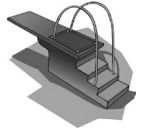


CHAPTER ONE

The “Teaching Gap”

“The teaching gap we describe refers to the differences between the kinds of teaching needed to achieve the educational dreams of the American people and the kind of teaching found in most American schools. Although many of the American teachers we observed were highly competent at implementing American teaching methods, the methods themselves were severely limited.



The teaching gap becomes even more significant when one realizes that while other countries are continually improving their teaching approaches, the United States has no system for improving. The United States is always reforming but not always improving. The most alarming aspect of classroom teaching in the United States is not how we are teaching now but that we have no mechanism for getting better. Without such a mechanism, the teaching gap will continue to grow.”

—*The Teaching Gap*, Stigler and Hiebert,
2009 (pp. xviii–xix)

WHAT IS THE TEACHING GAP?

The Teaching Gap, by James W. Stigler and James Hiebert (1999, updated in 2009), is based on a comparative analysis of two international studies of teaching (Third International Mathematics

and Science Study—TIMSS). Although they studied mathematics teaching, the research of Stigler and Hiebert (1999) was selected to anchor this book because it represents the most in-depth look at teaching ever assembled. For this reason, the findings of Stigler and Hiebert (1999) have direct application for improving the teaching methods in any subject area. The major findings from their first comprehensive video study of classroom teaching in Japan, Germany, and the United States, summarized below, have implications for instructional leaders.

Finding #1: Teaching, Not Teachers, Is the Critical Factor (pp. 10–11). Americans tend to focus on factors of competence (e.g., more rigorous certification process) rather than the methods used by teachers in the classroom. Even the best teachers, the ones judged the most competent, cannot be effective if the methods they are using do not promote better student learning. Put simply, it is what teachers say and do in the classroom that makes the difference in learning. For example, teaching methods include the decisions and choices teachers make when establishing the role of the students, how students solve problems, asking questions, explaining concepts, assigning homework, lecturing, teaching mini-lessons, giving demonstrations, setting up learning experiences and activities, and facilitating projects. The methods used greatly impact results. This finding is significant for an instructional leader to understand because there is a great need to help teachers learn more about teaching from their own experience and work in the classroom. The challenge for you as an instructional leader is to learn how to help teachers learn more about teaching—traditional professional development will not do it. “By seeing teacher learning as necessarily tied to the study of teaching, U.S. educators can begin to change the culture of teacher training” (Stigler & Hiebert, 2009, p. 33).

Finding #2: Teaching Is a Cultural Activity (pp. 11–12). The international video studies revealed that while teaching methods vary greatly from country to country, the teaching methods used by teachers in the same country are very similar. Stigler and Hiebert learned that much of what happens in the classroom is determined by what they called the “DNA of teaching.” The teaching methods are handed down from generation to generation through a *cultural code* that is present in most classrooms. This code is the main reason

why changing teachers does not automatically produce changes in teaching. This finding is noteworthy for an instructional leader because improving teaching is not done in a vacuum—it is done as part of a culture of teaching that is complex and often difficult to influence. Recognizing the cultural nature of teaching can be a great help to the success of an instructional leader because it is the same culture that surrounds teacher learning.

Finding #3: A Gap in Methods for Improving Teaching (pp. 12–13). Stigler and Hiebert (1999) discovered that while American teachers have been trying their best to implement reform measures and recommendations, there is little evidence that the teaching has substantively changed. The changes they reported from the most recent TIMSS video study were described as superficial and having no profound impact on the way students learned. Stigler and Hiebert (1999) argue that if the United States is serious about improving student learning, then there must be a classroom-based system put into place to improve teaching methods. They proposed using a system of lesson study (explained in Chapter 4), which makes it possible for teachers to learn together about what constitutes effective teaching and to share that knowledge with other educators. This finding is important for an instructional leader to understand because you are in the best position to help teachers learn more about teaching and to put this goal into motion. Stigler and Hiebert warn that improving teaching is not a matter of designing new policy initiatives—we have tried that unsuccessfully. The real work of improving teaching must come from the teacher’s own learning. Empower teachers to be more self-directed.

