12-22-2020

Evidence-based Practices to Promote Inclusion in Today's Catholic School

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Evidence-Based Practices to Promote Inclusion in Catholic Schools

Sean J. Smith¹, Gregory A. Cheatham¹ and Maggie Mosher¹

Abstract: The purpose of this article is to present inclusionary practices for Catholic education classrooms that emphasize the integration of evidence-based practices (EBPs). These are practices that have been developed to address the needs of all students, particularly learners who are considered at-risk as well as their peers with an identified disability. Over the past two decades, educational reforms and corresponding effective practices have evolved to correspond with the growing expectation that all students should be given the opportunity to participate in the general education experience. Applying the evidence-based practices presented in this article can provide Catholic educators with the needed support and strategies to help ensure the successful inclusion of students with disabilities, if not all students, in Catholic schools. This article will: (a) define evidence-based practices (EBPs) in order to contextualize their use in Catholic schools, and (b) offer an explanation of the various EBPs currently shown to facilitate inclusion within the general education environment.

Keywords: inclusion, disabilities, effective practices

Legislative, social, and economic changes in the United States in the 21st Century have required a rethinking of K-12 education in both public and Catholic schools. These changes have been exacerbated by the pandemic and the demands to plan and design instruction for a continuum of options (e.g., hybrid, virtual). Today, Catholic schools, like so many other K-12 institutions, are realizing the need to plan and design for all learners, including those that struggle due to a variety of factors. For learners with disabilities, a group of students Catholic

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schools are increasingly including in their K-12 classrooms (Boyle & Hernandez, 2016), changes in instructional planning and subsequent practices are making a positive difference in access to appropriate curriculum and instruction, and in turn, meaningful involvement in Catholic education with their typically developing peers.

Inclusion is not simple and yes, the pandemic and the need to plan for and teach in hybrid and fully online environments has complicated a number of initiatives across our Catholic schools. Yet, as Catholic educators looked for ways to design effective instruction for all students within the demands of remote and distance learning, effective practices and leading with what works for learners extended much of the work needed to facilitate further inclusion. Today, teachers are turning to practices that are increasingly evidence-based and, as a result, are seeing improvements in the achievement of typically developing students, as well as students with disabilities (Cook & Cook, 2013). The result is the expansion of inclusive learning environments where meeting the needs of students at-risk, their peers with identified disabilities, and what has often been deemed our typical learner, is becoming the norm across public and increasingly, Catholic schools.

Efforts to integrate effective practices to support the needs of all learners have been growing over the past two decades. Central to the educational reforms of the early 21st century, is the goal to provide a quality education for all students (Cook & Odom, 2013). For example, the United States Congress was very clear in its passage of Every Student Succeeds Act (ESSA) that schools need to take particular account of achievement for students at high-risk or students often referred to as disadvantaged. Federal and state policies categorize these students into four key groups: (a) students in poverty; (b) minorities; (c) students with disabilities; and (d) students with limited English language skills. These policies provide flexibility to states and schools in their planning for effective educational practices in order to ensure that educational plans address the needs of all learners, including those struggling students and their peers with disabilities.

Two decades into the third millennium, evidence suggests that changes in policies and educational practice are having desired effect (O’Keefe & Goldschmidt, 2014). This is particularly true in the inclusion of students with disabilities in the general education curriculum. In 2000, for example, 47 percent of public-school students with disabilities spent 80 percent or more of their educational day in the general education classroom. By 2017, 63 percent of all students with disabilities served in public-schools spent 80 percent or more of their time in the general education setting (O’Keefe & Goldschmidt, 2014).

Inclusion in Catholic education is finding similar growth. In 2000, US Catholic schools reported serving students in all disability categories (United States Congress of Catholic Bishops [USCCB], 2002). In 2002, the United States Council of Catholic Bishops found that 7% of all students in Catholic Schools were children with disabilities. In 2020, nearly 12% of students served in Catholic schools are eligible for services under IDEA. Regardless of the specific percentage,
current data suggests that in two decades, almost twice as many students with disabilities now attend Catholic schools. National trends also suggest that these students are spending a majority of their time in the general education classroom with their peers (Nuzzi et al., 2012).

Meeting the needs of varied learners, particularly those identified with disabilities, takes planning and instructional work. In the past, Catholic schools and educators have been hesitant due to perceived costs as well as limited resources and practices that could facilitate meaningful inclusion. Fortunately, there are a number of interventions and practices that all educators can use to promote student growth and development for a variety of learners, including those with disabilities. Broadly speaking, these effective practices are often referred to as evidence-based practices (EBPs). EBPs are often defined as practices that are validated by high quality research and have a positive impact on student outcomes (Cook & Cook, 2013). More precisely, an EBP is an intervention or practice demonstrated to be effective through well-designed, randomized, controlled trials in a statistically significant number of classrooms. Simply put, it is a practice that has shown to be effective and when implemented as part of classroom instruction, will support the varied needs of learners.

The purpose of this article then is to describe inclusionary practices for general education classrooms that emphasize the integration of evidence-based practices (EBPs) proven to be effective not just for typically developing students, but for all students—including students with disabilities as well as students who face challenges to their learning due to the impacts of poverty, racism, or other systemic injustices. These practices have been developed in response to changes in US federal and state law and corresponding expectations of student outcomes. These classroom practices, which do not require substantial external funding to implement, help meet the needs of individual students while simultaneously promoting positive learning outcomes for all students (Kennedy, 2012). Applying the evidence-based practices presented in this article can provide educators with the needed support and strategies to help them ensure the inclusion of all learners, including students with disabilities, in Catholic schools.

