



Introduction

Providing equitable learning environments to all students starts with a locally developed guaranteed, viable curriculum that is aligned to the *Kentucky Academic Standards* (KAS). Teachers then work collaboratively through the Professional Learning Communities (PLCs) process as they break down the standards and use their local curriculum to ensure all students are taught the same content, concepts and/or skills regardless of the teacher they are assigned. Collaborative teams create common assessments aligned to each unit’s intended learning outcomes, so all students are held to the same grade level expectations. Each teacher then implements the standards-aligned curriculum as they design and deliver classroom instruction to help students reach the learning expectations.

The actual classroom instruction students receive is the critical point in which “the rubber meets the road.” All of the work to create a written guaranteed and viable curriculum, to break down the standards and create aligned assessments is necessary, but the quality of the day-to-day classroom instruction students receive has a significant impact on their overall achievement. Research consistently indicates the importance of students having access to quality, standards-aligned, grade-level instruction (TNTP, 2018; Hattie, et al., 2021; Marzano, 2003). As teachers implement the curriculum, it is important that they strategically and intentionally utilize evidence-based instructional practices that support students in reaching the intended learning outcomes.

In their book, *Visible Learning for Literacy*, the authors state that “every student deserves a great teacher, not by chance, but by design” (Fisher, Frey & Hattie, 2016). This requires developing an understanding of the impact that instructional practices have on student learning. Teachers need to understand which practices, strategies and instructional routines work best in different teaching situations for students to reach those expectations. So, how do teachers know which instructional practices have the most potential to improve student learning? How can research on evidence-based practices support teachers in making these decisions?

This introduction takes a closer look at what is meant by evidence-based instructional practices, as well as the importance of effective implementation, intentional planning and gathering evidence to determine the impact on student learning. Following the introduction, this series will examine six evidence-based instructional practices teachers can use to support learners in reaching the expectations within the *Kentucky Academic Standards* and the local curriculum.

What are Evidence-Based Instructional Practices?

In December 2015, the United States Congress reauthorized the Elementary and Secondary Education Act through a law known as the Every Student Succeeds Act (ESSA). One requirement under ESSA is that school improvement efforts be rooted in “evidence-based activities, strategies, or interventions.” While

the term evidence-based has been in other areas of the law for many years, ESSA is the first federal law to define and identify levels of evidence for educational purposes. It defines evidence-based interventions as practices or programs that have evidence, usually through formal studies and research, to show they are effective at producing results and improving student outcomes when implemented.

For a number of years, the field of education has been making great efforts to implement evidence-based practices to improve the quality of instruction students receive and the outcomes they achieve. When teachers effectively implement evidence-based practices into classroom instruction, it can result in the following benefits for teachers and students (IRIS Center, 2014):

- An increased likelihood of positive student outcomes;
- Increased accountability because there are data to support the selection of a practice, which in turn facilitates support from administrators, parents and others;
- Less wasted time and fewer wasted resources because educators start off with an effective practice;
- An increased likelihood of being responsive to learners' needs; and
- A greater likelihood of convincing students to engage and try it because there is evidence that it works.

Educational research has provided considerable insight into what works when it comes to teaching and learning. According to Gazith (2021), the field of education is living through somewhat of a renaissance. "The work of researchers such as Robert Marzano, John Hattie, and David Sousa, has brought educational research to the educator in a form that is clear and implementable" (p. 4). Additionally, research from the field of neuroscience provides substantial knowledge about the brain and how students learn. Teachers can apply this research as practical strategies within their classrooms to create the environment necessary for learning to occur.

However, a gap exists between the research around evidence-based practices and the instructional practices teachers choose to use. Often, educators use practices and strategies they have seen others use, including their own teachers, without questioning whether those practices are supported by research. In fact, research has indicated that some of those practices are ineffective or have no data to support their use (IRIS Center, 2014).

So, how do educators sort through the evidence to make informed decisions that truly impact student learning? According to Hattie (2012), instead of asking "What works?" educators need to focus on the more important question of "What works best?" When analyzing the research, which practices, when effectively implemented, can result in more than one year's growth in one year's time to accelerate student learning?

