

Essential Points from Research on Effective Interventions (Strategies) for Achievement Gains

TEACHING AND LEADERSHIP

Research finds that the most potent influences on student achievement are quality of teaching and leadership.

TEACHING

- Research studies have demonstrated that teachers influence student learning more than any other single factor within the school context, and the effects of teaching on student achievement are cumulative.
- Teachers need a thorough command of their subject to be able to provide differentiated instruction to students with diverse abilities and deficits.
- Bright teachers from strong academic institutions have higher student achievement results than their peers from colleges with less academic rigor/productivity.
- Minority students and students in poverty often have been taught by unlicensed, out-of-field, and inexperienced teachers, who often did not have a record of strong academic performance in their college years.

PROFESSIONAL DEVELOPMENT

- Three essential factors leading to effective teaching are hiring practices, effective leaders, and professional development (PD).
- Effective instruction requires a comprehensive, in-depth knowledge of content, and an array of teaching skills to present complex ideas to a diverse group of learners.
- In schools that successfully "turn around" academic performance, leaders work with academic coaches and other teachers to create a culture, structures, and dispositions that promote continuous incremental PD aimed at identifying individual teacher and student needs, instructional strategies to address those needs, and data-driven evaluations of teaching.
- Research indicates that effective PD presupposes a sequence of developmental learning, consisting of individually-tailored instruction, modeling, practice teaching and observational feedback from peers and coaches, and regular evaluation based on a variety of indicators.
- A National Mathematics Advisory Panel found that differences in teaching effectiveness account for 12% to 14% of total variability in students' mathematics achievement gains during an elementary school year.
- Teachers must know their teaching area in detail, and its connections to other important elements of the area, both prior to and beyond the level they are assigned to teach.
- Stanford University researchers found that opportunities for sustained, collegial PD of the kind that produces changes in teaching practice and student outcomes were much more limited in the United States than in most high-achieving nations abroad.
- They also found that in areas like teaching of English language learners, special education, and struggling students, U.S. investments in teacher learning appeared to be increasingly focused on the least effective models of professional development, such as one-time workshops with no follow-up that are not effective in improving teaching.

PROFESSIONAL LEARNING COMMUNITIES

- As studies reveal more about how teachers learn, many researchers and practitioners have begun to place greater emphasis on collaborative learning in professional learning communities.
- PLCs provide an ideal forum for teachers to learn course content and teaching skills from one another, to examine and interpret test data as the basis for differentiated and coordinated instruction across teachers and courses, and to evaluate and adjust lesson plans and curriculum.
- Principals should be ex officio members of the PLCs, especially when curriculum and other administrative changes are being considered for adoption. To the extent circumstances permit, tutors and parent representatives should also participate in at some of the PLC meetings.
- Parents only become involved in their children's school work when communication is ongoing, detailed, and mutually informative.

SCHOOL LEADERSHIP

- There is a consensus emerging that the principal is best positioned to ensure teaching and learning are maximized, especially in schools with high concentrations of poverty. Student achievement is the result of dynamic, interacting forces, both in school and in the larger community, and the principal is the catalyst.
- A noted study found that leadership was the second most important school-based factor in children's academic achievement and noted that there were few, if any, cases of troubled schools turning around without effective leaders.

LEADERSHIP IN HIGH POVERTY SCHOOLS

- A well-designed study found that the impact of principals, as measured by the value-added scores, was nearly twice as large in high-poverty schools as in low-poverty schools.
- The Wallace Foundation has calculated that principals account for about a quarter of the student achievement in a school.

SHARED LEADERSHIP

- Two prevailing themes found throughout the current literature involve principal assuming the primary role of curriculum leader, while sharing leadership with teachers who have the capacity to encourage and reinforce critical elements of teamwork, such as commitment to high academic expectations, collaboration, mentoring, rigorous data-driven curriculum development, consistent discipline, and supportive relationships between all participants (children and adults) in the education enterprise.
- Researchers observe that effective leaders delegate clear responsibilities of leadership to teachers based on their demonstrated expertise and interests, recognizing that no one person has the knowledge, experience, and capacity to be in charge of all phases of educating students.
- The principal becomes the catalyst for developing a culture of high academic expectations through shared leadership devoted to mutual respect and support between all children and adults participating in the education enterprise. Everyone involved is held accountable to high standards. However, the level of expectations is tempered with consideration for individual challenges and deficits. Differentiated instruction and teacher-student interactions are infused with encouraging and supportive comments.

RESPONSE TO INTERVENTION (RTI)

- RTI provides a systematic set of steps to identify problems, and their severity, in early grades so progressively intensifying intervention can remedy them in order for normal learning to occur. This type of intervention is critical for students entering school with many skills deficits as a result of poverty.
- A critical element to the RTI process is having a professional (e.g., social worker, nurse) to facilitate, coordinate, and evaluate the collection of various services needed by individual children. This professional should be knowledgeable about ecological systems perspective on the effects of poverty, and the various services available in the community to address complicated problems stemming from bio-psychosocial forces.

TUTORING

- One-to-one tutoring is effective in raising reading skills and performance in other courses. Teachers are more effective as tutors than teaching assistants or volunteers, and an emphasis on phonics greatly improves tutoring outcomes.
- Although one-to-one phonetic tutoring for first graders is highly effective, effects last into the upper elementary grades only if classroom interventions continue beyond this initial period.
- Small group tutorials can be effective, but are not as effective as one-to-one instruction by teachers or trained paraprofessionals.
- Classroom instructional process approaches, especially cooperative learning and structured phonetic models, have strong effects for low achievers (as well as other students).

AFTER-SCHOOL PROGRAMS

- Overall, the evidence suggests that participation in after-school programs (ASPs) can positively affect the academic, social-emotional, and physical well-being of young people, including long-term educational attainment and occupational success. However, both the direction and magnitude of associated effects of ASPs depend on program quality.

EMERGING RESEARCH ALSO SHOWS QUALITY AFTER-SCHOOL PROGRAMS SHARE THE FOLLOWING FEATURES

- Clearly stated measurable goals and objectives.
- Responsible supervision and well-defined structure.
- Skilled and knowledgeable staff.
- Intentional programming with opportunities for autonomy and choice.
- Strong partnerships among the various settings in which program participants spend their day—schools, after-school programs, and families.

SUMMER PROGRAMS

- The RAND Corporation researchers interpreted their findings, similar to Cooper et al. in their earlier meta-analysis, as suggesting that many types of summer learning programs have the potential to reduce summer learning losses, but they are not guaranteed to be effective (McCombs, 2011, p. 28).
- Based on their extensive narrative review of methodologically sound studies, these RAND researchers identified components of quality summer learning programs:
 - a) small class size (≤ 20),
 - b) differentiated instruction,
 - c) high-quality instruction,
 - d) aligned school year and summer curriculum,
 - e) engaging and rigorous academics,
 - f) maximized participation and attendance,
 - g) sufficient duration,
 - h) involved parents, and
 - i) evaluation of effectiveness.