The intent of this article is to further inform educators striving to plan and design for a variety of learners, heightened by the recent changes in how and where educators teach in this COVID-19 environment. If there is a silver lining due to educational changes since March of 2020, it is that all teachers and the students they serve, have been forced to re-consider how teachers plan and design for the variability of all learners. In our efforts to re-design our instruction, Catholic educators have been forced to think about the diverse learning needs of the ever-changing K-12 Catholic education student body. This, re-design required due to health considerations, has opened the door for all educators to rethink the practices they use, their effectiveness for all learners, and the subsequent impact these practices will have on inclusionary efforts.

This article includes the following: (a) define evidence-based practices (EBPs); (b) provide an
annotated chart of sources educators can use to identify additional practices, as well as how to
apply a given practice in the classroom; and (c) explain several specific instructional practices that
Catholic schools can use to become more effective at meeting the needs of all students, particularly
those with disabilities that positively impact academic, behavioral, and social emotional learning.

Educational Reform in the 21st Century: Promoting Effective Practice

In 2002, the passage of an updated Elementary and Secondary School Education Act (ESEA),
titled the No Child Left Behind Act (NCLB), ushered in an enhanced focus on student outcomes
as measured by annual assessments. Working to adhere to the NCLB requirements, states
reconsidered their educational standards related to reading and mathematics and adopted curricula
designed to ensure academic success for all students. States’ emphasis shifted to developing
learners who think critically, solve real-world problems, and are successful not only in school, but
also in post-school life (Fullan & Langworthy, 2014).

In 2015, Congress reauthorized ESEA with the Every Student Succeeds Act (ESSA). ESSA allows
states and local school districts more autonomy related to how they approach improving student
academic outcomes. This autonomy comes with specific requirements, particularly for meeting the
needs of students who have often been categorized as “disadvantaged.” ESSA does have a particular
focus on raising the outcomes for students in poverty, minorities, students with disabilities, and
students with limited English language skills. In addition, the law also stipulates the role of parents
as advocates regarding the education of their children. That is, ESSA seeks to further reinforce the
parent and the broader family in the education of the child working to foster collaboration between
the school and home environment (ESSA, 2015).

NCLB and ESSA emphasize the need to develop learners who can synthesize and evaluate
information from a variety of academic disciplines and sources. Rather than memorize facts, recall
details for worksheets, or passively attend class, students must be able to think critically and know
how to learn (Johnson et al., 2014). To that end, federal and state requirements have increasingly
emphasized the use of EBPs to ensure students learn these skills.

Catholic Education’s Response to Educational Reform in the 21st Century

Responding to educational reforms in the 21st century, Catholic Schools also reviewed and
updated instructional practices and student expectations, establishing clear objectives for K-12
students. In 2005, the U.S. Conference of Catholic Bishops wrote a pastoral letter that reflected on
the development of “young people of the third millennium” and how the Church, primarily through
Catholic schools, must provide an academically rigorous and doctrinally sound program to ensure
the proper development of young people (O’Keefe & Goldschmidt, 2014). In response to the USCCB
pastoral letter as well as corresponding educational initiatives (e.g., Common Core, NCLB), the
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National Standards and Benchmarks for Effective Catholic Elementary and Secondary Schools (NSBECS) (Ozar & Weitzel-O’Neill, 2012) were developed by Catholic educators from across the country. The NSBECS establishes 13 standards, grouped across four domains and 70 benchmarks. Also included in this document are action steps that describe educational policies, programs, structures, and processes, all rooted in Catholic identity, for Catholic educators, administrators, and Catholic parish communities to implement. The third domain of the NSBECS, Academic Excellence, addresses the USCCB’s call for Catholic schools to utilize rigorous, relevant, research-based practices grounded in the Catholic faith. Three of the 13 NSBECS standards (i.e., standards 7-9) are specifically related to the Academic Excellence domain: rigorous curricula, school-wide assessment, and support services for the behavioral, social emotional, and other needs of learners.

The assumption is that if Catholic schools are to meet the needs of the 21st Century learner, Catholic educators must continuously review their curricula, instructional practices, and classroom and school-wide assessments. In addition, Catholic educators must provide programs and support services that ensure not only positive academic outcomes, but also proper student formation and development. Thus, the use of EBPs aligns with the USCCB and NSBECS expectations of Catholic schools.

Inclusion in Catholic Schools

Changes in educational policies and increases in the number of students with disabilities served in Catholic schools are demanding reconsiderations of the educational practices employed to serve these students (Kennedy, 2013). With increasing urgency over the past 20 years, Catholic educational leaders and policy makers have advocated for teaching practices to remain competitive and relevant (Kennedy, 2013; O’Keefe & Goldschmidt, 2014; Nuzzi, Frabutt, & Holter, 2012; Zukowski, 2012). With all of these changes, Catholic education remains dedicated to implementing intentionally designed curriculum proven to be effective for a myriad of learners. As NSBECS reinforces, the intent is to provide young people attending Catholic schools sound curricular and instructional experiences that will develop: (a) intellectual, (b) social emotional, and (c) behavioral elements of the student (Kennedy, 2013).

Effective Practices and their Role in Current and Future Catholic Education

The logic in the application of EBPs is simple: Identifying and applying effective instructional practices leads to improved student learning and, ultimately, improved outcomes (Cook et al., 2008). The focus on EBPs also assumes that previous educational practices were not particularly effective and that certain types of research (e.g., high quality studies) are the best means to identify effectiveness. Furthermore, EBPs must meet certain standards including, research design, quality of study, and quantity of findings. Most guidelines require that for a practice to be
considered evidence-based, it must be supported by multiple, high-quality, experimental studies that demonstrate that the practice has a meaningful impact on student outcomes (Gersten et al., 2005).

