

Academic Supports & Tutoring

Tier 2 & 3

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Students drop out of school for many reasons. Among the most prevalent risk factors are academic difficulty and failure. These concerns have become more prevalent with the advent of the standards and accountability movement as these seek to make course work more intellectually demanding (Southern Regional Education Board, 2010). Students often feel overwhelmed and start to disengage as they fall behind in their coursework, eventually giving up hope that they will be able to catch up with their peers. In many cases, this pattern develops early, as students who fail eighth grade English or math are seventy-five percent more likely to drop out of high school than their peers (Convissor, 2010). Thus, "There is clearly a great need to develop and provide ... effective means of providing

their students with the extra help and support they need to take and pass challenging courses..." (Balfanz, McPartland, & Shaw, 2002, p.25). Schools offering extra help and support, especially in the early stages of a student's education, can guide at-risk youth on the path towards academic success, diminish the likelihood of behavior problems, and increase the likelihood of high school graduation (Balfanz, Herzog, & Mac Iver, 2007). The extra help and support is above and beyond the normal high quality instruction which is presumed to be provided to students normally.

Academics and Behavior

A substantial connection between behavior problems and academic failure has long been acknowledged (Barriga, Doran, Newell, Morrison, Barbetti, & Robbins, 2002). As a result many efforts to reduce behavior problem may also assist in increasing academic performance. School social culture is closely aligned with academic performance, and improvement in behavior supports is likely to lead to improve student academic performance (Sugai & Horner, 2011). The school-wide "Positive Behavioral Supports and Interventions" (PBIS) initiative has goals related both to behavior and to academic success.

The Need for Academic Supports

The press for academic supports have been accelerated by the desire of schools to meet the accountability standards in the No Child Left Behind (NCLB) Act of 2001. Efforts to improve test scores have also resulted in the application of "Response to Intervention", now often identified as three tiered intervention systems, provide academic supports in many schools. While much of this effort has focused on curriculum and teaching strategies, a variety of other academic supports are also useful in achieving the academic progress goals of NCLB.

What is Academic Support?

Academic supports are programs and strategies that are used by schools to increase the academic achievement of students, particularly for students who may be at risk of diminished academic achievement. A wide variety of strategies have been developed to provide extra support to students. These strategies can be applied at all grade levels (Brophy, 1998). The most obvious academic support might be tutoring. Effective tutoring programs provide motivation, personal individual attention, direct instruction, and error correction to increase students' academic skills. Mentoring programs are a common source of tutoring that may also provide motivational support to students. Before and after-school programs allow for additional time and support to complete homework, and afford opportunities for adult assistance without taking students away from their normal instruction in school. Some schools have implemented small learning communities within a school to make for more personalized instruction and better understanding of individual student needs. And finally there are some Internet based instructional support programs which students can do on their own, or with minimal adult support, to provide guided



supplemental or remedial instruction. Regardless of the form the extra help takes, the objective is to raise achievement (Southern Regional Education Board, 2010).

What Do We Know About Academic Support Generally?

A considerable amount of research has shown that providing academic support in the form of extra help opportunities provides an obtainable path towards success (Balfanz et al., 2002). There is a particular need to develop effective extra-help strategies, approaches, and organizational structure for high school students. Extra help needs in reading and mathematics are greatest in high poverty high schools. However, as the goal is to have all high school students engaged in an intellectually rigorous sequence of high school courses, most high schools in the United States (and perhaps middle schools) will need to develop extra help programs and supports for significant numbers of students.

According to Balfanz et al. (2002), the number of entering high school students in need of extra help depends firmly on the standard applied. The most conservative measure considers the percentage of students who are two or more years behind the average level of reading and mathematics achievement currently found among ninth-graders. This measure indicates that one quarter to one third of all ninth-grade students need extra support. The academic support used to help these students can range from strategies implemented within a classroom or after school program to an intensive, comprehensive, and multidimensional reform. Balfanz et al. (2007) states that many recent reform efforts have focused on making schools more academically excellent by reforming the roles, skills, and outlooks of the adults who teach or administrate in these schools by improving instructional materials and pedagogy.