LESSONS FROM THE TEACHING GAP

The relationship of the teaching gap to becoming a better instructional leader is based on trying to solve the problem of how to improve teaching. Stigler and Hiebert (2009) call for a wide-scale plan that will systematically improve teaching and lead to more effective methods used in American classrooms. Although similar in terms of desired outcome (i.e., improved student learning), the perspective of an instructional leader trying to solve this complicated problem is slightly different from that of an educational researcher. An instructional leader, as Stigler and

Hiebert (2009) have acknowledged in their work, is faced with the daunting task of solving the improvement problem while teachers and students are walking in and out of classrooms every day. This is the challenge an instructional leader faces trying to improve teaching. It is the contention in this book that lessons learned from recognizing the teaching gap can help instructional leaders improve teaching and maximize learning.

In-Your-Head-Quiz #2
(answer on page 221)



As you think about closing the teaching gap, which statement below seems to make the most sense to you as an instructional leader?

1. It is nearly impossible to change the methods that teachers use.
2. Improving teaching practice means imitating the practice found in other countries.
3. In order to improve teaching, the teachers and I must treat teaching like an object of study.
4. Professional development is the key to improving teaching.

In 1999, Stigler and Hiebert set the stage for improving teaching across the United States by proposing six principles for what they called “gradual, measurable improvement” (p. 131). Because these six principles are closely related to the goal of this book, which is to improve instructional leadership, they will be presented here so those connections can be reinforced. Keep in mind that Stigler and Hiebert believe that a method of collaborative lesson study (described in Chapter 4) is one process for improving teaching that is fully consistent with these six principles. For the

purposes of this book, each principle will be reviewed from the point of view of an instructional leader.

Principle #1: Expect Improvement to Be Continual, Gradual, and Incremental (Stigler & Hiebert, 1999, p. 132). Because teaching is embedded in a “surrounding culture” of the school, you cannot expect to make great changes overnight. As a developing instructional leader, you know that this principle has merit. You have probably seen many instructional initiatives come and go with little or no capacity developed at the point of delivery—namely, the day-to-day practice of teachers in classrooms. As Americans, we are not noted for our patience and often exhibit a fast-food delivery mentality for just about everything, including the education of our students. Efforts to improve teaching methods will be realized slowly, but if done the right way, those changes will be significant for student learning over time.

Principle #2: Maintain a Constant Focus on Student Learning Goals (Stigler & Hiebert, 1999, pp. 132–133). The purpose of good teaching is good learning. As an instructional leader, you have no doubt felt the impact of this principle, especially over the past 10 years. But, with all the pressure to reform schools and improve student achievement, the details of implementing new programs and systems (e.g., the flurry of data-based decision-making) often blur the vision of learning. Learning improves when what is taught becomes more interesting to students. The challenge for an instructional leader is to help teachers develop learning opportunities that not only improve student learning, but that motivate students to want to learn. We know how to increase test scores, but an instructional leader must also know how to help teachers increase their knowledge of teaching. When this happens, teaching methods improve.

Principle #3: Focus on Teaching, Not Teachers (Stigler & Hiebert, 1999, pp. 133–134). One of the most intriguing aspects of the Stigler and Hiebert research is what they call “scripts for teaching” (p. 87). A cultural script, the authors argue, are mental versions of teaching patterns that all of us learn while we go through school. These patterns are widely shared by teachers and may account for similarities in teaching roles so common throughout a particular culture. For example, a pattern found in

many U.S. classrooms is the teacher going over homework before teaching the heart of a lesson.

Because teachers have the same mental scripts, it is easy to predict patterns in their lessons. Here is the point from all of this: Teacher effectiveness depends on the scripts teachers use. An instructional leader, like a teacher addressing students' misconceptions at the start of a lesson, must not only be aware of embedded patterns of teaching, but understand how these patterns can interfere with attempts to modify teaching methods even when teachers are willing to do so.

It bears repeating. The problem in the United States is that we have put the emphasis on improving the competency of teachers rather than on improving the teaching methods used by competent teachers. Instructional leaders, while still interested in recruiting and maintaining good teachers, must align their work with the development of effective teaching methods. This means, among other things, helping teachers to rethink the decisions and choices they make when teaching. Think of it this way—if you can improve the methods that good teachers use, you will have achieved improvement that lasts.