The overall belief is that by identifying and then implementing EBPs, educators will be able to optimize student learning. The impetus for the struggling learner and their peer with disabilities is that previous instructional efforts are often found to be inadequate in meeting their specific learning needs (Gersten et al., 2000). The ineffective instruction and subsequent student outcomes are often a reason for the removal of the student from the general education setting (Cook & Cook, 2013). The expectation then is that the application of EBPs will address the deficiency in the student learning and, when appropriately applied, should enhance the successful inclusion of the student in the general education setting, a setting that the student is often removed from based on the misbelief that separate placement leads to improved student outcomes.

Today, changes in educational policies, standards of learning, and the heightened inclusion of all students in the general education setting has led to the growing need to identify and integrate practices that are effective and will yield the positive student-level results. For Catholic schools, the adoption of EBPs is reinforced in the NSBECS (Ozar & Weitzel-O’Neill, 2012) standards and benchmarks. In striving for academic excellence, the standards and benchmarks offer a framework for the design and implementation of sound and rigorous instruction for all Catholic school students (O’Keefe & Goldschmidt, 2014).

**Web Resources for Identifying Evidence-Based Practices**

Although this article will describe several EBPs, educators likely will need more assistance with identifying and then applying these practices than what is within the scope of this article. Fortunately, this assistance is available to educators. We briefly describe it below and more information is presented in Table 1.

Organizations such as the Institute of Educational Sciences (IES) What Works Clearinghouse (WWC) have compiled comprehensive information regarding EBPs. The WWC, often recognized as the gold standard in identifying excellent EBPs, maintains a website that includes specific information regarding the studies conducted to determine the effectiveness of an instructional, behavioral, or social emotional practice. In addition, WWC provides practice guides for classroom teachers to use that convert the research findings into a series of recommendations and specific steps teachers can use to apply a given practice in the classroom. These guides include topics related to teaching writing, mathematical problem solving, and reading.

In addition to the IES WWC, organizations like the Council for Exceptional Children’s (CEC) Division on Learning Disabilities (DLD) also have created tools to assist educators in understanding and applying effective practices. The DLD Current Practice Alerts series recommends specific
practices that have been proven by research to be effective in improving student learning. The DLD Alerts, in addition to recommending best practices, also caution educators regarding practices for which research is incomplete or has resulted in mixed findings. Table 1 contains a list of digital resources related to EBPs. Each entry contains information for educators to use to assist them in identifying and implementing effective practices in the classroom.

Table 1
Web Resources for Identifying Evidence-based Practices

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best Evidence Encyclopedia</td>
<td>A review of research on reading, math, science and writing programs for students with academic struggles.</td>
<td>Program Guides</td>
</tr>
<tr>
<td>bestevidence.org</td>
<td></td>
<td>Research Reports</td>
</tr>
<tr>
<td>Evidence for Every Student Succeeds Act (ESSA)</td>
<td>A guide on reading and math programs for elementary through high-school students which meet the ESSA evidence guidelines. The site includes information about the program, its evaluations, and an implementation guide.</td>
<td>Program Guides</td>
</tr>
<tr>
<td>evidenceforessa.org</td>
<td></td>
<td>Research Reports</td>
</tr>
<tr>
<td>IRIS Center</td>
<td>Modules of instruction on HLPs and EBPs to implement when working with students birth through twenty-one. The site is searchable by grade level, topic, resource type, and media element.</td>
<td>Videos/Webinars</td>
</tr>
<tr>
<td>iris.peabody.vanderbilt.edu</td>
<td></td>
<td>Modules</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Activities</td>
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<td></td>
<td></td>
<td>AssessmentsLessons</td>
</tr>
<tr>
<td>National Center on Intensive Intervention</td>
<td>Data based individualization support interventions in literacy, math, and behavior for students with severe and persistent learning and/or behavioral needs.</td>
<td>Videos/Webinars</td>
</tr>
<tr>
<td>intensiveintervention.org</td>
<td></td>
<td>Tools Chart</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lessons</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Activities</td>
</tr>
<tr>
<td>Positive Behavioral Interventions and Supports (PBIS)</td>
<td>An evidence based three-tiered approach to behavioral interventions with data-based practices, presentations, videos, lessons, and examples.</td>
<td>Videos/Webinars</td>
</tr>
<tr>
<td>pbis.org</td>
<td></td>
<td>Lessons</td>
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<td>Checklists</td>
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<tr>
<td></td>
<td></td>
<td>Practice Guides</td>
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<td></td>
<td></td>
<td>Assessments</td>
</tr>
<tr>
<td>Response to Intervention (RTI)</td>
<td>A multi-tier approach to early intervention and supports for students with disabilities at all age levels.</td>
<td>Videos/Webinars</td>
</tr>
<tr>
<td>rtinetwork.org</td>
<td></td>
<td>Checklists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intervention Reports</td>
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</tbody>
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Previously in this article, we discussed the need to improve learning outcomes for all students as a result of changes in stakeholders’ expectations of both public and Catholic schools. Research has shown that the use of EBPs facilitates this student improvement (Cook & Odom, 2013). This section describes specific instructional EBPs that have been proven to increase the learning outcomes of all students when used in an inclusive setting. We have structured our discussion regarding these EBPs according to five primary content areas: (a) reading; (b) writing; (c) mathematics; (d) social emotional learning; and (e) executive functioning skills. For each of the areas, we first present a brief reminder of the challenges facing students with disabilities, particularly in an inclusive setting, and then turn to examples of EBPs, which address those specific areas facilitating meaningful access to the general education classroom.