We know that by implementing methods and programs that increase academic support in schools, students will be positively affected. By providing students with extra help in the form

of academic support, students are guided down the path towards graduation. According to Balfanz et al. (2002), there is evidence that high school students will respond to strong incentives to take learning seriously but only if they feel they have a reasonable chance of succeeding if they put in extra work. It is critical that extra help opportunities be presented to students in a way that clearly communicates that additional effort on their part, combined with additional learning activities, will provide an obtainable path towards success.

The key benefit of providing academic support is that it will likely have a positive impact on the vital decision of students to remain in school (Somers & Piliawsky, 2004). Guiding students towards academic achievement connects them to futures that they can view as attainable. According to Somers and Piliawsky (2004), it is vital to appeal to students' personal pride in their school work, to have students accept the importance of behaving in a committed way to school by working hard and regularly attending classes, and to make concrete connections for students between their school work and their life goals. Implementing methods of academic support can help our schools achieve this. By providing students with organized and sustained extra help and support to develop reading, mathematical, and other skills, they can succeed when faced with challenging curriculum and higher standards.

Academic Support Strategies

A variety of specific academic support strategies have been identified which have potential to provide assistance to struggling students as well as to prevent academic problems from developing. While it is beyond our scope to provide a detailed explanation or analysis of the research supporting these specific strategies, a brief description of each is provided with a brief description of the evidence supporting each strategy.

Academic Tutoring

There are a variety of ways to implement tu-

toring programs, each with certain advantages and disadvantages. Tutoring can be incorporated as part of an academic after-school program (Nelson-Royes, 2013), as a component of a mentoring program (Somers & Piliawsky, 2004), or it can be used as an academic support within a particular program or subject area to supplement classroom instruction. When implementing a tutoring program there are three motivational factors that are important to consider, including proximity of the tutoring to the student's regular environment (i.e., home, school or workplace), having a supportive learning community, and perseverance on the part of the student (Gordon, Morgan, Ponticell, & O'Malley, 2004). Tutoring in an after-school program has been shown to increase reading abilities and test scores, especially when tutors are skilled at communicating and develop a relationship with students (Nelson-Royes, 2013).

Adult tutoring. The most familiar tutoring situation is where an adult provides tutoring to a student in school. The adults may be educa-



tors within the school, or adults from outside of the school. The outside tutors could be paid, but are often volunteers. Tutors need not be experts in the field of study, but should be knowledgeable enough to be able to answer student questions and provide appropriate scaffolding (VanLehn, 2011) and may benefit from training regarding teaching skills to support individual student needs, motivation and behavior.

When implemented with care, adult tutoring can be very effective at improving academic outcomes (VanLehn, 2011). Effective adult tutoring typically involves the tutor taking a step-based approach (i.e., providing corrective feedback on each step of a question or problem), rather than an answer-based approach (i.e., providing feedback on whether or not the final answer is correct). Step-based approaches are effective because they provide many more opportunities to learn and far more specific feedback than do answer-based approaches. When students solve a problem, they are integrating hundreds of concepts and choosing from among many potential strategies; while answer-based tutoring only provides binary feedback (i.e., whether or not the total process



ended with a correct answer) step-based tutoring provides feedback every step of the way, which assists students in understanding where mistakes were made and where to try new strategies (VanLehn, 2011). Thus, scaffolding and specific, corrective feedback are critical components of adult tutoring.

Peer tutoring. Peer tutoring involves similar aged students tutoring their same age peer students. It is considered very important to have peer-tutor training before the tutor begins tutoring (Stenhoff & Lignugaris-Kraft,

2007). Peer tutoring may occur in a classroom, study hall environment, or an after-school program. Peer tutoring can be done several ways, a heterogeneous grouping, homogeneous grouping, cross-age, and reverse-role (Stenhoff & Lignugaris-Kraft, 2007). A heterogeneous grouping includes children in the same grade level and a tutor with a higher level of academic knowledge. Homogeneous groups include children of similar skill levels. When the tutor is older than the tutee, it is considered cross-age tutoring. Finally, reverse-role tutoring is when the tutor is an individual who has disability or is behind academically, tutoring someone else with or without a disability.

