

Factors of Effective Teaching

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Abstract

A teacher's impact can be an immense and truly life-changing experience for students. While there are many factors often identified as being associated with teaching effectiveness, there is no single factor that will always be productive. Effective teaching is situational in that it is a result of the synergy between: (1) the knowledge, skills, and methods the teacher possesses; (2) the attributes of the students; and (3) the environment in which the teacher-students interactions take place. The effective teacher knows how to blend these three entities in order to increase their effectiveness and maximize student learning.

Keywords: teacher effectiveness, student learning, and situational model

Context

The impact of a teacher's level of effectiveness on students can be immense. If a teacher in the bottom fifth percentile of effectiveness is replaced with an average teacher, the lifetime income of the class's students can increase by approximately \$250,000 over their lifetimes. (Stronge, 2018, p. 5)

Commencing in 2009, and largely driven by former U.S. Secretary of Education Arnie Duncan, many states and school districts throughout the United States established new teacher evaluation systems that incorporated student achievement (student growth) tied to uniform learning standards (Hamlin & Peterson, 2018). States and districts were enticed to include student growth as part of their teacher evaluation systems because of the perceived chance of an increased likelihood of *Race To The Top* funding from the federal government. It is important to note, though, that "the elusive concept of teacher effectiveness" has been pursued for centuries (Stronge, 2018, p. ix).

Framework Models of Teacher Effectiveness

In addressing the need for a new teacher evaluation system that included student growth, many school districts throughout the United States adopted a *framework* for effective teaching such as the Danielson model (2014) or the Classroom Assessment Scoring System—CLASS (Center for Advanced Study of Teaching and Learning, n.d.). In a quest to identify factors of

effective teaching, it is logical to examine criteria in sources such as the Framework for Teaching (Danielson) and Classroom Assessment Scoring System—CLASS (Center for Advanced Study of Teaching and Learning, n.d.). It is assumed that these models have credible criteria for identifying the factors of effective teaching and will be accepted by teachers as being fair. In reality, the thousands of teacher evaluation systems across the U.S. utilized by local districts operationally define factors of effective teaching on a daily basis.

Value-added Models of Teacher Effectiveness

During the past several decades, the concept of value-added models as an approach to determine teacher effectiveness has received considerable attention because these models incorporate *student achievement (growth)* as the driving factor to identify the effectiveness of teachers. According to Guerere (2013), these value-added models are a natural fit with the emphasis on basing at least a portion of a teacher's effectiveness on student achievement (growth). The value-added models generally do not address the critical students' outcomes pertaining to social-emotional development.

Value-added models supposedly “level the playing field” for teachers regarding fairness by taking into consideration demographic factors such as students' economic status and prior achievement in determining which teachers are rated highly effective and those rated as having lower effectiveness (Everson, 2017). Logic and intuition lead one to believe that examining those teachers deemed as being most effective through value-added models should be an excellent source for identifying factors that constitute effective teaching. Surprisingly, a review of numerous value-added studies did not—for the most part—reveal clearly defined factors, over time, associated with the most effective teachers.¹ Specifically, teachers deemed highly effective one year did not necessarily attain the same rating in the next year. Further, clear differences in instructional practices were identified among teachers receiving similar within-district value-added rating scores.

Expert Sources of Teacher Effectiveness

To identify credible factors of teacher effectiveness, the following expert sources were reviewed:

- Marzano, R. J. (2017). *The New Art and Science of Teaching*,
- Stronge, J. H. (2018). *Qualities of Effective Teachers* (3rd ed.),
- Danielson, C. (2014). *The Framework for Teaching Evaluation Instrument*,
- Danielson, C. (2016). *Talk About Teaching! Leading Professional Conversations*,
- Gitomer, D. H., & Bell, C. A. (Eds.). (2016). *Handbook of Research on Teaching* (5th ed.), and
- Center for Advanced Study of Teaching and Learning.(n.d.). *Measuring and Improving Teacher-Student Interactions in PK-12 Settings to Enhance Students' Learning*—CLASS model.

The major factors associated with effective teaching from these expert sources are listed in Figure 1.