Effective Practices in Reading Instruction

Approximately 80% of students referred for identification of a potential learning disability demonstrate reading difficulties (Heward, 2013). These difficulties include reading comprehension, reading fluency, phonological awareness, and word recognition. Students who have difficulties
when reading often later fall behind their peers in other academic subjects (Heward, 2013). These same students also can face self-confidence and self-esteem issues (Gargiulo, 2009). Several strategies to support students who are struggling with reading, including students with disabilities, are described below.

**Word Recognition**

According to Berkeley and Scruggs (2010), students’ vocabulary knowledge is critical to reading comprehension. Vocabulary increases can occur when students simply read more, as well as when they are taught vocabulary through direct, explicit instruction related to word recognition. Teachers can help students learn: (a) important words (i.e., words needed to comprehend a concept or a lesson text); (b) useful words (i.e., words that students continually must understand); and (c) difficult words (i.e., idioms, words with several meanings, or words with context-specific meanings).

One approach to identifying important, useful, and difficult words is semantic feature analysis, through which students use a chart to compare and contrast new words with known concepts. In semantic feature analysis, students use a chart to compare and contrast the new word with reference to major concepts. Teachers create the chart template and model chart completion, offering prompts for further understanding. Students then practice analyzing words while teachers offer specific and periodic feedback.

Similarly, semantic mapping (i.e., a graphic organizer) is another vocabulary instruction strategy. Here, students learn about relationships among similar and different words by visually mapping the words in relation to their meanings.

**Reading Fluency**

*Peer Assisted Learning Strategies (PALS)*

Harn et al. (2014) presented a general instructional approach (PALS) for reading fluency that can be implemented with existing class reading materials. PALS increased students’ opportunities to read aloud, obtain feedback, and practice responding to reading comprehension questions. PALS has been implemented across grade levels (kindergarten-3rd grade), reading and math classes, and for students with and without learning disabilities (Harn, Fritz, & Berg, 2014). The teacher using PALS pairs students at different reading levels. The student with the higher reading level is a coach and the other student is a player. Prior to a paired reading activity, the teacher teaches the coach and player how to work together to maximize reading comprehension, including using scripts to assist with their reading of teacher-selected text. PALS’ student pairs practice reading letter sounds and whole words, as well as find and discuss the texts’ main ideas.

**Phonological Awareness**

Another aspect of effective reading instruction is teaching decoding skills, which are foundational for successful reading. Students’ recognition of sound-symbol relationships is
key to their ability to sound out words, which leads to fluency while reading. Decoding involves students segmenting letters of the printed word into phonemes.

Blachman and Murray (2012) described the means by which educators can teach decoding skills. They noted that students should first learn the high utility letters (e.g., a, m, t, i, s) that when combined form many simple words (e.g., /t/ in the words “top” and “tip). After this, Blachman and Murray recommended the use of five steps:

1. students practice sound symbol relationships;
2. students practice analyzing and blending phonemes to learn to decode words;
3. students practice phonetically reading to fluently decode words;
4. students practice decoding words in written stories to learn to fluently decode connected text; and
5. students practice spelling both words and sentences read aloud to them that highlight patterns from previous decoding lessons.

During lessons, teachers teach students about not only sounds of words but also about syllable types (e.g., open and closed syllables) using sound cards, sound boards, word cards, and written stories.

**Comprehension**

Recent literature supports the use of reading comprehension practices that incorporate direct and explicit instruction for students with reading disabilities (e.g., Butler et al., 2010; Wanzek et al., 2010). Wanzek et al. (2010) found that when students used self-questioning and self-regulating practices while reading, students’ ability to summarize text improved. Furthermore, research found that comprehension practices providing opportunities for students to preview text and connect their background knowledge to new content positively impacted their learning.

Other research-based instructional strategies that improve student reading comprehension include those that incorporate student discussion about text into instruction. This practice further engages the student, and, in turn, increases student talk while decreasing teacher talk (Lawrence & Snow, 2011).

Cavendish & Hodnett (2017) discussed collaborative strategic reading (CSR), a peer-mediated instructional approach that uses and cooperative learning. Here, comprehension strategies, primarily for elementary and middle-school aged students with disabilities and those students who are learning English, focus on both whole class and small, cooperative student groups. CSR is unique in that it places literacy within its actual context of peer interactions. Reed & Vaughn (2012), identified additional effective, evidence-based comprehension practices, including the following:
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- comprehension monitoring
- graphic organizers
- mnemonic instruction
- question answering
- multiple strategy instruction with and without reciprocal teaching

Central to all of the evidence-based practices described is the need for the teacher to learn how a particular strategy works and then become better able to teach the strategy to the student, who will subsequently apply the practice independently. That is, educators need to be aware of the essential elements of a practice and then be provided the necessary supports to implement the practice in their specific classroom.

Effective Practices in Writing Instruction

For struggling learners, particularly those with disabilities, writing presents a series of challenges. These students have difficulty with both the basic elements, as well as the higher-level skills, associated with writing effectively. Students are challenged with having adequate knowledge about a topic, the ability to know their audience, the skill to identify the correct words or sequence of words to use, the ability to evaluate their written work, and the perseverance to keep at the process that is often described as tedious (Troia, 2017).