Peer tutoring has been found to provide substantial academic benefits (Bowman-Perrott et al., 2013). It can be helpful in any subject and in any grade, but is especially effective for middle and high school students and students with disabilities, particularly emotional or behavior disorders (Bowman-Perrott et al., 2013).

Peer tutoring is also most effective when tutors are carefully coached on what to do. Teachers should give tutors structured, prescriptive lessons. Tutors should also be trained so they understand basic teaching techniques such as giving praise and giving clear directions. Tutors should be students who have obtained high mastery of the task to be taught and should have good social skills.

Cross age tutoring. Cross age tutoring typical entails older students tutoring younger students. As with peer tutoring, training of the cross age tutor is important. Researchers have found that the optimal range for the tutors is 2-4 years older than the tutees (Robinson, Schofield, Steers-Wentzell, 2005). At the high school level, tutors are often student volunteers who are seeking experience working with younger students and/or teaching. Special education teachers have also found that older students with disabilities who are struggling academically can benefit from tutoring or even simply reading to younger students. Such tutoring can positively affect the motivation and skill level of the tutors, as well as providing them increased

self-concept and a role as instructional leader. Cross age tutoring can occur in a classroom environment or during an afterschool program. Finally, when considering a cross-age tutoring program, the age or grade gap should not be too great.

There are many advantages to implementing either a peer tutoring or a cross-age tutoring program because both types programs have been shown to increase math achievement (Robinson et al., 2005) and reading achievement (Nelson-Royes, 2013), especially when used in addition to the regular instruction, not in place of it. Thus the tutor does not have to be a high achieving student. Academic outcomes are not only increased for students being tutored, but also for those providing the tutoring, It is also recommended that programs find a way to show tutors and tutees that they are assuming new roles through this process.

Research on tutoring. Research by Benjamin Bloom and colleagues in the early 1980s “achieved impressive results with all children when he provided them with one-on-one teaching and teachers who tailored instruction to their needs. That is, the teachers gave each child enough time, opportunities, and resources.” (Oakes & Lipton, 1990, p.60). According to Oakes & Lipton, “eighty percent of Bloom’s experimental students achieved at a level reached by only 20 percent of the students in typical classrooms”, although they pointed out that “due to its high cost, one-on-one is not a practical solution for schools.” Much of Bloom’s research focused on finding methods of group instruction as effective as one-to-one tutoring (Bloom, 1984). One-on-one tutoring with adequate resources is arguably the most effective form of instruction.

Although more recent high quality research on tutoring is limited, there have been studies that can provide useful insights into tutoring (McClure, 2008). According to Somers and Piliawsky (2004), tutors and students can work on a variety of academic subject areas, as directed by the students’ needs. RAND released a report in 2007 that concluded that tutoring had a positive effect on both reading and math scores in five of



the seven districts in the study. The same study found that one-on-one tutoring was particularly effective, especially when used to teach reading strategies (McClure, 2008). A program using tutoring, group counseling, and enrichment activities, implemented in an alternative school in Youngstown, Ohio for adolescent African-American males, improved basic skills by at least two grade levels. Tutoring was cited as being critical to the success of the program (Martin, Martin, Gibson, & Wilkins, 2007). This research supports the conclusion that peer tutoring, heterogeneous peer tutoring, and monitoring peer tutors during peer tutoring are evidence-based practices. A monitoring component should be included in any peer tutoring program. Also, peer tutors should be heterogeneously grouped because this is an evidence-based practice (Stenhoff & Lignugaris-Kraft, 2007). For example, a student with a mild learning disability could be paired with a peer tutor who does not have a mild disability, or pairing a student struggling in math with a peer tutor who does well in math.

Academic Mentoring

Academic mentoring is a way that at-risk adolescents can obtain assistance to improve their academic functioning (Somers & Piliawsky, 2004). In this strategy, students work one-on-one with a mentor who builds a relationship with the student and provides them with supplemental enrichment activities to build their academic self-esteem, motivation, and self-efficacy to enable them to achieve academically. Mentoring can be effective in increasing



academic engagement (Herrera, 2004), and of course may also have positive impact on social and emotional development of the student (See the Strategy Brief on Mentoring).

