Solution Tree | Press

On Excellence in Teaching

Edited by Robert J. Marzano

_____

Study Guide

This study guide is a companion to the book *On Excellence in Teaching,* edited by Robert J. Marzano. *On Excellence in Teaching* gathers the opinions and recommendations of the world's best educational researchers, theorists, and professional developers regarding the topic of effective instruction.

This guide is arranged by chapter, enabling readers either to work their way through the entire book or to focus on the specific topics a particular author addresses in his or her chapter. It can be used by individuals, small groups, or teams to identify key points, raise questions for consideration, assess their own practices, and further develop their instruction.

We thank you for your interest in this book, and we hope this guide is a useful tool in your efforts to become more knowledgeable about and to implement effective instruction that will benefit the learning of all students.

Chapter 1

What's My Job? Defining the Role of the Classroom Teacher

Grant Wiggins

———————————

1. How does the author define a "real job description"?

2. Why does the author believe there is a problem with defining teaching by measuring all that a teacher is supposed to *do* rather than *accomplish?*

3. What are a teacher's three results-focused responsibilities as defined by the author?

4. What is the difference between *real* and *apparent* goals?

5. What does the author stress is the real point of school for students?

6. What is *curriculum writing,* and why is it flawed?

7. How does the author recommend textbooks should be used?

8. The author asserts that standardized tests do not demand superficial coverage of content. Why should teachers teach for true understanding?

9. What teacher roles outside the classroom does the author stress should be made mandatory?

10. How will the K–12 system truly be made systematic?

11. In addressing the issue of academic freedom, what does the author state teachers are free to do?

12. From where does the current real stress of teaching come, and what is the solution?

Chapter 2

Forty Years of Research on Teaching 1968–2008: What Do We Know Now That We Didn't Know Then?

Thomas L. Good

_____

1. What did Mick Dunkin and Bruce Biddle note in *The Study of Teaching* (1974) when they created the field of research on teaching?

2. How were "black box" teaching approaches used before the late 1960s?

3. How does the author consider changes in the social sciences and society in relation to research on teaching?

4. How did the 1970s Missouri Math Project show that teachers make a difference in student learning?

5. What is the "Kounin framework" for effective teaching?

6. In what ways does research show how instructional time is related to student achievement?

7. List Jere Brophy's (Good & Brophy, 2008) general conclusions about effective teaching.

8. What does cross-national research suggest about improving math teaching in North America?

9. How does the author suggest to successfully make changes in normative practice?

10. What explanations does the author provide for why we don't know more about how teachers enhance student achievement?

11. What is *reactive research,* and why is it dangerous?

12. What are the consequences of the ahistorical nature of research?

13. How has educational reform become a culture of assertion rather than a culture of evidence?

Chapter 3

The Artful Science of Instructional Integration

Barrie Bennett

_____

1. The author chose not to specifically define the term *instructional intelligence.* If you had to define it in a sentence or two, what would you say?

2. The author argues that the "system" (rather than the classroom or school) should be used to bring about instructional change over time. What are the strengths and weaknesses of using the system as the unit of analysis?

3. If you reflect on your own instructional repertoire, what percentage of your methods would be skills, what percentage would be tactics, and what percentage would be strategies? In terms of student learning, why would it be important to push toward increasing your percentage of strategies?

4. In relation to question three, how does effect size relate to skills, tactics, and strategies?

5. If someone asked you to rate yourself on a scale of 1 to 5, with 5 being the highest level, what score would you give yourself in terms of structuring group work effectively, and what criteria would you use to justify your score?

6. Why is understanding the connection between levels of use of an instructional method and assessment of students so important? How would level of use connect to effect size in student learning?

7. Can you identify any studies that attended to levels of use of an instructional innovation prior to assessing its impact on student learning? If not, is it possible those assessments were measuring a naive or minimum (mechanical) level of use? Do you think we may have unwittingly "thrown out" some valuable instructional methods because we assessed "too early"?

8. The author argues that we should integrate multiple instructional methods, because less complex methods like wait time and framing questions drive more complex methods like think/pair/share and concept attainment. In what way does integrating instructional methods connect to differentiated instruction and to increasing effect size when assessing student learning?

Chapter 4

Applying the Science of Learning to Instruction in School Subjects

Richard E. Mayer

---

1. Describe the author's approach of basing classroom practice on research in learning and instruction.

2. What is the *science of learning,* and what is the *science of instruction?*

3. What are four possible relationships between basic and applied research as presented by Stokes (1997)?

4. Describe the information-processing framework for learning presented in figure 2.

5. Describe the three kinds of learning outcomes presented in table 1.

6. Describe the five kinds of knowledge presented in table 2.

7. List the five examples of applying the science of learning to instruction in school subjects presented in table 3.

8. What is *phonological awareness,* and what is its importance?

9. What are the instructional implications of knowledge of prose structure?

10. What is the difference between global planning and local planning in writing?

11. What is a mental number line (or number sense), and what is its importance?

12. What is the conceptual change approach in science learning?

Chapter 5

The Incompatibility of High-Stakes Testing and the
Development of Skills for the Twenty-First Century

David C. Berliner

1. What is the difference between the liberal arts and the servile arts?

2. What does evidence show about the relationship between schools with the poorest children and reading and mathematics instruction?