Several literature reviews (e.g., Espin et al., 2010) have documented the effectiveness of strategy-based instruction for improving student writing. This approach goes beyond simply teaching a variety of writing methods and instead, suggests that the classroom teacher teach students how to choose and then apply the most appropriate method for a given genre, audience, and purpose.

Foundational Recommendations for Teaching Writing

Instructional practices to facilitate the writing process in the inclusive classroom begin with foundational recommendations (Cook & Cook, 2013). First, educators should provide time for students to write and do so daily. This time could be used for journaling, working on basic skills, or exploring a variety of other writing opportunities. Providing more time for writing allows students to develop and expand upon the habit (Graham & Harris, 2009). Next, educators should teach students to conceptualize writing as a process rather than a product. Lastly, educators should allow time for students to practice the act of handwriting, spelling, sentence construction, and typing. These are not sequential skills that need to be mastered before the next skill is taught. Rather, the
focus of this recommendation is access to the act of writing (Graham & Harris, 2006). For example, if a student is challenged with fine motor skills and cannot correctly hold a pencil well enough to physically write, the teacher should model this skill. However, if the physical act of handwriting continues to be a challenge, teachers should not limit writing opportunities and experiences until the skill is mastered. Instead, teachers can introduce alternative ways for the student to form thoughts, structure words, practice spelling, and create sentences (e.g., typing, speech-to-text, word prediction software) (MacArthur, 1996). If typing is the medium a student will use to write, educators can ensure that the student works on his/her typing skills, but educators also should consider teaching the student how to use other technology supports that are often embedded with word processing programs and/or applications. If speech is the medium, educators can ensure that the student practices constructing ideas, organizing thoughts, and succinctly and effectively expressing these thoughts via numerous speech-to-text applications and tools (e.g., voice activated software programs).

A final foundational recommendation regarding writing is the establishment of a community of writers wherein assessment is an ongoing activity. Not every writing assignment needs to be scored, but the use of a formative assessment cycle can be effective (Espin et al., 2010). In this cycle, teachers regularly check student skills and adapt instruction (e.g., strategies) accordingly. The intent is to provide feedback to students so that they avoid the development of poor or incorrect habits. Also, when teachers provide regular feedback to students, teachers also can target instruction so that students acquire the desired skills.

**Strategy-Based Approaches for Improving Writing**

Similar to learning other academic skills, when students learn and apply cognitive strategies along with specific writing strategies, they learn to write more effectively. Two popular cognitive strategy practices are the Self-Regulated Strategy Development (SRSD), the Strategy Instruction Model (SIM), the interaction each of these strategies requires explicitly teaching self-regulating skills to the learner by: (a) teaching specific writing strategies to the student; (b) modeling these strategies to the student; (c) instructing the student regarding how to identify the appropriate strategy, learn the strategy, and then apply it to his/her specific needs; (d) personalizing the writing experience for the student; and (f) teaching the student to write for different audiences, genres, and various purposes. A more detailed description of the SRSD and SIM is presented here.

**SRSD**

The SRSD has been highlighted by the WWC as a strategy-based approach to improve students’ written expression, support a variety of learners, and facilitate teacher modeling and student self-regulation in the inclusionary classroom. When a teachers uses SRSD, in addition to instructing the student in specific writing skills, the teacher also assists the student in learning how to monitor and
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assess his/her own writing. Although initially designed for students with learning disabilities, SRSD also has been shown to be effective for students with other disabilities (i.e. attention, behavioral, and intellectual disabilities), as well as with their typically developing peers (Baker et al., 2009).

The SRSD intervention features six stages, beginning with the student developing background knowledge to ensure the student has an understanding of the type of writing (i.e. genre) required in a given assignment. The subsequent stages seek to engage the learner, via teacher modeling, in writing, and provide opportunities for student practice with teacher feedback until the student is able to write independently. The self-regulated aspect of the intervention seeks to foster self-monitoring, self-reinforcement, and finally, self-assessment. A vital aspect of the SRSD is the expected evolution of the process from initial teacher direction to students independently applying the strategy before and during the writing experience.

SIM

Similar to SRSD, SIM strategies are teaching tools that gradually release control or direction from the teacher to the student. The intent is to first help the student understand the steps of the strategy and overall purpose of writing to then, effectively and efficiently, produce his/her own work. SIM can be utilized with other academic disciplines, but when used to teach writing, the strategies are designed to improve writing at the sentence and paragraph level so that the student can subsequently write reports, essays, and more extensive products. As with SRSD, the SIM strategies have stages (eight) of instruction. Each of the stages has a purpose and each builds on the previous stage. The goal is for the student to be able to generalize the strategy to writing tasks across the curriculum and within the general education classroom.

The evidence-based practices described above assist students in becoming effective and independent writers. Teachers instruct, model, and support students in both writing and self-regulating competencies. Research (Baker et al., 2009) continues to validate this approach as an effective practice for the inclusive Catholic classroom.

Effective Practices in Mathematics Instruction

Students with disabilities who find math challenging vary in their instructional needs and required supports. For example, some students with math disabilities will have an incomplete mastery of numbers, and thus, the inability to recall math facts efficiently. This, in turn, impacts these students’ abilities to apply math facts to problem solving. Other students might have a good understanding of math facts but make errors in the computational process. One other common difficulty students have with math is the inability to transfer the conceptual or abstract aspect of math to reality (J. Krawec et al., 2013). This presents challenges in the application of the mathematical concepts across content areas (e.g., science) where these skills are often required.
Also, students with math disabilities often struggle with the organization, language, visual spatial perception, and the multi-task components of mathematics. In addition, students with reading challenges also experience difficulty with terminology, directions, and explanations related to the math curriculum (J. Krawec et al., 2013). Each of these challenges requires specific instruction and support for students to master math outcomes in the curriculum.