Principle #4: Make Improvements in Context (Stigler & Hiebert, 1999, pp. 134–135). As an instructional leader, you have seen this principle in action as more and more school improvement plans are focusing on classroom-based learning for teachers. The emergence of the concept of professional learning communities is testimony to the impact of this principle, but unfortunately, just learning how to work together is not enough. The context for making improvements is complex and includes the teachers, students, curriculum, grouping, scheduling, and resources. All of these elements, and others that impact the classroom, must be considered when trying to improve teaching methods. One-shot attempts at implementing best practices fail because school-based essentials are not taken into account. If it were possible to just borrow innovation from high-performing countries, we would have probably done it by now, but we have not (nor should we).

Stigler and Hiebert (2009) contend that American educators understand the importance of context when it comes to student learning, but not so much when it comes to teacher learning. Too much of teacher learning, despite years of rhetoric about teachers learning in classrooms, is still focused on implementing programs

or making data-based decisions rather than improving teaching methods. Even when instructional programs change (e.g., moving toward conceptual mathematics), often the teaching methods do not. The results fall short of expectations because the same methods are used, but in different ways with different learning materials. As an instructional leader, you understand the importance of teachers learning together, but you must also understand what they are learning and how this influences the decisions and choices they make while teaching. This book is devoted to helping you learn how to make the classroom the basis for teacher learning, and in so doing, help teachers create better learning opportunities for students.

Principle #5: Make Improvement the Work of Teachers (Stigler & Hiebert, 1999, pp. 135–136). Teachers have always been responsible for student learning, but have they shouldered the same level of responsibility for teacher learning? This is a question that every instructional leader needs to think about, because in the end, only teachers can provide the solutions to the problem of improving teaching methods. Will teachers need additional support in order to learn more about teaching? Of course, but that support cannot remove teachers as the “primary force behind change.” Why is this belief so important for an instructional leader to understand? Teachers are the closest to the learning, and like doctors and nurses with health care, are in the best position to be able to carry out what is needed to improve student learning. A premise of this book is that instructional leaders, using appropriate levels of support and guidance, can lead the way by entrusting instructional change to teachers—those closest to the learning. Teachers are the solution to the problem of improving teaching, and instructional leaders are the solution to helping teachers make those improvements. In short, if it is not happening in the classroom, it is not happening.

Principle #6: Build a System That Can Learn From Its Own Experience (Stigler & Hiebert, 1999, pp. 136–137). Stigler and Hiebert imagine a system that allows U.S. educators to “harvest” what good teachers are learning about teaching and to share what they have learned so others can try these new approaches. It is a system that some other countries have in place (e.g., Japan and Finland), which supports “teachers developing their own knowledge of what works and what doesn’t work in their own classrooms” (p. 136). For

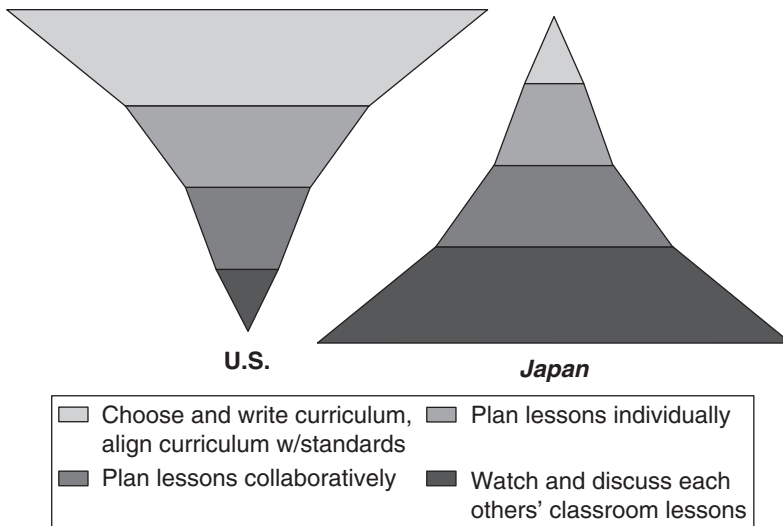
an instructional leader, this principle means that teachers working together in a school to improve teaching methods should have a way of keeping track of what they are learning and a means for sharing that learning with colleagues. The teaching methods that are being developed need to see the light of day and become the focal point for collaboration and study. This is a place where instructional leaders can really help by developing ways to build a knowledge base of improved teaching methods (e.g., recorded teaching episodes).