One idea that is clear from the research is that educators, first and foremost, must begin with the belief that all students can succeed. Gazith (2021) cautions that "if the adult in the students' life, the person who is supposed to be the expert scaffolder doesn't believe, neither will they. Students need their educators to believe, often despite all odds and at all costs, that they will exceed the expectations that everyone holds of them" (p. 4). In essence, teachers get out of the students what they expect, and the teachers' expectations of their students become the reality for those students. Teachers should have

expectations that appropriately stretch students but are still within reach for the students (Fisher, et al., 2016).

According to Hattie (2012), the differences between high-effect and low-effect teachers are related to their attitudes and expectations as they make key decisions regarding what to teach and at what level of difficulty, as well as their understanding of learning progressions and the impact of their teaching. “It is some teachers doing some things with a certain attitude or belief system that truly makes the difference” (p. 26). Fisher, et al. (2016), states that at a minimum, quality Tier 1 instruction should include (p. 147):

- Teacher clarity on, and communication about, the learning intentions and success criteria;
- Student ownership of the expectations for learning;
- Positive, humane, growth-producing teacher-student relationships;
- Modeling and direct instruction of content;
- Collaborative learning opportunities on a daily basis;
- Small group learning based on instructional needs rather than perceived ability; and
- Spaced (rather than mass) independent practice and application of content.

Moving from Research to Classroom Implementation

It is important to note that no single instructional practice or strategy can guarantee that all students will learn for several reasons, including (Marzano, 2017; p. 1):

- Many factors other than the use of instructional practices affect student learning;
- Instructional practices work in concert or sets and should not be thought of as independent interventions; and
- Educators have to use the practices in specific ways to produce positive results.

This is why teaching is both an art and a science. As teachers gain more skill with evidence-based instructional practices, the better the teacher will be able to design and implement lessons that improve student learning (Marzano, 2017). However, even when educators identify evidence-based practices, there is a lot of variation in the effectiveness of these practices. In the book, *Great Teaching by Design* (2021), the authors argue that this variation reflects the different interpretations teachers make when implementing the practices at the classroom level. While choosing an evidence-based practice is the first step, the quality of implementation is critically important.

Simply having knowledge about best practices in teaching and learning does not always mean that people are able to use that knowledge to generate ideas and then transfer those ideas into classroom instruction. Each day, teachers make decisions that have the potential to positively impact student learning. That potential needs to be consistently and reliably transformed into effective implementation. Hattie, et al. (2021), recommends expanding the question of “What works best” to “How do we implement what works best?” They argue that to truly improve student learning outcomes, educators must use their knowledge about what works best in teaching, ensure effective implementation and then monitor the impact of the instruction. Goodman, et al. (2020), found that when teachers and entire school teams became increasingly intentional with evidence-based teaching practices, thinking about why they were using them and how to consistently implement the practices, student engagement and learning increased significantly.

To ensure that learning occurs, it is important that educators implement practices at the right time, with the right content, in the right way. Activating prior knowledge, classroom discourse, higher-order questioning and effective feedback all have the potential to impact student learning above and beyond one year's growth in one year's time. However, successful implementation of these strategies determines whether or not that potential is realized through the impact on student learning (Hattie, et al., 2021).

When it comes to utilizing evidence-based practices, it is imperative that educators work to close the gap between potential, intention and implementation. As stated by Hattie, et al. (2021), "Great teaching can be designed, and when it's designed well, students learn more" (p. 9). They suggest when making decisions about teaching and learning, consideration should be given to the following four critical components of evaluative thinking (p. 8):

- Discovering where learners are in their learning journey and where they need to go next in that journey. Where students are in their learning journey represents their learning potential and our teaching potential.
- Planning, designing and implementing learning experiences based on the specific context of the teacher's classroom and learners. This planning must focus on the intentional selection of strategies, approaches and interventions to teaching and learning.
- Using evidence-based approaches to teaching and learning that support learners as they move forward in their learning journey. Not only do educators need to identify these evidence-based approaches, but also they must implement them into their teaching.
- Evaluating the impact of these learning experiences and making decisions based on that impact.