The What Works Clearinghouse (WWC) Practice Guides includes eight recommendations for teaching mathematics to struggling learners. The Guides state that teachers should:

1. Screen all students to identify those at risk for potential mathematics difficulties and provide interventions to students identified as at risk.

2. For students in grades K-5, select instructional materials that focus intensely on an in-depth treatment of whole numbers; and for students in grades 4-8, select materials that focus on rational numbers.

3. Explicitly and systematically model proficient problem solving, and verbalize the thought processes involved with problem solving, and provide students with the opportunity for guided practice, corrective feedback, and frequent cumulative review.

4. Interventions should include instruction on solving word problems that is based on common underlying structures.

5. Include opportunities for students to work with visual representations of mathematical ideas.

6. Devote approximately 10 minutes in each session for students to review basic math facts so that students become better able to quickly retrieve these facts.

7. Continually monitor the progress of students and adjust instruction as needed.

8. Integrate motivational strategies into the teaching of math skills.

Specific information on the efficacy of this approach as reported in the literature, as well as how to implement the recommendations (often with specific step-by-step suggestions is presented in the Practice Guide (https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/rti_math_pg_042109.pdf). Besides the Practice Guide recommendations, additional research-based approaches exist for teaching mathematics. Select practices are described below.
Evidence-Based Practices to Promote Inclusion

Visual Representations

Many students can benefit from visual representations of a mathematics problem, equations, or steps to solving a mathematical problem (Riccomini et al., 2015). By visually representing the information, students are able to connect the quantitative aspect of the problem to the operations, and thus are able to focus on solving the problem without being hindered by the initial translation. Popular visual representations include tables, strip diagrams, percent bars, number lines, and schematic diagrams. Each is used for a specific purpose and, when applied, reduces the overload of information on the student while offering an explicit way to determine the problem to be solved (Riccomini et al., 2015). When integrating, teachers need to explicitly teach and model how to determine which visual representation is appropriate for a given problem, as well as provide opportunities for students to practice. Research shows that both low and average achieving students with learning disabilities who use visual representations are more likely to correctly solve word problems (J. L. Krawec, 2014).

Attack Strategies

Another instructional practice that is useful in teaching students how to solve word problems is an attack strategy. Attack strategies provide easy to remember steps to use when solving a mathematical problem (Doabler & Fien, 2013). Some attack strategies focus on the initial phase of a word problem. Here, the student is taught to identify the question and determine the central idea of the problem. Another strategy is to focus on the second phase of the problem, which would involve identifying the missing quantity. Many of these strategies supply the student with an acronym to assist in understanding, remembering, and applying the skill. For example, DOTS asks the students to perform four steps: (a) detect the problem type, (b) organize the information using the conceptual model diagram, (c) transform the diagram into a math equation, and (d) solve the unknown quantity and check the answer. Like any strategy, teachers must first explicitly model the strategy when teaching the student how it works (Jitendra et al., 2007). Finally, the teacher provides decreasing levels of support to the student until the skill becomes a natural part of the student’s approach to problem solving.

Schema Instruction

Schema instruction is another effective approach to facilitate student understanding of mathematics. In general, schema instruction teaches students a strategy to visualize an equation, structure the information, and facilitate the solving of the problem (Riccomini et al., 2015). Through the use of schema, the student breaks down the word problem (e.g., Jose has 53 daisies and roses in his garden. If 31 of the flowers are roses, how many are daisies?) into parts. In this schema, the student would place 31 into an equation that added 31 to an unknown number to get the total 53. The idea for this schema would be part, part, and then the whole.
Other common schemas utilized in problem solving are equal groups, comparison, and proportion or ratio. The equal group problems allow for a visual or a graphic organizer to identify the known parts of the problem and then solve for the unknown quantity. This schema encourages the student to solve the word problem algebraically by balancing the two sides of the equation. The comparison schema can be used when a problem requires the student to compare the known to the unknown. This schema can allow the student to understand the equation through a visual representation identifying what needs to be solve (Krawec, 2014).

**Explicit Instruction**

Archer and Hughes (2010) describe explicit instruction as being systematic, direct, engaging, and student oriented. Some might argue that explicit instruction is simply good instruction. However, explicit instruction is more purposeful in nature, providing supports for the learner in a logical sequence to facilitate student understanding. As such, it is particularly effective in the teaching of mathematics.

Doabler and Fien (2013) described three general elements of explicit instruction in math: teacher modeling, guided student practice, and feedback. What makes these elements explicit is the use of consistent teacher language during modeling, the use of purposeful verbal prompts during guided practice, and the use of consistent language when providing corrective feedback to students. Furthermore, sequencing parts of explicit instruction can further structure the learning experience and thus, students' understanding. Six steps often suggested include: (a) strategically sequence math into manageable instructional parts, (b) pre-teach the prerequisite skill, (c) provide clear and concise directions, (d) model and demonstrate, (e) scaffold the instruction, and (f) constantly monitor student progress (Archer & Hughes, 2010). Research suggests that when these critical elements are employed, teachers can maximize instructional time to produce positive student outcomes (Archer & Hughes, 2010). While explicit instruction may be seen as heavily teacher-directed; the direct, step-by-step nature of the instruction aligns with the specific needs of many students who experience difficulty in learning mathematics.