Increasing Motivation

According to Crotty (2013), the biggest determiner of academic success is motivation. Motivation is “a theoretical construct used to explain the initiation, direction, intensity, and persistence of behavior, especially goal-directed behavior” (Brophy, 1998, p. 3). Students who are unmotivated are less likely to benefit from better standards, curriculum, and instruction unless their lack of motivation is addressed (Usher & Kober, 2012).

Motivational interviewing. One strategy to increase motivation is through “motivational interviewing.” This could be done by any adult. Motivational interviewing is an empathetic, student-focused, collaborative and directive behavior change strategy that works to increase students’ motivation. An adult meets with a student and works to promote self-awareness “and self-directed behavior change through the development of personal responsibility, self-efficacy, and an internal locus of control” (Cloth, 2013, p. 32). This type of interviewing can build intrinsic motivation. This strategy has been used in dropout prevention to increase students’ desire to complete school. It has also been used for discipline issues, substance abuse

issues, truancy issues, and academic support for poor school performance (Cloth, 2013).

High Interest Reading Materials

As mentioned previously, academic supports are used to increase a student’s academic achievements. One method of doing this within a reading environment is to allow students to read a topic that interests them. Research conducted by Asher (1979) found that students demonstrate an increase in reading comprehension for materials of higher interest to them, compared to low interest reading materials. A student’s interest in the topic of the reading material has been shown to be a significant factor of reading comprehension for high ability students (Stevens, 2001). Allowing students to read material on a topic that interests them may improve their reading achievements.

Computer Based Instructional or Remedial Programs

Computer based instructional programs are becoming more prevalent as technology use increases in education. These programs can be used in the classroom for traditional education purposes or as remedial programs. Computer based programs allow students to participate in a personalized curriculum, which has been found to boost student attitudes when compared to traditional instruction (Ross, McCormick, & Krisak, 1986). These programs typically

allow students to move at their own pace, provide immediate corrective non-judgmental feedback, and document student growth. Research by Ku and Sullivan (2000) indicates that student attitudes are more positive when instruction is tailored to their interests and preferences. A study completed by Ponce, López, & Mayer (2012) found that the use of a computer program increased reading comprehension scores when compared to the scores of students who received only traditional classroom instruction. See Figure 1 for some examples of these programs.

Small Learning Communities

According to the Southern Regional Education Board (2010), small learning communities are designed to establish a foundation of trust among students and teachers. Small learning communities can be arranged in many different ways depending on the needs of the school, but a common characteristic of these communities is that class sizes are smaller than typical classrooms, which increases opportunity for advisement sessions and praise towards academic achievement. Typically, small learn-

Figure 1- Computer Based Instructional or Remedial Programs

Program	Description
Compass Learning	Includes “Odyssey Reading” and “Odyssey Math” which are web-based K-12 programs that include electronic curricula for individual or small group use, assessments that align with state standards, and a data management system for teacher use (https://www.compasslearning.com).
Nova Net	Learning management system created by Pearson that is delivered on a web platform. Teachers can use this program to personalize mastery levels, course work, study plans for each student (http://www.novanet.com).
PLATO Achieve Now	Software based curriculum for elementary and middle school students to receive customized individual instruction in math on a PlayStation Portable System (http://www.edmentum.com/products-services/plato-courseware)
Read 180	Reading program designed for students in grades 3-12 whose reading achievement is below the proficient level. Students will receive several types of instructions during 90-minute sessions that are designed to address specific gaps for the individual student (http://read180.scholastic.com/reading-intervention-program/?psch=PI/ps/20110403/google/pd/txtl/Darby_ppc//general).
Read Naturally	Supplemental reading program for elementary, middle, and high school students or adults that aims to improve reading fluency, accuracy, and comprehension using texts, audio CDs, and computer software (http://www.readnaturally.com).
Reading Recovery	Short-term intervention that helps students aged 5-6 who struggle with reading and writing by providing one-on-one tutoring with a trained Reading Recovery teacher. Individualized session occur daily for 30 minutes for 12-20 weeks and content is tailored to specific student needs and is intended to complement existing classroom instruction.
Saxon Math	Curriculum for students of any grade level that uses an incremental approach for instruction and assessment that limits the amount of new math content offered each day in order to allow appropriate time for daily practice. New concepts are introduced gradually (http://www.hmhco.com/shop/education-curriculum/math/saxon-math).
Systems 44	Technology program that focuses on foundational reading and phonics skills for challenged readers in grades 3-12. Offers students a personalized learning opportunity to master the foundational skills of reading (http://system44.scholastic.com).

