Evidence-Based Instructional Practices

Understanding what "evidence-based" practices are, and becoming proficient in using these teaching methods, is critical to ensuring that children and youth in our schools learn grade level standards, or alternate grade-level standards as appropriate. Many schools will have a research-informed or evidence-based curriculum that teachers are expected to follow; however professional judgement may indicate that some or many learners in the class need scaffolding or flexibility in the teaching strategies that are used.

The instruction provided in general education classes forms the foundation for special education services. Special education is defined as "adapting the content, method, and delivery" of general education, according to the Individuals with Disabilities Education Act (IDEA). If general instruction is weak or reliant on listening and reading as the primary method for gaining knowledge, then learners are less likely to achieve grade level skills compared to being in classes where instruction is strong and effective. This brief provides an overview of evidence-based instructional practices that all teachers can use to ensure that their students learn and achieve grade level knowledge and skill in their subject area.

The effectiveness of instruction can be broken into four categories:

1. **Minimal Evidence: Practices** that may be based on a theory or rationale but have little to no research that using the practice results in the desired outcome. Resources on Teachers Pay Teachers is one example.
2. **Promising Practice:** Teaching methods that are supported by one or more well-designed correlational research study, showing a positive relationship between the method and the learning outcome and the study may be limited in scope and not yet replicated.
3. **Research-Informed Practice with Moderate Evidence:** the effectiveness of the teaching practice is supported by one or more controlled research studies that demonstrate a positive impact of instructional method or intervention on the skill being taught to the learning population.
4. **Evidence-Based Practice:** strong evidence in a well-designed and implemented randomized control experiment demonstrates that the teaching strategy or intervention results in positive learning outcomes.

EVIDENCE-BASED INSTRUCTION

Evidence-based instruction is a teaching strategy that is supported by research rather than opinion or untested theories. These strategies are expected to have an impact on student performance as defined in the original research. Teachers use research to design teaching methods and learning supports and assess student learning nd progress over time.
There are a variety of evidence-based instructional practices that have been demonstrated to be effective in positively influencing student learning:

1. **Explicit Goals.** By explicitly stating and posting clear learning goals**,** students will have a clear idea of that they will be learning and how they will know when they have achieved the instructional target(s).

2. **Explicit Instruction.** Explicit instruction is a systematic and direct method of teaching that emphasizes small steps, checking for understanding, and adjusting instruction for active student engagement and learning. Explicit instruction incorporates many of the elements of instruction described above that are based in research. Examples of explicit teaching strategies include:
   - **Focus Instruction on critical elements** – teach skills, strategies vocabulary terms, concepts and rules that will empower students in the future and match student's instructional needs.
   - **Sequence skills logically** – Consider several curricular variables, such as teaching easier skills before harder skills, teaching high-frequency skills before skills that are less frequent in usage, ensuring mastery of prerequisites to a skill before teaching the skill itself.
   - **Break down complex skills** and strategies into smaller instructional units- Teach in small steps.
   - **Design organized and focused lessons**- Make optimized use of instructional time. Make sure your lessons are organized, sequenced, and focused.
   - **Review prior skills and knowledge** before beginning instruction – Provide a review of relevant information. Verify that students have the prerequisite skills and knowledge to learn the skill being taught in the lesson. This element also provides an opportunity to link the new skill with the other related skills.
   - **Use clear and concise language** – Use consistent, unambiguous wording and terminology.
   - Provide an adequate range of **examples and non-examples** – In order to establish the boundaries of when to, and when not to apply a skill, strategy, concept, or rule. Provide a wide range of examples and non-examples.

- **Require frequent responses** – Plan for high level of student-teacher interaction via the use of questioning. Having the students respond frequently (i.e., oral, written, or action response) helps them focus on the lesson content.
- **Monitor student performance closely** – Carefully watch and listen to students' responses, so you can verify student mastery as well as make timely adjustments in instruction if students are making errors.
- **Deliver the lesson at a brisk pace** to optimize instructional time, the amount of content that can be presented, and on-task behavior.
- **Help students organize their knowledge** – Because many students have difficulty seeing how some skills and concepts fit together, it is important to use teaching techniques that make these connections more apparent or explicit.
- **Provide distributed and cumulative practice** – Distributed practice refers to multiple opportunities to practice skill over time. Cumulative practice is a method for including practice opportunities that address both previously and newly acquired skills.

