

Educational Research

Engagement

Students learn best when they are actively engaged in meaningful learning experiences, especially when those experiences involve academic dialogue and social interaction. In *Working on the Work*, Phillip Schlechty describes engagement as focused on the lesson and the students, rather than the teacher. He is careful to distinguish between teachers who are engaging as people, and teachers who are skilled at providing students with engaging work (Schlechty, 2002). Engagement includes the following: Task (Silberman, 1996); Interaction (Rutherford, 2002); Pacing (Lemov, 2010); and Relevance (Echevarria, Vogt, & Short, 2008).

Task: Student tasks facilitate dialogue and demonstration of learning.

Interaction: Students engage in structured interaction around the learning.

Pacing: Students process information in short segments.

Relevance: Students participate in tasks with real-world applications related to their personal experiences and interests.

Checking for Understanding

Checking for understanding is a critical piece of the instructional process because it supplies the teacher with the necessary evidence in order to make any instructional adjustments. James Popham's work, *Transformative Assessment*, relates the formative assessment process as pre-planned, during the lesson, and with feedback in order to make adjustments that will improve students' achievement toward curricular aims (Popham, 2008). Checking for Understanding includes the following: Questioning (Hollas, 2005); Wait Time (Stahl, 1994); Feedback (Jones, Jones, & Jones, 2000); Adjustment (DuFour, 2010).

Questioning: Students respond to questions that clarify lesson content.

Wait Time: Students are given opportunities to respond with appropriate wait time.

Feedback: Discussion clarifies misconceptions and redirects students around the learning objective.

Adjustment: Lesson adjusts according to student results.

Schema

A schema is a cognitive framework or concept that helps organize and interpret information. Teachers must help learners build schemata and make connections between ideas. Since prior knowledge is essential for the comprehension of new information, teachers either need to help students build the prerequisite knowledge, or remind them of what they already know before introducing new material. Schemata grow and change as new information is acquired (Piaget, Tomlinson, & Tomlinson, 1973). Schema includes the following: Purpose: (R. B. Lindsey, Roberts, & Campbell Jones, 2005); Background: (D. B. Lindsey, 2009); Vocabulary (Marzano, 2004); Organizers (Marzano, Marzano, & Pickering, 2003) (Díaz-Rico & Weed, 2006).

Purpose: Students understand the objective of the lesson.

Background: Lesson builds from student background knowledge and prerequisite skills.

Vocabulary: Academic language and vocabulary are introduced and developed to ensure access to the content.

Organizers: Students use and/or design organizers to structure information and process content.



Cognition

The term cognition refers to mental processes including attention, memory, producing and understanding language, solving problems, and making decisions. Students need to experience various mental processes as they interact with content. Lessons must promote connections between visual, auditory, and kinesthetic input in order for students to extract deeper meanings from content. Furthermore, effective teachers differentiate instruction for the needs of all learners through active planning, allowing students multiple ways of interacting with the content (Tomlinson, 2001).

Effective teachers develop students' capacity to understand content that is complex as an embedded curricular goal. Barbara R. Blackburn's book, *Rigor is NOT a Four-Letter Word*, defines rigor as individual students learning at high levels that are appropriately challenging for their particular needs (Blackburn, 2008). Additionally, the implementation of the Common Core Standards will place a greater emphasis on rigor and higher-level thinking. Moreover, the Common Core Standards integrate literacy with a goal of producing college and career ready students who are proficient in reading complex informational text in a variety of content areas ("Common Core State Standards Initiative | English Language Arts Standards | Introduction | Key Design Considerations," n.d.).

Cognition includes the following: Connections (Mayer, 2003); Literacy (Schmoker, 2006); Rigor (Blackburn, 2008); Differentiation (Levine, 2002).

Connections: Students use auditory, visual, and kinesthetic connections to develop an understanding of lesson content.

Differentiation: Instruction is differentiated through content, process, and/or product.

Literacy: Students use oral language, reading, and writing to build understanding of content.

Rigor: Lesson is complex and appropriately challenging for the needs of individual students.

Learning Environment

The type of classroom environment that a teacher creates and encourages increases a student's ability to learn and feel comfortable as a member of the class (Bucholz & Sheffler, 2009). Research shows that students learn best and achieve to their fullest potential when they are taught in an environment where they are physically, socially, emotionally safe ("Ensure a Safe and Secure Environment," 2011).

Effective learning environments incorporate invisible and preventative management techniques as outlined in Harry Wong's, *The First Days of School*, and Fred Jones' *Tools for Teaching*. Learning Environment includes the following: Room Environment (Marzano et al., 2003); Procedures (Wong & Wong, 1998); Management (Jones et al., 2000); Interactions (Kohn, 2001).

Room Environment: Room environment is organized and reflects current evidence of learning.

Procedures: Routines and procedures facilitate learning.

Management: Management focuses on prevention of misbehavior through the use of proximity and other strategies.

Interactions: Interactions between the teacher and students are positive and demonstrate respect.