Major Factors Associated with Effective Teaching by Expert Sources	
Stronge	<ul style="list-style-type: none"> ● professional knowledge ● instructional planning ● instructional delivery ● assessments ● learning environment ● professionalism
Danielson's Framework of Teaching	<ul style="list-style-type: none"> ● planning and preparation ● classroom environment ● instructing ● professional responsibilities
Marzano	<ul style="list-style-type: none"> ● providing and communicating clear learning targets and goals ● assessments ● direct instruction ● structured practicing, examining similarities and differences, and errors in reasoning ● conducting knowledge application lessons ● using strategies that appear in all types of lessons (e.g., reviewing content and organizing students to interact) ● using engagement strategies ● implementing rules and procedures ● building relationships and communicating high expectations ● making system changes (e.g., collaborative teaming)
Handbook of Research on Teaching	<ul style="list-style-type: none"> ● classroom organization and management ● positive emotional climate and support ● engaging and challenging instruction
Classroom Assessment Scoring System (CLASS)	<ul style="list-style-type: none"> ● <i>emotional support</i> via positive relationships among teacher and peers ● <i>classroom organization</i> via well-managed classrooms that provide students with frequent engaging learning activities ● <i>instructional support</i> through interactions that teach students to think, provide on-going feedback and support, and facilitate language and vocabulary

Figure 1. Major factors associated with effective teaching by expert sources.

The commonality of factors pertaining to effective teaching extracted from these sources is listed in Figure 2. There is no hierarchy of importance implied by order of the factors.

Commonality of Factors from Experts' Sources
<ul style="list-style-type: none"> ● Curriculum is broken down into learning targets presented in a logical progression linked to goals and learning standards ● Instruction (e.g., direct instruction, discovery method, practices that deepen understanding, application of knowledge, teaching students how to think, and generic methods such as practice applicable to all lessons) ● Assessment (including on-going constructive feedback for academic and emotional support) ● Classroom organization, meaningful classroom rules and operating procedures, and positive learning environment ● Meaningful engagement of students (e.g., maximizing purpose of learning) ● Positive relationships (e.g., positive emotional climate and support) and high academic and social-emotional expectations that include challenging curriculum and instruction ● Planning and preparation ● Professional knowledge (e.g., curriculum, instructional methods, and assessment) ● Professional responsibilities (e.g., ethics, leadership, on-going development, collaborative teaming, striving to “be the best”)

Figure 2. Commonality of factors from experts' sources.

Situational Model of Teacher Effectiveness

“We might need to broaden our definition of teacher effectiveness from a *generic perspective* [all-encompassing factors] to a differentiated perspective[situational], acknowledging that teacher effectiveness is *context specific* rather than context free” (Newton, Darling Hammond, Haertel, & Thomas, 2010, p. 19).

This conclusion from Newton et al. (2010) means that while methods used by teachers have been identified that may result in effective performance, other contextual or *situational factors* often come into play in determining a teacher's overall impact on student outcomes. Hence, teacher effectiveness and the factors composing it depend on the context or situation a teacher encounters which may change from year-to-year. Stronge (2018) notes that “the effectiveness [of teachers] is an elusive concept when we consider the complex task of a teacher, and that many variables outside the teacher's control affect each of the potential measures of effectiveness” (p. 4).

This author purports that teacher effectiveness is a function of: (1) the knowledge, skills, and methods the teacher possesses; (2) the attributes of the students; and (3) the environment in which the teacher-students interactions take place (see Figure 3). There is no one method of teaching that will maximize teacher effectiveness (and student learning) all of the time and in every situation. Unfortunately, some educators continue to seek—and often identify—one particular teaching method or factor that they consistently use regardless of the circumstances.

