



CORE FUNCTION	EFFECTIVE PRACTICE	INDICATOR
Student and School Success Principle 4: Rigorous, aligned instruction	Strengthening the school's instructional program based on student needs and ensuring that the instructional program is research-based, rigorous, and aligned with State academic content standards	Students are engaged and on task. (144)

Student engagement “refers to students being actively involved in their learning tasks and activities” (Lei et al., 2018, p. 517). Evidence-based instructional practices are more likely to focus students’ attention to learning tasks by engaging them actively within the learning process, thus promoting the learning and achievement of students of various ages and abilities (Dotterer & Lowe, 2011; Ladd & Dinella, 2009). Engagement has been considered to be a multidimensional construct consisting of behavioral (students’ direct actions and participation within learning environments), emotional (students’ affective responses to peers and teachers, and feelings of connection within the school context) and cognitive engagement (students’ levels of effort and willingness to use cognitive learning strategies towards mastery) (Fredericks, 2014; Fredericks et al., 2004). Each of these components makes up a dynamic process that impacts student learning and academic achievement (Wang & Holcombe, 2010). A large body of research demonstrates that higher levels of engagement are connected with short-term academic outcomes such as grades, standardized test scores, and attendance, as well as long-term outcomes such as high school completion (Harbour et al., 2015).

Research has most often addressed behavioral engagement, measuring observable behaviors such as paying attention and responding to the teacher, raising one’s hand, and paying attention to the assignment. Behavioral engagement shows the strongest link to academic achievement (Dotterer & Lowe, 2011; Ladd & Dinella, 2009; Lei et al., 2018), and is a key condition that supports academic achievement (Gregory et al., 2014). Teacher support is a crucial factor for student engagement (Klem & Connell, 2004), and certain teaching behaviors that occur within high quality instruction can lead to increased engagement and performance (Hattie & Timperley, 2007; Harbour, et al., 2015). Harbour and colleagues identified three teaching behaviors that effectively promote student engagement: modeling, opportunities to respond, and feedback.

### **Modeling**

Teacher modeling has been defined as “a twofold process that includes demonstrating a desired skill or behavior while simultaneously describing the actions and decisions being made throughout the process” (Harbour et al., p. 6). Teacher modeling reduces student confusion and enhances understanding (Sandholtz, 2011), and has been shown to foster positive student outcomes (Rosenshine, 2012). Effective instructional sequences include teachers first modeling a skill, then gradually incorporating guided practice as modeling is faded, and eventually shifting responsibility to students by providing opportunities for independent practice (Rosenshine & Meister, 1992). Modeling is an interactive process that can increase the accessibility of difficult concepts for learners, and increase on-task behavior and engagement, which in turn lead to collateral benefits such as improved capacity for self-regulated learning, and increased performance on higher order thinking questions and tasks (Housand & Reis, 2008; Methe & Hintze, 2003). High quality teacher modeling includes the most important points of the skills and behaviors to be learned (Scott et al., 2012), is clear, consistent, and concise, includes more than one demonstration (depending on complexity of skills/content), and involves students in the process through questioning strategies that prompt and activate students’ background knowledge (Archer & Hughes, 2011). Think-alouds, in which the teacher explains his/her thinking as they model desired strategies, give students the opportunity to see the expert thinking that is often otherwise inaccessible (VanDeWeghe, 2006). Using think-alouds during



instruction has been shown to increase reading comprehension skills and reading achievement (Fisher et al., 2011), and students' capacity for summarizing read text (Silven & Vaurus, 1992).

### ***Opportunity to Respond***

Research shows that when teachers provide an abundance of opportunities for students to respond to instruction, active engagement and, subsequently, learning increase (Hattie, 2012; Tincani & Twyman, 2016; Twyman & Heward, 2018). Active student response (ASR) or opportunities to respond (OTR) techniques have been used successfully with students from preschool through secondary grades (Twyman & Heward, 2018), and with both general education students (e.g., Christle & Schuster, 2003), and students with disabilities (e.g., Didion et al., 2018). ASR occurs when a student responds to ongoing instruction by providing a detectable response, such as hand-raising, providing a written or verbal answer, or some other detectable response following a teacher posed question or other instructional cue (Tincani & Twyman, 2016). ASRs are alterable variables (within the teachers' control) that offer the benefits of providing access for students with disabilities (Didion, et al., 2018), and that are easily integrated within a school-wide system such SWPBS<sup>1</sup> (Bradshaw et al., 2015; Tincani & Twyman, 2016). Tincani & Twyman (2016) describe several high-ASRs strategies that have been shown to invoke high rates of engagement during small- or whole-group instruction.