The foundations and principles put forth by Stigler and Hiebert (1999, 2009) should be used by instructional leaders to rethink the strategies needed to help teachers improve teaching. But, one lesson seems to stand out among all the rest. Unless the culture of teacher learning (i.e., how teachers learn to improve teaching methods) in the United States is changed, higher levels of student learning will continue to lag behind expectations. The research below provides a graphic representation of why there is a need to change the way we approach teacher-led instructional improvement in the United States.



Improving Instruction

Figure 1.1 Teachers' Activities to Improve Instruction



Reprinted with permission from Catherine C. Lewis. (2002). *Lesson Study. A Handbook for Teacher-led Instructional Improvement*.

Figure 1.1 clearly shows a major difference between how U.S. and Japanese teachers work to improve teaching. It dramatically reinforces the findings and principles put forth by Stigler and Hiebert and provides evidence that “improving teaching cannot succeed without changes in the culture of teacher learning” (1999; Kappan, November 2009, p. 32). But, this does not mean that U.S. educators can simply imitate the work with teacher-led instructional improvement being done in Japan. It does mean, however, that U.S. educators can learn from Japanese experience and that there is a definite need to rethink our systems for improving teaching. Instructional leaders are often in the best position to help teachers learn how to learn about teaching.

REINFORCING THE NEED TO CLOSE THE TEACHING GAP

The Organization for Economic Co-operation and Development (OECD) published a report titled *Strong Performers and Successful Reformers in Education: Lessons from the Program for International Student Assessment (PISA) for the United States* (2010). The testing measured the ability of 15-year-olds (near the end of compulsory education) to use the domains of reading, mathematical, and scientific literacy, not merely in terms of mastery of the school curriculum, but in terms of important knowledge and skills needed in adult life. Tests were administered to between 4,500 and 10,000 students in each country. The comparative results did not take into account measures of poverty.

Below are some key points from the 2009 OECD report that mirror and reinforce the research findings of Stigler and Hiebert. These points reflect teacher practices in countries that ranked at the top of the study and provide food for thought for American educators.

- Teachers are expected to contribute to the knowledge base on effective teaching practices.
- Teachers are involved in a collaborative process of lesson development and work together in a disciplined way to improve the quality of the lessons they teach.
- Improved instructional practice is institutionalized and often examples of effective teaching are videotaped and used as models for other teachers to learn from.

- No teacher's classroom is private, and teachers often observe the practice of colleagues.
- Teachers would not think of themselves as professionals if they did not carefully study the most effective methods for increasing student learning.

You can see from this list that teaching is indeed a cultural activity. This book is not about duplicating conditions that exist in other countries. This book is about whether or not you believe there is a need to improve the teaching methods used in your school. If you believe that there is a teaching gap in your school, then this book will help you to address that gap and improve student learning.

Some examples of possible gaps in teaching are listed below:

Teaching that does not recognize and address inaccurate and insufficient prior knowledge (e.g., misconceptions about concepts and ideas).

Teaching that does not produce opportunities for students to learn how to organize knowledge.

Teaching that does not construct opportunities for students to practice integrating skills and to understand when and how to apply them.

Teaching that does not give students constructive targeted feedback that enhances the quality of their learning.

Teaching that does not help student to make connections between new learning and what they already know.

Teaching that does not help students to become self-directed learners with the ability to monitor and adjust their approaches to learning.

Teaching that does not generate opportunities for students to be actively involved in their learning.

Teaching that does not help students connect facts with major concepts, big ideas, and general principles for a deeper understanding.

Teaching that does not involve students in the planning of what they will be doing to learn.

Teaching that does not develop opportunities for students to see the relevance in what they are learning.

Teaching that does not create opportunities for students to question what they are learning, relate new ideas to old ones, and apply an idea to a real problem.

Teaching that does not design opportunities for students to see the value of their work and learning.

Teaching that does not provide opportunities for students to develop deeper understanding on their own.

"To *learn* how to improve teaching requires teachers to leave their classrooms to dialogue with colleagues about best practice; to share what is working and what is not working with colleagues; to observe best practice in other classrooms; to be a part of a working professional learning community."
~ Bill



JOURNAL REFLECTION



Take time to write in your journal. Here are some suggestions for possible topics and subtopics to write about. Select the one that you believe will provide the greatest insights into your work now.

Big Picture

Think about how teachers in your school learn how to improve their teaching methods.