Importance of Intentional Planning

An important step in closing the gap between research and effective classroom implementation is intentional planning on the part of the teacher. In order for educators to gain maximum benefit from evidence-based practices, they must be mindful of and purposeful in their planning every time they enter the classroom. According to Gazith (2021), teachers should consistently ask themselves questions, such as (p. 6):

- How is the student's behavior a sign of unmet need(s)? How can I respond to students' needs so that they don't misbehave to have their needs met?
- What is my goal for my students in today's lesson? What do I want my students to be able to do by the end of the lesson?
- What is the most effective way to teach them so that they learn?
- What is the purpose of this information? How do I share this purpose with my students so that learning is meaningful for them?
- How do I leave my voice behind for my students so that they can use that voice to guide them so that they will eventually become successful, independent learners?

Intentional planning begins with having the end in mind. Teachers should know from the outset of the unit or lesson what they expect students to learn and how they will assess or measure that learning (Fisher & Frey, 2015; McTighe & Willis, 2019). This provides a blueprint that guides teachers' construction of the curriculum, the aligned assessments and the necessary learning experiences for students to reach the final destination. Backward design encourages teachers to think like an evaluator

before planning the learning experiences to strengthen alignment between assessment and classroom instruction (McTighe & Willis, 2019).

It is important to remember that learning is a process, not an event. There are three stages in the learning process that moves students from a novice new to the learning goals to an expert who can apply the goals in multiple, authentic contexts. The stages include (1) **surface learning**, (2) **deep learning** and (3) **transfer**. All three stages are important components and necessary for teaching and learning to be effective. Table 4.1 provides a description of each stage in the learning process and examples of possible evidence-based practices that can support learners in each phase (Hattie, et al., 2017; Fisher, et al., 2016).

Table 4.1 Stages of Learning

Stage of Learning	Description	Possible practices to support learners
Surface Learning	<ul style="list-style-type: none"> • Occurs when students are exposed to new concepts, skills and strategies • Does not mean superficial learning • Provides a foundation on which to build as students are asked to think more deeply 	<ul style="list-style-type: none"> • Activating and leveraging prior knowledge • Explicit instruction • Note-taking • Summarizing • Mnemonics
Deep Learning	<ul style="list-style-type: none"> • Occurs when students consolidate their understanding as they apply and extend some surface learning knowledge to support deeper conceptual understanding • Will often take up more instructional time and can only be accomplished when students have the requisite knowledge to go deeper • Must be supplemented by scaffolding to ensure the different needs of students are being met 	<ul style="list-style-type: none"> • Concept-mapping • Classroom discussion • Questioning • Collaborative learning • Metacognitive strategies • Receiving effective feedback
Transfer	<ul style="list-style-type: none"> • Occurs when students take their consolidated knowledge and skills and apply them to new scenarios and different contexts • Also a time when students are able to think metacognitively, reflecting on their own learning and understanding 	<ul style="list-style-type: none"> • Collaborative learning • Questioning • Extended writing • Discerning similarities and differences

When planning a lesson, series of lessons or a unit, the practices teachers use and when they use them are equally important when it comes to instruction having an impact on learning. It is not a matter of all surface or all deep; it is a matter of being clear when surface and when deep is truly required as students progress toward the intended learning outcomes (Fisher, et al., 2016). Practices that facilitate students' surface-level learning do not necessarily work equally well for deep learning, and vice versa.

Matching the right approach with the appropriate phase of learning is critical to support students' understanding of the content (Hattie, et al., 2017).

The gradual release of responsibility (GRR) framework can support students as they progress through the three phases of learning. This framework purposefully shifts the cognitive load from teacher-as-model to joint responsibility of teacher and learner, to independent practice and application by the learner. The four main components of gradual release, as shown in Figure 4.2, include (1) **focused instruction**, (2) **guided instruction**, (3) **collaborative learning** and (4) **independent learning**. Table 4.3 provides an overview of the major characteristics of each component (Fisher & Frey, 2014).