**Response Cards.** Student response cards encourage active participation by increasing attention and reducing disruptive and off-task behavior for students with and without disabilities (Didion et al., 2018; Horn, 2010; Randolph, 2007; Schnorr et al., 2015). In traditional instruction teachers can only call on one student at a time, thus leaving most students passive as they wait to be called upon to answer questions or respond to the teacher. Response cards (e.g., white tile boards for students to write their response, premade cards, electronic responders or clickers) can be held up by individual students simultaneously as they respond to the questions or problems posed, allowing the teacher to gauge learning in less time (Tincani & Twyman, 2016). Response cards can be used with both small group and whole class instruction, and with a variety of curricular topics (Tincani, 2011). Response cards should be used with brisk instructional pacing, with "the teacher moving through question-response-feedback sequences as quickly as possible without hurrying the students" (Tincani & Twyman, 2016, p. 6). This brisk pacing allows teachers to be more efficient, increasing both the number of opportunities for student practice and reducing down time which can lead to increased student disruptions (Lambert et al., 2006).

**Choral Response.** Choral response involves students verbally responding in unison to teacher questions that have only one right answer and that require only a brief oral response (Tincani, 2011; Twyman & Heward, 2018). Choral response has been shown to be more effective than hand raising in terms of decreasing disruptive behavior and increasing engagement (Haydon et al., 2013). Similar to response cards, choral response requires brisk instructional pacing, with the teacher providing majority group feedback, but interspersing this feedback with calls on individual students who may be hesitant to respond or who have offered an incorrect response (Tincani et al., 2005; Tincani & Twyman, 2016). Choral response can also be used "to prime students' background knowledge when introducing new content...interspersed in brief doses throughout a lesson...provide a brief end-of-lesson review [and,] improve transitions from one classroom activity or location while providing practice on academic and social skills" (Twyman & Heward, 2018, p. 3).

**Guided Notes.** Note taking is an increasingly important skill as students progress from elementary school into secondary school and college, when they are expected to listen carefully and take accurate and complete notes. Many students are poor note takers (Boyle & Forchelli, 2014), and guided notes can both increase ASR and improve students' academic performance (Haydon et al., 2011; Konrad et al., 2009). Heward (1994) describes guided notes as "teacher-prepared handouts that guide a student through a lecture with standard cues and prepared space in which to write the key facts, concepts, and/or relationships" (p. 304). Guided notes have been shown to be more effective than traditional note taking in terms of student test scores, the accuracy of the notes taken, and increased student responses and engagement during lectures (Haydon et al., 2011). The teacher should first make a lecture outline using a slide preparation program, using consistent typographical cues (e.g., bullets) to draw students' attention to the lecture's salient points. This outline is then modified for students by creating blank spaces for them to write the missing information as they listen (Tincani & Twyman, 2016). Guided notes can include graphic organizers and can allow for different kinds of student responses such as drawing pictures, and can be used with portable technology such as tablet computers or laptops (Tincani & Twyman, 2016).

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1 School-wide Positive Behavioral Interventions and Supports