3. **Descriptions and Models.** When teachers share learning strategies or model expected behavior, students are more likely to be able to demonstrate the skill and meet expectations. This may take the form of verbal models by thinking out loud as an example of how to process information, make decisions, or complete a task. It may involve a physical model of a product or definitions of steps to follow when engaged in learning.
4. **Frequent Feedback**. Feedback from a teacher is a straightforward way to reinforce the quality and accuracy of student work. Student performance can be further strengthened and improved when the teacher helps students to evaluate their own performance through assessment rubrics or other tools that define performance expectations. This feedback will be most effective when it is used as a regular part of the learning process and not only to evaluate or grade performance. Teachers may use rubrics, peer grading, checklists, or other tools to provide regular feedback.
5. **Check for Understanding**. Asking students for their feedback can have more impact on learning than giving students feedback. This may involve asking students what they understand, how the course and lessons work for them, or what they need to acquire and apply the goals of the lessons. Asking students for their input allows the teacher to evaluate student learning, determine what misconceptions they might have, and change instructional plans to meet student learning needs.
6. **Graphic models and visual representations**. Visual organizers, directions, and graphic imagery supplements instruction delivered orally through verbal descriptions or through reading print material. This additional sensory input can enable the learner to grasp connections in content and hierarchies of information. Examples are adding clear visuals

to PowerPoint presentations, creating graphs or charts, or using diagrams. Graphic organizers such as concept maps, diagrams, charts, graphs, grids, and timelines, help students organize ideas, represent relationships, and retain information. They can be a learning activity, formative assessment, or a summative assessment.

7. **Guided and Supported Practice.** Repeated practice, spaced throughout a lesson or unit of instruction provides opportunities for productive struggle, making corrections, and enduring understanding through repeated applications of the knowledge or skill. It provides opportunities for teacher feedback and problem solving by students. Guided practice with teacher feedback can bolster learner confidence in the learning process. Gradual release of responsibility is a proven method using four components to build learning and independence.

8. **Peer collaboration.** There are a variety of peer learning frameworks that have been researched and shown to be effective for learning and motivation to learn. Examples:

    a. **General Peer-to-Peer Learning through partner and small group assignments.**. Peer to peer learning is more motivating for children and youth and can be an effective learning method in large classes. Group work can draw on the unique strengths and perspectives of students to create a better learning experience or product than could be produced by an individual student.

    b. **Flexible Groups - Station teaching.** A method for offering multiple means for engaging in the learning process is to create varied opportunities for small groups to interact with the learning content. Viewing a video, solving a problem, guided instruction from a teacher and developing a product can – for example – be designed to address differing student interests or skills and enable the teacher to provide direct instruction to one group or to monitor and provide input across groups. With **flexible grouping** of students (composition of groups varying based on interests, learning needs, or other characteristics), station assignments can be varied as a result of formative or summative assessment, and can provide opportunities for individual tutorials when needed.

    c. **Cooperative Learning.** Think-pair-share, partner reading, dyad or triad interviews, or group assignments are just some of the strategies that enable learning by supporting students to learn from each other and contribute to the learning of others Teaching students how to work on projects or learning activities in cooperative groups enables them to collaborate, support each other's learning, be accountable for the group's learning, and receive support from peers. A variety of cooperative group strategies (e.g., numbered heads together) and role-taking (e.g., materials manager, recorder)

assist groups to efficiently engage in learning and be prepared to respond on behalf of the group.

   d. **Peer Assisted Learning Strategy (PALS). PALS is a** peer tutoring strategy in which every student in the class is paired, and each pair consists of one student who is academically stronger than the other. In 20-40 minute sessions, conducted 2 – 4 times weekly, students take turns as tutor and tutee during activities to develop grade-level skills. This is considered an evidence-based practice by the What Works Clearinghouse.

9. **Learning strategy instruction.** Strategy instruction involves teaching students clear strategies that help them process and respond to an assignment or task. Increased independence results when students are provided structures (e.g., visual reminders, steps to success, modified notes forms, use of acronyms to enhance memory, sticky notes or colored cue cards, non-verbal prompts for routine transitions) to tackle tasks that need to be completed independently or as a part of whole-group activities. Self-regulated strategy development is an evidence-based framework for explicitly teaching academic (e.g., writing) as well as self-regulation strategies (e.g., self-monitoring, goal setting) to students.

10. **Nurture meta-cognition**. Metacognition refers to the processes related to planning, monitoring, and assessing personal understanding and performance. When students use meta-cognition (e.g., thinking about options, choices, and potential results of actions) they take more responsibility for their own learning. Teachers can help students to keep track of, and chart, their progress and monitor the extent to which they are meeting their own personal or academic goals.

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