3. What do the data in tables 2, 3, and 4 show about student performance before and after No Child Left Behind?

4. Describe the decreases in instructional time for various curriculum areas presented in table 5.

5. What is the author's defense of the arts in terms of twenty-first century needs?

6. How are arts and humanities curricula being rationed for poor students under NCLB?

7. Describe teacher opinions of test-oriented curricula presented in the chapter. What have you encountered in your experience?

8. What is a "VUCA" world (Johansen, 2007), and what kind of workforce does it require?

9. What kind of broader curriculum did the founding fathers envision?

10. Why does the author insist that we should develop tests that measure critical thinking?

11. What kinds of intellectual skills does the author suggest will be needed in the twenty-first century? How will the current curriculum and assessment instruments need to change?

Chapter 6

Teaching the Thinking Skills That Higher-Order Tasks Demand

Debra Pickering

---

1. What are the five ways the author suggests schools can identify and teach thinking skills?

2. Describe Marzano and Kendall's (2006) two-dimensional taxonomy. How does it differ from Bloom's Taxonomy?

3. How does research support directly teaching thinking skills?

4. What are some common barriers to directly teaching thinking skills, and how does research show that they are flawed?

5. What does the author suggest schools and districts can do to refocus the classroom on the teaching of thinking skills? What types of resources will teachers need for this?

6. How can developing a general visual model help students begin the type of thinking required for a task?

7. Why are thinking skills like decision making and studying errors in reasoning so critical for students in daily life?

Chapter 7

Conceptual Designs for Curriculum and Higher-Order Instruction

Lynn Erickson

_____

1. What are the three critical issues suggested by the author for improving education?

2. How do nations that score the highest academically invest in teacher education?

3. What are some ways that research supports the need for conceptually driven curricula and instruction?

4. What is the difference between a *skill* and a *content objective?*

5. Why is the design of curricula at the local level so critical to meeting academic needs?

6. What are the two main reasons provided by the author that conceptual designs for curriculum and instruction have been challenging traditional methods for decades?

7. What are the characteristics of the concept-based curriculum programs mentioned in the chapter?

8. What two methods are widely used today in curricula that promote conceptual thinking?

9. Why should teachers be taught to differentiate between the factual and conceptual levels of their disciplines?

10. What are *essential questions,* and what is their goal?

11. How is concept-based instruction different from topic-based instruction, and what actions does the concept-based teacher exhibit?

12. What is the *conceptual lens?*

13. Why is moving to a conceptually designed instructional model a paradigm shift for the majority of teachers?

Chapter 8

Instructional Cartography: How Curriculum Mapping

Has Changed the Role and Perspective of the Teacher

Heidi Hayes Jacobs

_____

1. What is *curriculum mapping?* What is the Curriculum Mapping Review and Revision Model?

2. What is the difference between the curriculum guidelines (the proposed curriculum) and the operational curriculum?

3. What is *gap analysis?*

4. How are curriculum maps a kind of planning blueprint? What four types of alignment does mapping require?

5. What are users given access to with curriculum mapping software?

6. What are the seven phases of the Curriculum Mapping Review and Revision Model?

7. What is a *project map?* What is a *diary map?*

8. What are *targeted sets of maps?*

9.   What is a *strategic read through?*

10. Why is integrating assessment data formally into curriculum planning K–12 the most critical focus for mapping reviews?

11. What are *consensus maps?*

Chapter 9

Developing Expert Teachers

Robert J. Marzano

_____

1. How does recent research show that effective teachers enhance student achievement?

2. What does the author state is an important strategy for ensuring high-quality teachers in classrooms?

3. Describe the *talent hypothesis* and the *intelligence hypothesis.*

4. Describe how a well-articulated knowledge base and deliberate practice are determiners of teacher expertise.

5. What is the *lesson segment* (Leinhardt, 1990)? What are the nine types of segments that might occur in classrooms as defined by Marzano (2007)? What are the three categories in which the nine segments are organized?

6. What two segments are classified as routine events, and what are some specific behaviors associated with each segment?

7. What are the three types of content segments, and what are some specific behaviors or strategies associated with each segment? What is the difference between *procedural knowledge* and *declarative knowledge?*

8. What are the four segments involving issues that must be addressed as they occur, and what are some specific behaviors associated with each segment?

9. What are the three defining characteristics of deliberate practice?

10. Describe the rubric recommended by the author for lessons involving the introduction of new knowledge.

11. What distinguishes experts from nonexperts in the classroom? How can expert teachers provide effective feedback to aspiring teachers?

12. What is the ultimate criterion for expert performance in the classroom?

13. What are the two types of data on student knowledge gain recommended by the author (2008)?

14. What is the ten-year rule for deliberate practice? What are reasonable expectations for expertise of teachers in a school or district?