## **Feedback**

Feedback from teachers improves student achievement, reduces disruptive behaviors, and increases time on-task (Hattie & Timperley, 2007; Apter et al., 2010), and is considered a best practice in classroom management (Harbour, et al., 2015). Teacher feedback in the form of verbal and nonverbal responses guides students in their development of skills and knowledge by providing them with information about their academic or behavioral performance (Hattie & Timperley, 2007). Feedback helps students build on learned concepts and corrects misconceptions or errors that arise during learning. Teachers who use high levels of positive feedback have more highly engaged students, and those who increase their levels experience greater levels of student engagement (Apter, et al., 2010). Other demonstrated benefits of positive feedback include increases to students' intrinsic motivation, enjoyment of classwork, and self-efficacy (Chalk & Bizo, 2004), and fewer disruptive behaviors (Pisacreta et al., 2011). Effective positive feedback must be contingent (only given when appropriate response or behavior is produced), consistent, frequent, and specifically related to the student's task performance rather than vague praise for general behaviors (Harbour et al., 2015; Hattie & Timperley, 2007). Corrective feedback, which includes specific information on what the student is doing wrong and how they can fix it, also improves academic and behavioral outcomes when it is used in conjunction with higher rates of positive feedback (Hattie & Timperley, 2007). Research suggests that positive feedback should occur at approximately four times the rate of negative feedback (e.g., Trussell, 2008); however, it is frequently used less often within classrooms (Harbour et al., 2015), and has been the subject of professional development interventions designed to increase the practice (e.g., Reinke et al., 2007).

### ***Connecting the Research to Our Practice: Assessing Your School's Needs Related to This Indicator***

Assessing your school's needs is a critical first step in identifying evidence-based practices appropriate for your school and planning for improvement. The suggested needs assessment questions below encompass two areas: data review and implementation of programs, policies and procedures. You can adapt the questions to fit your school's context as needed, and/or add or remove questions as desired.



**I. What Data are Currently Being Provided?**

<i>Questions to Consider</i>	<i>Discussion of Data/Responses</i>
1. To what extent do classroom observation data indicate that most students are actively engaged and on-task during most instructional time?	
2. What do school disciplinary or other data show regarding the level of classroom disruptions and off-task behavior at the school?	
3. What do teacher survey or focus group data say about the level of student engagement and on-task behavior? By grade and or subject area?	

***What needs can you identify based on the responses?***

**II. What Programs, Policies, and Procedures Are Already Being Implemented? How Well Are They Being Implemented?**

<i>Questions to Consider</i>	<i>Responses</i>
1. Does a review of lesson plans suggest that teachers are making consistent use of opportunities to respond/active student responding techniques? Do classroom observation data provide evidence that all teachers regularly incorporate these techniques?	
2. Which engagement techniques do teachers at each grade level use most frequently?	
3. Are teachers of older students providing guided notes to enable their engagement, note taking ability, and learning?	
4. How does the rate of positive feedback compare with the rate of negative feedback in classrooms? Are most teachers using positive feedback methods that are contingent, consistent, and specifically related to students' task performance?	



5. What if any professional development do teachers need to support their ability to enhance student engagement and time on task?	
<b>Consider the data and needs identified from Tables I and II, and responses to these questions. What is needed to foster this effective practice? What gaps (if any) can be identified between what we're implementing and evidence-based practice?</b>	

**What actions, customized for your school's needs, will ensure that this Success Indicator will be fully met? How will the team monitor implementation and success?**

<i>Begin Date</i>	<i>End Date</i>	<i>Action</i>	<i>Monitoring Process/Data Collected</i>	<i>Desired Outcome/Need Met?</i>

**REFERENCE AND RESOURCES**

Apter, B., Arnold, C., & Swinson, J. (2010). A mass observation study of student and teacher behaviour in British primary classrooms. *Educational Psychology in Practice, 26*, 151–171.

Archer, A. L., & Hughes, C. A. (2011). *Explicit instruction: Effective and efficient teaching*. Guilford Press.

Boyle, J. R., & Forchelli, G. A. (2014). Differences in the note-taking skills of students with high achievement, average achievement, and learning disabilities. *Learning and Individual Differences, 35*, 9–14.

Bradshaw, C. P., Waasdorp, T. E., & Leaf, P. J. (2015). Examining variation in the impact of school-wide positive behavioral interventions and supports: Findings from a randomized controlled effectiveness trial. *Journal of Educational Psychology, 107*(2), 546–557.