Figure 4.2 Gradual Release of Responsibility Framework

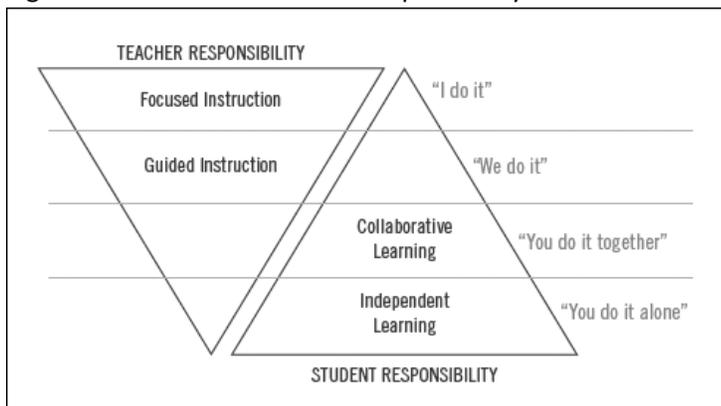


Table 4.3 Components of Gradual Release of Responsibility (GRR) Framework

GRR Component	Characteristics
Focused Instruction	<ul style="list-style-type: none"> Teacher establishes the purpose based on the standards and communicates the purpose to students through learning goals and success criteria. Teacher models thinking, demonstrates skills and notices student thinking in relation to the intended learning outcomes. This is also a time for direct or explicit instruction.
Guided Instruction	<ul style="list-style-type: none"> Point where the cognitive load begins to shift to the students. Teacher focuses on scaffolding students' developing skill or knowledge through questioning, prompting and cueing. Most effective with small groups that are formed based on instructional needs, and groupings change frequently due to ongoing formative assessment. Ideal time to differentiate.
Collaborative Learning	<ul style="list-style-type: none"> Students work together and use academic language to consolidate and apply their understanding of the content. Students are primarily responsible for their learning while teacher observes and provides support when needed. Tasks should ensure both individual and group accountability.

GRR Component	Characteristics
	<ul style="list-style-type: none"> • Teacher observes, confers with students, gathers formative data to inform instruction and provides students with feedback on their learning.
<p>Independent Learning</p>	<ul style="list-style-type: none"> • Students are engaged in tasks that require them to apply what they have learned on their own. • Students use feedback from teachers, peers and themselves to make decisions regarding time and resource allocation and to help resolve problems when they are stuck. • Focuses on building students’ metacognitive and self-regulation skills. • Teacher notices ongoing performance and provides feedback that helps students identify the gap between their current state and the intended learning outcomes.

According to Fisher and Frey (2014), all four components of the gradual release model are important and necessary for deep learning to occur, for students to think critically and creatively and be able to transfer their learning to new situations. The GRR Framework is recursive and not meant to be linear. Teachers “must plan to intentionally vary the instructional arrangements to promote interaction with the teacher, with the content, and of students with one another” (Fisher & Frey, 2015; p. 6). Based on the learning outcomes of a lesson or series of lessons, teachers may choose to begin with any component of the framework. Students move back and forth between each of the components as they progress toward the learning expectations.

Determining Impact

Teachers need to use evidence-based practices to ensure that students learn, but Frey, et al. (2018), argue that too much of the conversation is focused on what teachers are doing rather than on the learning of the student. Teaching must always be considered in terms of its impact on student learning. Teachers need to view student learning as feedback about the effectiveness of their instruction, and they should never hold an instructional practice in higher esteem than their students’ learning. After teachers implement *what works best*, they must gather evidence to know with confidence that their *implementation of what works best* resulted in student learning (Fisher, et al., 2021).

The only way to determine if students have learned what has been taught and to determine the effectiveness of the instructional practices is through assessment. Assessments can be formal or informal and summative or formative. Assessing learning requires collecting evidence of student learning throughout each lesson and then acting on that evidence. Teachers need to know which instructional practices are working or not working, and they need to be prepared to adapt their instruction to each student’s situation, context and prior learning (Hattie, 2012). Fisher and Frey (2015) state that “acting on the data they collect is a sign of strength, not weakness, in teaching. High-performance learning environments are data driven and student centered” (p. 11).