- What do you believe needs to change in order for teachers to improve teaching?
- What can you do to guide and support that change?

Experience

Think of a time when you were working with teachers to improve teaching methods. This does not mean implementing a

new program, but rather, fundamentally changing how instruction is delivered in the classroom (e.g., allowing students more time to struggle with problem-solving or concept development).

- What did you do as an instructional leader to support the teachers' efforts to improve their teaching?
- What did you learn from this experience that will help you to improve teaching methods in the future?

Future

Where do you see the greatest need to bridge the teaching gap in your school? What can you do to begin closing that gap?

TRY THIS: GAP ANALYSIS

The idea of a teaching gap set forth in Chapter 1 is not meant to be a negative statement about teachers or teaching. Professionals often feel they must adjust their practice in accordance with prevailing conditions.

The era of accountability with high-stakes testing that was ignited in the 1980s has been just such a condition in education. Slowly but surely, many teachers began to back away from preferred student-centered methods in favor of methods that would produce better test results.

At the elementary level, it was the way the teaching of reading vacillated between basal reader and literature-based approaches. At the secondary level, it was the rapid decline of project-based learning.

So . . . try THIS:



- In order to bring the teaching gap to the conscious level with staff, pull together a group of six to eight teachers that you believe are highly effective—the best of the best.
 - Provide a comfortable setting with light refreshments and a zero threat of a subjective atmosphere (risk free).
 - Give everyone a copy of the Chapter 1 Springboard quotation from Stigler and Hiebert (2009) (p. 1). Ask the teachers to think about their own teaching with respect to this statement. Encourage the teachers to be as candid as possible.
 - Reflect on what you learn.
-



LEADERSHIP TEAM ACTIVITY

Five Principles to Strengthen Instructional Leadership.

Purpose

Start with the end in mind.

- To build capacity for achieving realistic expectations about instructional improvement and overall effectiveness in grade levels and departments.
- Visualize the action needed to transfer seminar learning and understanding to current instructional leadership practice.

Perspective

- There has to be a realistic understanding of improvement that is shared by administrators, teacher leaders, and teachers. Too often there is a feeling conveyed from the top down that improvement needs to happen overnight. Stigler and Hiebert provide five important principles to guide expectations about school improvement.

Challenge

- To be effective, an instructional leader must work closely with teacher leaders so there is a clear understanding of what is meant by school improvement. This understanding may not always coincide with district, board, or community wishes.

Plan

The basic steps for facilitating this single-focus seminar:

1. Provide time for a 60-minute seminar with a team of grade or department chairs.
2. Go through each of the *first* Five Principles for Gradual, Measurable Improvement (found on pp. 5–7).
3. Use the following questions to guide the discussion: (a) What does each principle mean to the team? (b) How has your school and grade level or department been doing with each principle? (c) What is some evidence of gradual, measurable improvement?

(Continued)

(Continued)

Personal and Team Connections

- Participants will be asked to connect their unique leadership challenges to the content of the seminar.
- The leadership team will ask two essential questions: (1) What have we been learning? (2) How can we use this learning to strengthen our work as instructional leaders?

BRIDGE TO CHAPTER 2



You might be thinking this all sounds good, but where will I find the time? Look no further, because you are probably already spending most of your time, often unconsciously, trying to improve student learning. What is being suggested in this book will not give you more time, but it will help you to refocus your instructional leadership efforts on improving teaching methods that will result in increased student learning.

The recognition of a gap in teaching is a sign that the profession we call education is in need of some adjustments for the future. The Race to the Top (U.S. Department of Education, 2009) will not be won by incentives, competitive grants, or corporate rewards; it will be “won” (if that is the proper way to say it) by improving the teaching in classrooms. The conditions for improving teaching in the United States are, unfortunately, not yet in place. However, for now, you are being asked to look more closely at the conditions that affect your work as an instructional leader. It is the starting point for self-improvement.

Do you know if you are doing the right things? It is easier to tell when you are doing the wrong things. The next chapter may help you answer this question because it zeroes in on some important aspects of being an instructional leader, especially ways to improve your organizational management so you have more time to spend on instructional matters. These *habits of practice* will help you to understand where you may need to eliminate or reduce activities that do not contribute to your overall effectiveness as an instructional leader and your ability to help teachers improve their teaching methods.