The Center on School Turnaround. (2017). *Four domains for rapid school improvement: A systems framework* [The Center for School Turnaround at WestEd]. WestEd. [http://centeronschoolturnaround.org/wp-content/uploads/2017/02/CST\\_Four-Domains-Framework-Final.pdf](http://centeronschoolturnaround.org/wp-content/uploads/2017/02/CST_Four-Domains-Framework-Final.pdf)

Chalk, K., & Bizo, L. (2004). Specific praise improves on-task behaviour and numeracy enjoyment: A study of year four pupils engaged in the numeracy hour. *Educational Psychology in Practice, 20*, 335–351.



- Christle, C. A., & Schuster, J. W. (2003). The effects of using response cards on student participation, academic achievement, and on-task behavior during whole-class, math instruction. *Journal of Behavioral Education, 12*(3), 147–165. doi: 10.1023/A:1025577410113
- Didion, L. A., Toste, J. R., & Wehby, J. H. (2018). Response cards to increase engagement and active participation of middle school students with EBD. *Remedial and Special Education, 1*–13. doi: 10.1177/0741932518800807
- Dotterer, A. M., & Lowe, K. (2011). Classroom context, school engagement, and academic achievement in early adolescence. *Journal of Youth and Adolescence, 40*, 1649–1660.
- Fisher, D., Frey, N., & Lapp, D. (2011). Coaching middle-level teachers to think aloud improves comprehension instruction and student reading achievement. *Teacher Educator, 46*, 231–243.
- Fredricks, J. A. (2014). *Eight myths of student disengagement: Creating classrooms of deep learning*. Corwin.
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*, 59–109.
- Gregory, A., Allen, J. P., Mikami, A. Y., Hafen, C. A., & Pianta, R. C. (2014). Effects of a professional development program on behavioral engagement of students in middle and high school. *Psychology in the Schools, 51*, 143–163
- Harbour, K. E., Evanovich, L. L., Sweigart, C. A., & Hughes, L. E. (2015). A brief review of effective teaching practices that maximize student engagement. *Preventing School Failure, 59*(1), 5–13. doi: 10.1080/1045988X.2014.919136
- Hattie, J. (2012). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge.
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*, 81–112.
- Haydon, T., Mancil, G. R., Kroeger, S. D., McLeskey, J., & Lin, W. Y. J. (2011). A review of the effectiveness of guided notes for students who struggle learning academic content. *Preventing School Failure: Alternative Education for Children and Youth, 55*(4), 226–231.
- Haydon, T., Marsicano, R., & Scott, T. M. (2013). A comparison of choral and individual responding: A review of the literature. *Preventing School Failure, 57*(4), 181–188.
- Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., & Darwin, M. (2008). *Turning around chronically low-performing schools* [IES Practice Guide] (NCEE 2008-4020). National Center for Education Evaluation and Regional Assistance. Retrieved from [https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/Turnaround\\_pg\\_04181.pdf](https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/Turnaround_pg_04181.pdf)
- Heward, W. L. (1994). Three low-tech strategies for increasing the frequency of active student response during group instruction. In R. Gardner, III, D. Sainato, J. O. Cooper, T. Heron, W. L. Heward, J. Eshleman, & T. A. Grossi (Eds.), *Behavior analysis in education: Focus on measurable superior instruction* (pp. 283–320). Brooks/Cole.
- Horn C. (2010). Response cards: An effective intervention for students with disabilities. *Education and Training in Autism and Developmental Disabilities, 45*, 116–123.
- Housand, A., & Reis, S. M. (2008). Self-regulated learning in reading: Gifted pedagogy and instructional settings. *Journal of Advanced Academics, 20*, 108–136. doi:10.4219/jaa-20080864
- Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health, 74*, 262–273.
- Konrad, M., Joseph, L. M., & Eveleigh, E. (2009). A meta-analytic review of guided notes. *Education and Treatment of Children, 32*(3), 421–444.
- Ladd, G. W., & Dinella, L. M. (2009). Continuity and change in early school engagement: Predictive of children’s achievement trajectories from first to eighth grade? *Journal of Educational Psychology, 101*, 190–206.
- Lambert, M. C., Cartledge, G., Heward, W. L., & Lo, Y. Y. (2006). Effects of response cards on disruptive behavior and academic responding during math lessons by fourth-grade urban students. *Journal of Positive Behavior Interventions, 8*(2), 88–99.
- Lei, H., Cui, Y., & Zhou, W. (2018). Relationships between student engagement and academic achievement: A meta-analysis. *Social Behavior and Personality: an international journal, 46*(3), 517–528. [https://www.researchgate.net/profile/Hao-Lei-22/publication/324183400\\_Relationships\\_between\\_student\\_engagement\\_and\\_academic\\_achievement\\_A\\_meta-analysis/links/5ac5f8020f7e9b1067d58934/Relationships-between-student-engagement-and-academic-achievement-A-meta](https://www.researchgate.net/profile/Hao-Lei-22/publication/324183400_Relationships_between_student_engagement_and_academic_achievement_A_meta-analysis/links/5ac5f8020f7e9b1067d58934/Relationships-between-student-engagement-and-academic-achievement-A-meta)
- Methe, S. A., & Hintze, J. M. (2003). Evaluating teacher modeling as a strategy to increase student reading behavior. *School Psychology Review, 32*, 617–623. doi:10.1177/1053451211430117
- Pisacreta, J., Tincani, M., Connell, J. E., & Axelrod, S. (2011). Increasing teachers’ use of a 1:1 praise to behavior correction ratio to decrease student disruption in general education classrooms. *Behavioral Interventions, 26*, 243–260.
- Randolph, J. J. (2007). Meta-analysis of the research on response cards: Effects on test achievement, quiz achievement, participation, and off-task behavior. *Journal of Positive Behavior Interventions, 9*(2), 113–128.
- Reinke, W., Lewis-Palmer, T., & Martin, E. (2007). The effect of visual performance feedback on teacher use of behavior-specific praise. *Behavior Modification, 31*, 247–263.
- Rosenshine, B. (2012). Principles of instruction: Research-based strategies that all teachers should know. *American Educator, 36*(1), 12–39. Retrieved from <https://www.aft.org/sites/default/files/periodicals/Rosenshine.pdf>
- Rosenshine, B., & Meister, C. (1992). The use of scaffolds for teaching higher-level cognitive strategies. *Educational Leadership, 49*, 26–33.





