, the Partnership for 21st Century Skills outlined six key elements of 21st century learning. Those elements eventually grew into the *Framework for 21st Century Learning*, published first in 2007 and updated in 2009. The framework identified 21st century student outcomes in four broad areas: (1) core subjects and 21st century themes, (2) learning and innovation skills, (3) information, media and technology skills, and (4) life and career skills. It also recommended a foundation of "critical systems necessary to ensure student mastery of 21st century