**Effective Instruction to Improve Executive Functioning**

Executive functioning is sometimes described as the “CEO of the brain,” because executive functioning allows students to set goals, organize, plan, access memory, and ultimately complete academic tasks. Teachers often take for granted or assume these skills are by nature part of student competency. However, research has shown that this is not the case. Thus, addressing students’ executive functioning is critical.

Executive functioning includes three main components: (a) working memory, (b) cognitive flexibility, and (c) inhibitory control (Samuels et al., 2016). Essentially, executive functioning...
skills include paying attention, using organization skills (including planning and prioritizing), starting and completing a task, regulating emotions, exercising self-control, understanding different perspectives, and monitoring one’s progress. Students with learning disabilities, particularly those students with Attention Deficit Hyperactivity Disorder (ADHD), traditionally have exhibited poor executive functioning skills. General education teachers often misinterpret this skill deficit and assume students are unmotivated, lazy, unorganized, and disengaged. In these cases, teachers cite the students’ perceived academic ability and are puzzled as to why students fail to complete tasks, forget homework, submit unorganized or incomplete work, or regularly misplace assignments. If left unaddressed, poor executive functioning skills can heighten student anxiety and stress because while they are aware of what is expected and what their peers are able to do, they are unable to understand why they are unable to accomplish what is expected (Otero et al., 2014). Compounding this problem, research suggests that students with LD and ADHD who also lack executive functioning skills, tend to over-estimate their competence to perform both academic and non-academic tasks (Otero et al., 2014).

**Strategy-based Approach to Improve Executive Function Skills**

Research has shown that executive functioning skills can be taught. A proven way to do so is through the use of a general category of strategies classified as learning strategies (Samuels et al., 2016). Learning strategies refer generally to learning approaches that help students understand the way they learn, and learn and use techniques to facilitate and monitor their learning (Otero et al., 2014). For example, one strategy is the use of checklists that can be employed to list assignments and tasks, identify the materials needed, remind students of the timeline, and allow students a means to determine when the task is completed (i.e., literally cross it off their list) (Langberg et al., 2012). In the past, checklists, or “to do lists,” were paper-based. Today, with access to mobile devices, teachers and their students have access to many app and web-based solutions developed to organize and keep one on task. Many of these digital tools offer automatic and/or visual reminders that illustrate the needed organization, audio and visual reminders, contain links to the actual task or assignment, and include countless other features that further aide and support the learner.

**Space and Time**

Teachers can designate classroom space and time to facilitate development of organizational skills, often in need to develop self-monitoring skills under the executive function continuum. This could include study space in the classroom, as well as a reminder to the student to create a similar space at home. In addition to these spaces, teachers, through collaboration with fellow educators, could identify study spaces for students to use throughout the school building.

Students also will benefit from designated study time organized around what is optimal for the student at school and at home (Diegelmann & Test, 2018). Teachers can assist students
in identifying the times students think will best fit with their schedules. In turn, teachers can work to identify the appropriate visual schedule or calendar, model its application, determine the appropriate tool for the student, and then monitor and adjust efforts to implement into the student’s instruction. For schedules and general organizational supports, teachers should work to reinforce the organizational strategies students have been taught and do so by embedding certain practices into their classroom routines. For example, teachers can provide structure for class materials by color coding materials, using structured tables of contents, requiring students to keep notebooks and designating time for students to maintain these notebooks.

In addition to requiring notebooks, teachers can create a master calendar for the classroom so that students can identify daily and weekly tasks, as well as identify important events for the future (Dexter & Hughes, 2011). Furthermore, teachers also can use a number of digital calendar tools that offer automatic reminders, links to the assigned task, and information to remind the student of the tasks to complete.

**Graphic Organizers**

Another practice teachers can use to augment student organization is graphic organizers. Graphic organizers are visual and spatial displays that connect ideas and make relationships between related facts more apparent. Graphic organizers can help make abstract ideas more concrete. Dexter and Hughes (2011) describe five categories of graphic organizers: (a) cognitive mapping, (b) semantic mapping, (c) semantic feature analysis, (d) syntactic/semantic feature analysis, and (e) visual display. Examples of graphic organizers include the K-W-L Chart, cause and effect chart, brainstorming web, and alphabet organizer (Dexter & Hughes, 2011). Graphic organizers also are available in digital format. Several web-based and app graphic organizers have premade templates (e.g., flowcharts, schema, cause and effect diagrams) that allow the teacher or student to input their content or information into a pre-structured graphic organizer. These can be easily edited to interchange images, pictures, colors, lines, sounds, and patterns. In addition, these digital tools allow video, audio, and other interactive media features to be embedded within digital graphic organizers and thus, can further enhance student understanding.

Regardless of the graphic organizer method, research indicates that graphic organizers, have a significant and positive impact on student learning (Dexter & Hughes, 2011). Graphic organizers help students comprehend material, organize ideas and structure complex information for understanding and subsequent retention and can be utilized across grades and content areas.

**Other Digital Tools**

Finally, in today’s 21st century classroom, teachers can find other digital tools and solutions to assist in developing students’ executive functioning skills. These tools, rather than creating
dependency on the part of the learner, actually often empower the learner to become independent. Tools for notetaking that might include digital recorders, Livescribe pens, audio or soundmates, or apps like OneNote help students concentrate on the content that is delivered and not be distracted by trying to determine how to capture this content. For self-monitoring, there are electronic behavioral checkers, time management tools, digital picture prompts, interactive checklists, and various study guides. Regardless of the technological solution, the intent is to help the student become capable of independently applying the needed executive function skill.