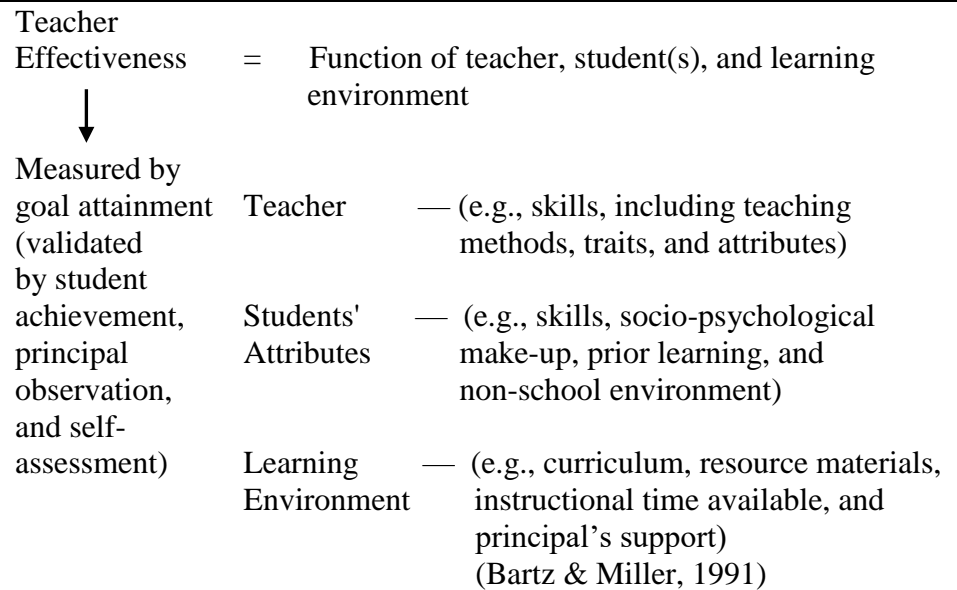


Figure 3. Situational Teacher Effectiveness Model.

Each of the factors listed in Figure 2 has the potential to enhance a teacher's effectiveness in the context of the situational philosophy of effective teaching. The remainder of this article addresses how teachers effectively linking curriculum, assessment, and instruction can improve their effectiveness and enhance student learning. The other effective teaching factor listed in Figure 2 will be addressed in forthcoming articles.

Curriculum, Assessment, Instruction (The CAI Connection)

Curriculum, assessment criteria, and instructional strategies need to be developed *in concert with one another* as depicted in Figure 4 (Bartz, 2017a). The order of identifying assessment criteria and determining instructional strategies may sometimes be reversed.

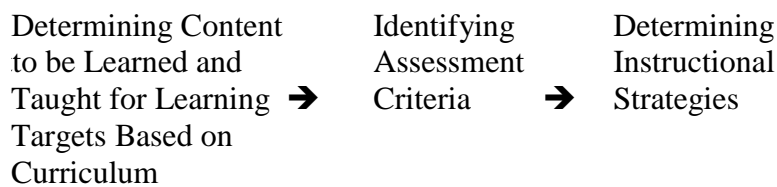


Figure 4. The CAI connection.

Teachers must establish a tight connection between curriculum, assessment, and instructional methods to maximize effectiveness based on student outcomes (cognitive and social-emotional).

Curriculum

The curriculum is the content delivered to students, assessment means measuring each student's progress in mastering the curriculum, and instruction means the processes (teaching methods and practices) used to deliver the curriculum. The curriculum needs to be state-of-the-art and based on standards supported by a *best evidence* research base. Most importantly, the content delivered to students must match their specific needs at that moment in time. The curriculum should guide instruction, materials, and activities used by teachers (Bartz, 2017a).

Curriculum needs to be broken down into an instructional sequence of progressive subskills that are linked to learning targets (Tomlinson & Moon, 2013). A series of these learning targets compose a learning goal, with several learning goals comprising a learning standard. These subskills, sometimes referred to as building blocks, need to be properly sequenced into the most effective presentation of the content for students to master learning them. Collectively, these activities comprise a *learning progression*.

Popham (2018) references learning progressions as the “framework for fine teaching” (p. 95). In some states (e.g., Maine and Vermont) a learning progression is incorporated into *mastery-based learning* (Spencer, 2017). This mastery-based learning is similar to that purported by Bloom (1976) and is often a part of the present day competency-based movement. The mastery approach does not exclude whole group instruction but emphasizes instruction that has the flexibility to be tailored to the needs of each student. The lynch-pin of mastery-based learning is that in sequenced content, students must master specific learning targets before moving on to new targets.

Assessment²

Observing students' behaviors and performances daily, and making instructional adjustments based on these observations, are the cornerstones of meaningful *formative assessment* (Brink & Bartz, 2017). An effective teacher easily makes over 100 of these instructional adjustments over the course of a day. Teachers must be extremely active observers and possess the knowledge and skills needed to make these adjustments.

Identification of the specific behaviors representative of mastering the subskills linked to learning targets in the learning process is key to meaningful formative assessment (Stiggins, 2017). An effective formative assessment framework sets the stage for useful feedback to students after their performance is reviewed (Hattie & Clarke, 2018). As Fisher and Frey (2018) note, “assessment-capable learners know their current level of understanding” (p. 15).