As a part of the formative assessment process, individual teachers gather evidence minute-by-minute and day-by-day to determine what is working and to adjust instruction based on student needs. In

addition, teachers need to meet to discuss and evaluate their teaching in light of the evidence gathered through the use of common formative assessments making the effect of their teaching visible to themselves and to their colleagues (Hattie, 2012). These types of conversations are part of the ongoing work of a professional learning community (PLC) and help to develop both the individual and collective capacity of its members. Through these collaborative conversations, the team focuses on addressing questions such as:

- What instructional practices worked well?
- How were the practices implemented in each classroom? What changes need to be made to improve the implementation of these practices?
- What instructional strategy or practice failed to produce results for the whole group as well the subgroups? What might be possible reasons for these results?
- Based on the evidence, what are some areas of professional learning that could support the team in effectively identifying and implementing instructional practices to improve student learning?

According to Fisher, et al. (2021) to create truly equitable learning environments, every teacher must maximize his or her impact on every student in the school, and educators must focus on making a difference together. “The greatest impact on student learning comes from leveraging individual efficacy, or expectations of success, into a collective whole” (p. 28). This requires that educators across a school or district have a shared language of teaching and learning that includes understanding of instructional practices that have the greatest potential to impact student outcomes and the decision-making process of when to use those strategies. Then, educators need to channel that knowledge into a shared language for effective implementation.

While there are many practices that have the potential to support student learning, this series will examine the following six evidence-based instructional practices:

- Community and Relationship Building
- Clear Learning Goals
- Explicit Teaching and Modeling
- Questioning
- Discussion
- Feedback

References

- Fisher, D. & Frey, N. (2014). *Better learning through structured teaching: A framework for the gradual release of responsibility* (2nd ed.). Alexandria, VA: ASCD.
- Fisher, D. & Frey, N. (2015). *Unstoppable learning: Seven essential elements to unleash student potential*. Bloomington, IN: Solution Tree Press.
- Fisher, D., Frey, N., & Hattie, J. (2016). *Visible learning for literacy: Implementing the practices that work best to accelerate student learning*. Thousand Oaks, CA: Corwin.
- Frey, N., Hattie, J., & Fisher, D. (2018). *Developing assessment-capable visible learners: Maximizing skill, will and thrill*. Thousand Oaks, CA: Corwin.
- Gazith, K. (2021). *Teaching with purpose: How to thoughtfully implement evidence-based practices into your classroom*. Bloomington, IN: Solution Tree Press.
- Goodwin, B., Gibson, T., & Rouleau, K. (2020). *Learning that sticks: A brain-based model for K-12 instructional design and delivery*. Alexandria, VA: ASCD.
- Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. New York, NY: Routledge.
- Hattie, J., Bustamante, V., Almarode, J., Fisher, D., & Frey, N. (2021). *Great teaching by design*. Thousand Oaks, CA: Corwin Press.
- Hattie, J., Fisher, D., & Frey, N. (2017). *Visible learning for mathematics, grades K-12: What works best to optimize student learning*. Thousand Oaks, CA: Corwin.
- The IRIS Center. (2014). *Evidence-based practices (part 1): Identifying and selecting a practice or program*. Retrieved from https://iris.peabody.vanderbilt.edu/module/ebp_01
- Marzano, R. (2017). *The new art and science of teaching*. Bloomington, IN: Solution Tree Press
- McTighe, J. & Willis, J. (2019). *Upgrade your teaching: Understanding by design meets neuroscience*. Alexandria, VA: ASCD.
- TNTP. (2018). *The opportunity myth: What students can show us about how school is letting them down—and how to fix it*. Retrieved from https://tntp.org/assets/documents/TNTP_The-Opportunity-Myth_Web.pdf
- Tomlinson, C. A. (2014). *The differentiated classroom: Responding to the needs of all learners* (2nd ed.). Alexandria, VA: ASCD.