**Instruction Practices for Teaching Social/Emotional Learning**

As has occurred with cognitive skills, research has identified approaches to proactively teach social emotional skills. It is important to teach these skills because for some students with disabilities (e.g., students with high functioning Autism Spectrum Disorder), having limited social has often impeded learning and meaningful participation. Recent research suggests that social emotional learning (SEL) needs to be intentionally and systematically integrated into the school day. When this occurs, SEL can have a positive impact on the development of students’ social and emotional competency, as well as with their academic achievement across the general education classroom (Durlak et al., 2011).

Two instructional practices that provide explicit social skill instruction and that are easily integrated into the general education curriculum are video modeling and social narratives/stories. Both have been determined to be evidence-based, particularly for students with Autism Spectrum Disorder (see https://autismpdc.fpg.unc.edu/evidence-based-practices). Each practice includes a series of steps that, when followed, provide the necessary direct instruction embedded within teachable moments. Both video modeling and social narrative/stories are described below.

**Video Modeling**

There are four distinct types of video modeling: (a) basic video modeling, (b) video self-modeling, (c) point-of-view video modeling, and (d) video prompting (Ayres & Langone, 2005). First, basic video modeling uses a peer to model the social skill to be taught. The peer is recorded appropriately performing the desired task. For example, the peer models how to properly request someone to move away from a hallway locker in order for the peer to access it. By showing the video, behavioral expectations are set, and the skill is modeled for the student’s understanding and future application National Professional Development Center on Autism Spectrum Disorder (2016).

Second, video self-modeling uses the student with a disability to be the one recorded performing the desired skill or behavior. The task can be scripted in order to keep the student focused on the specific skill. An advantage of video self-modeling is that it allows students to see themselves correctly performing the skill.
Third, point-of-view video modeling is recorded from the perspective of how the student would experience a social interaction. The intent is to provide an example of a social interaction whereby the user sees the event as if they already have experienced it. For example, point-of-view is often used in preparation for upcoming transitions to assist the student in visualizing the expected social skill. Here, the social skill or task is demonstrated to the student, preparing him/her for the social demand and offering multiple options to review, understand, and practice, the necessary skill (Ayres & Langone, 2005).

The fourth type of video modeling is prompting. This practice allows for embedded prompts that guide the student through the social situation one step or aspect at a time. Overall, the unique advantage of video modeling is that, no matter which type is utilized, the videos can be reviewed as often as a student would need to do so in order to master the skill being illustrated. This can assist the student in better mastering the skill (Durlack et al., 2011).

Social Narratives/Stories

Essentially, a social narrative is a short story written to describe a social situation and to offer explicit instruction regarding appropriate behavior for that situation (Crozier & Tincani, 2007). In developing a social narrative, educators need to use descriptive sentences to answer the “why” questions for the learner (i.e., where the activity will occur, who might be involved, and what will happen based on the situation). A key component of social narratives is what are termed perspective sentences that describe the reactions and feelings of others in the situation and also provide examples of what the learner should be thinking based on the social situation. Finally, the narrative should confirm to the learner through affirmative sentences that the student’s actions are appropriate.

Social narratives can be used to teach a variety of social behaviors. The written narrative can be formatted on a simple sheet of paper, a word processor document, a presentation slide, or similar simple text-based story. Comics or cartoons provide a favorite visual medium that enhances reinforcement of appropriate social behavior. Web-based and comic apps are available to use for backgrounds, characters, speech and thought balloons, Social narratives can be made into flip books, talking books (e.g., Pictello), story boards (e.g., StoryBoardThat), and other similar formats (e.g., PowerPoint Presentation).

Social narratives can be an effective way to help students learn appropriate social behavior for upcoming school events and/or transitions. Research findings indicate that the use of social narratives not only assists students with the acquisition of the targeted social skills, but also but the maintenance of those skills well after the initial instruction ends (Reynhout & Carter, 2011).
Conclusion

Meeting the needs of all learners, particularly in Catholic education where all students are welcome, requires effective practices. Over the past two decades, Catholic schools have nearly doubled the number of students with identified disabilities attending their schools. With this influx of an increasingly diverse group of learners, Catholic educators are turning to the integration of critical interventions to ensure they are meeting the variability of all learners. The intent of this article was to review key evidence-based practices (EBPs) essential to foster inclusion of students with disabilities in the general education classroom.

EBPs were developed as a response to the increased academic expectations of students as detailed in changing federal and state laws. These increased expectations created challenges for many students and required changes in instruction to better assist students in meeting the expectations. We defined EBPs, presented resources for educators to identify and implement EBPs, and discussed specific EBPs to address students’ academic and behavioral goals. Furthermore, the article emphasized that when teachers use EBPs within the general education classroom, all students, not just those with disabilities, benefit. These benefits include but are not limited to: an increase in positive academic outcomes, academic outcomes, as well as in appropriate social behavior (Iris Center, 2019). These practices are especially relevant for Catholic schools, because they are meant to be implemented in the general classroom and do not require significant additional resources. As Catholic school educators continue to provide needed supports for all students within their classrooms, particularly those who struggle to learn and those with disabilities, adopting these practices will be critical to the success of their efforts.

References


Iris Center. (2019). What is an evidence-based practice or program (EBP)? Why educators should use EBPs [Training module]. Retrieved from https://iris.peabody.vanderbilt.edu/module/ebp_01/cresource/q1/p02/


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