- Sandholtz, J. H. (2011). Preservice teachers' conceptions of effective and ineffective teaching practices. *Teacher Education Quarterly*, 38, 27–47.
- Schnorr, C. I., Freeman-Green, S., & Test, D. W. (2015). Response cards as a strategy for increasing opportunities to respond: An examination of the evidence. *Remedial and Special Education*, 37, 41–54.
- Scott, T. M., Anderson, C. M., & Alter, P. (2012). *Managing classroom behavior using positive behavior supports*. Pearson Education.
- Silven, M., & Vaurus, M. (1992). Improving reading through thinking aloud. *Learning and Instruction*, 2, 69–88.
- Tincani, M. (2011). *Preventing challenging behavior in your classroom: Positive behavior support and effective classroom management*. Prufrock Press.
- Tincani, M., Ernsbarger, S., Harrison, T. J., & Heward, W. L. (2005). Effects of two instructional paces on pre-K children's participation rate, accuracy, and off-task behavior in the "Language for Learning" program. *Journal of Direct Instruction*, 5(1), 97–109.
- Tincani, M., & Twyman, J. S. (2016). *Enhancing engagement through active student response*. Temple University, Center on Innovations in Learning. [http://www.centeril.org/publications/Active Student Response \(Final\).pdf](http://www.centeril.org/publications/Active Student Response (Final).pdf)
- Trussell, R. (2008). Classroom universals to prevent problem behaviors. *Intervention in School and Clinic*, 43, 179–185.
- Twyman, J. S., & Heward, W. L. (2018). How to improve student learning in every classroom now. *International Journal of Education Research*, 87, 78–90. doi: 10.1016/j.ijer.2016.05.007. Retrieved from [https://autism.outreach.psu.edu/sites/default/files/80\\_Handout 8.pdf](https://autism.outreach.psu.edu/sites/default/files/80_Handout 8.pdf)
- VanDeWeghe, R. (2006). Research matters: Deep modeling and authentic teaching: Challenging students or challenging students? *The English Journal*, 95, 84–88.
- Wang, M.-T., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement, and academic achievement in middle school. *American Educational Research Journal*, 47, 633–662.