Sometimes it is best to develop a rubric in assessing student performance on a learning target. This requires non-biased data collection by the teacher who is well-trained in use of the rubric. There needs to be a close match between the content activities for a learning target and the rubric's criteria. This is one reason why the identification of content knowledge and assessment are made at the same time, while simultaneously identifying the optimal instructional strategies. Students need to understand what content is expected to be mastered and what performance of this mastery looks like (Hughes, 2010).

A *benchmark assessment* is initially given as a baseline measure or pretest at the start of

the school year. Some assessment experts such as Shepard (2014) and Popham (2014) refer to this type of assessment as *interim*, meaning between true formative assessment and summative assessment in a time context. Interim assessments are generally given multiple times during the school year through administration taking place at a prescribed time for all students.

A benchmark assessment gives feedback to the teacher—and sometimes to the student depending on the particular commercially-used assessment—by reporting the degree of progress of each student in achieving mastery of learning targets and goals. In addition to the baseline pretest at the start of year, several additional benchmark assessments are usually spaced throughout the school year, with the final assessment given near the end of the year. The last benchmark can serve as a posttest and is then considered a summative assessment. The initial benchmark assessment (pretest) and the last benchmark assessment (posttest) can be used to measure yearly gains for students and provide data for teachers' effectiveness if such data are included in a teacher evaluation system (Bartz, 2017b).

These benchmark assessments furnish feedback to the teacher on each student's progress on learning targets, goals, and standards, as well as aggregate data for the entire class. Some commercially-developed benchmark assessments also link results to curriculum materials. A major challenge for teachers is deciding when and how to integrate benchmark assessment results into daily classroom use. The cost and time taken from instruction must also be considered (Bartz, 2017b).

The use of multiple measures and types of assessments is essential because a student's performance often varies based on these factors. Reardon, Kalogrides, Fahle, Podolsky, and Zarate (2018) found, for example, that girls performed significantly lower on multiple-choice assessments than on performance assessments in comparison to boys. The precision or reliability of such measures is a crucial issue, as is validity and potential test bias.

Instruction

A variety of institutional methods should be used to ensure that the content (curriculum) delivered is based on the specific needs of students. Practical, high interest hands-on activities are extremely important, as is one-on-one instruction at specific times. Active engagement of students is crucial.

The direct or explicit method of instruction is useful for quickly disseminating content by the teacher *directing learning*. The teacher's activities supply the stimuli for students, rather than students discovering or otherwise providing the stimuli. Conversely, the discovery method (also referred to as the non-directive, inquiry, and inductive method) creates an environment in which students need to process input information and, through recognizing relationship and causation, put the pieces of the puzzle together to *discover* the content's purpose. Both methods are amenable to incorporating activities that deepen the understanding of knowledge and how to apply it (Bartz & Miller, 1991). Meta-cognition—thinking about thinking—is also efficiently infused into the direct and discovery methods. Examples of generic methods usable with most lessons are computer-assisted instruction (including gaming), cooperative learning, learning styles, and project-based learning.

Differentiated instruction fits well with adjusting for differences (variance) among students' formative assessment. Tomlinson and Moon (2013) identify general guiding principles of differentiation as: (a) an environment that encourages and supports learning, (b) quality curriculum, (c) assessment that informs teachers about learning, (d) instruction that responds to

student variance, and (e) leading students and managing. Collaborative, individualized, and personalized instruction models also have merit as instructional strategies to maximize student learning.

Conclusion

Teachers are hardworking, caring, and dedicated educators who continually strive to improve student learning. Teachers' efforts through factors such as curriculum, assessments, and instructional methods are examples of what teachers can do to enhance student learning. The attributes students bring to the classroom such as their present skills, prior learning, socio-psychological make-up, and non-school environment impact learning. The learning environment (classroom) via available resources, time, and principal's support also influence students' learning. The most effective teachers strive to create a synergy among all of these variables to maximize learning for each student.

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Footnotes

¹Reviewed the following studies:

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²This section is based on:

- Bartz, D. E. (2017). Fundamentals of formative assessment for classroom teachers. *National Forum of Teacher Education Journal*, 27(3), 1-10.
- Bartz, D. E. (2017). Improving students' learning (academic achievement) through teachers' effective use of formative assessment. *International Journal of Humanities and Social Science*, 7(9), 1-5.