Chapter 10

Differentiating Instruction in Response to

Academically Diverse Student Populations

Carol Ann Tomlinson

----

1. According to the author, why is the premise that students are essentially alike in contemporary classrooms a delusion?

2. What are the two dominant approaches to academic variance in the classroom, and how are both problematic? What is a third but less common approach?

3. What is *differentiated instruction?*

4. List the five contextual indicators of quality differentiation.

5. What is a *fixed mindset* (Dweck, 2006)? What is a *growth* or *fluid mindset?*

6. What is a *pedagogy of plenty* (Hodges, 1991)? What is a *pedagogy of poverty* (Haberman, 1991)?

7. What are the "respectful tasks" that differentiation guides teachers to develop for students?

8. How does differentiation apply assessment *for* learning and assessment *as* learning?

9. Describe the three core elements in the practice of differentiated instruction. What is the *learning profile?* What are *content, process,* and *product?*

10. What are some ways teachers can flexibly use classroom elements to support and maximize individual academic development?

11. What are four daily questions to guide teachers in creating an academically responsive classroom?

Chapter 11

Understanding by Design and Instruction

Jay McTighe

_____

1. What are the reasons the author gives that test-prep methods are not likely to yield long-term achievement gains on accountability tests? What is the solution in the Understanding by Design model (Wiggins & McTighe, 2005)?

2. List some key research findings that provide a conceptual base for specific instruction and assessment approaches in UbD.

3. Describe the three-stage UbD design process for planning units, courses, and programs of study.

4. What are the "twin sins" of planning and teaching?

5. List the seven suggested instructional practices presented. Which of these instructional approaches do you and your colleagues currently use? Which of these would you try?

6. What are the benefits of framing teaching and learning around authentic tasks? What does the author mean by *authentic?*

7. Describe the five elements of the WHERE method recommended by Wiggins and McTighe (2005).

8. What practical actions can teachers take for students at the start of a unit to counter a lack of clarity?

9. Name some approaches for *hooking* and *holding* students, especially in the beginning of a new unit or course.

10. List the ten characteristics provided on teaching for *transfer*.

11. According to the author, feedback must meet which three criteria?

12. List some ways that teachers can explicitly cultivate the metacognitive capabilities of students.

13. Describe some observable indicators of the seven suggested instructional practices.

Chapter 12

Cultivating Student Appreciation of the Value of Learning

Jere Brophy

———————————

1. Why are typical prescriptions for motivating students (make learning fun) insufficient and somewhat misdirected?

2. Why are students more likely to be motivated to learn a curriculum structured around big ideas than a milewide but inch-deep parade of facts?

3. What are the implications of the author's observation that when we are intrinsically motivated we do not engage in activities "for their own sake," but for our sake?

4. Is the author's basic point that we need to make schooling more relevant to students?

5. What should teachers do if they cannot think of any good reason for why a lesson or learning activity is included in their textbook series?

6. What does it mean to develop and teach curriculum strands for understanding, appreciation, and life application?

7. Why is it so important for teachers to use modeling (including thinking out loud) to help students see the benefits or satisfactions that school learning offers?

8.   What is involved in incorporating consideration of appreciation goals into instructional planning?

Chapter 13

The Eight Cs of Engagement: How Learning Styles and Instructional Design Increase Student Commitment to Learning

Harvey F. Silver and Matthew J. Perini

_____

1. What are the most common responses from teachers in answer to the question, If students were more engaged, they would . . . ? What do the authors conclude engagement really means?

2. What benefits does the research on student engagement show?

3. What are the four styles of learners identified by Silver, Strong, and Perini (2000)? What are the four natural human drives that are the root sources of motivation for each style of learner? What are the resulting "Eight Cs of Student Engagement"?

4. How can the Eight Cs be used in the classroom to increase students' commitment to learning?

5. What five different types of learning experiences identified by the authors help students construct knowledge?

6. What is a Vocabulary Knowledge Rating (VKR) scale?

7. What commitments has Mr. Cogito made to his students in the classroom example?

Chapter 14

The Inner Game of Teaching

Robert J. Marzano and Jana S. Marzano

---

1. What does research show about the relationship between the *inner world* of thoughts and emotions and the *outer world* of behavior in education?

2. What is the *self-system?*

3. What are *basic operating principles* or *propositions* as defined by Marzano and Marzano (1988)? What are *situated goals* or *desired outcomes?*

4. What do the authors mean by "the inner game"? What is a *presenting event?* What four questions are involved in interpreting a presenting event?

5. What does metacognitive control of interpretation involve? What is *reframing?*

6. What metacognitive questions can teachers ask themselves when considering a presenting event to practice awareness and control over their interpretations?

7. What metacognitive questions can teachers ask themselves to exert control over outcome selection? What is *mental rehearsal* or *creative visualization?*

8. Why should teachers focus on classifying events and examining basic operating principles? What is a *primary negative event?*

9. What is the difference between ontological and psychological approaches?

10. How do the authors characterize the inner game of teaching? How can metacognitive awareness and control benefit teachers and students?