ing communities use a core group of teachers that work with a consistent group of students, allowing for better adult-student relationships. Thus, smaller communities are created within a larger one by creating smaller class sizes, forming teacher and student teams, and using other strategies that personalize instruction and relationships for students to improve the students' connection to teachers, the curriculum, and the school. Lessons may include instructional strategies that engage students and motivate them to participate in learning. These lessons are designed to foster teamwork, belonging and a sense of purpose (Felner, Seitsinger, Brand, Burns, & Bolton, 2007). There is evidence in the research that the quality of instruction and outcomes are increased with properly implemented of small learning communities (Dukes & Lamar-Dukes, 2006).

Before and After School Programs

By taking advantage of time before or after school, educators can increase students' opportunities to be involved in effective academic supports, such as tutoring, mentoring, or receiving homework help. After school programs can have strong positive effects on academic engagement, grades, and other learning goals (Grolnick, Farkas, Sohmer, Michaels, & Valsiner, 2007). (See the Strategy Brief on After School Programs.)

Conclusion

Many students, including those receiving special education services, require more academic support than their peers to be successful in school. Fortunately, a wide variety of strategies to provide this support have been developed and empirically evaluated in the academic literature. Educators are encouraged to implement strategies such as tutoring (including adult tutoring, peer tutoring, and cross-age tutoring), mentoring programs, smaller learning communities, and before and after school programs. Additionally, strategies to increase motivation and provide more effective behavior management can be helpful in improving academic outcomes.

Collectively, what these strategies have in common is increased exposure to academic material. Students who are behind academically are likely to stay behind unless they receive more opportunities to learn. Thus, educators should strive to provide as many opportunities for exposure to academic material as possible. By taking advantage of the evidence-based programs presented in this strategy brief and elsewhere, educators can also ensure that their efforts to support struggling students are as likely as possible to be effective.



See related Strategy Briefs on: Mentoring, Tutoring, Motivation, & After-school programs.

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References on Academic Supports & Tutoring

- Asher, S. R. (1979). Influence of topic interest on black children's and white children's reading comprehension. *Child Development, 50*, 686-690.
- Balfanz, R., Herzog, L., & Mac Iver, D. J. (2007). Preventing student disengagement and keeping students on the graduation path in urban middle-grades schools: Early identification and effective interventions. *Educational Psychologist, 42*(4), 223-235.
- Balfanz, R., McPartland, J., & Shaw, A. (2002). Re-conceptualizing extra help for high school students in a high standards era. *Journal of Vocational Special Needs Education, 25*(1), 24-41.
- Barriga, A., Doran, J., Newell, S., Morrison, E., Barbetti, V., & Robbins, B. (2002). Relationships between problem behaviors and academic achievement in adolescents: The unique role of attention problems. *Journal of Emotional and Behavioral Disorders, 10*, 233-240. doi: 10.1177/10634266020100040501

- Bloom, B. S. (1984). The 2 sigma problem: The search for methods of group instruction as effective as one-to-one tutoring. *Educational Researcher*, 13(6), 4-16.
- Bowman-Perrott, L., Davis, H., Vannest, K., Williams, L., Greenwood, C., & Parker, R. (2013). Academic benefits of peer tutoring: A meta-analytic review of single-case research. *School Psychology Review*, 42, 39-55.
- Brophy, J. (1998). *Motivating students to learn*. Boston, MA: McGraw Hill.
- Cloth, A. (2013). Feasibility of a school-based motivation enhancement intervention for youth at risk for school disengagement. *Emotional & Behavioral Disorders in Youth*, 2, 31-37.
- Convisor, K. (2010). Why kids drop out of school. Retrieved from <http://www.eduguide.org/library/viewarticle/2132/why-kids-drop-out-of-school/>
- Crotty, J. M. (2013, March 13). Motivation matters: 40% of high school students chronically disengaged from school. *Forbes Magazine*. Retrieved from <http://www.forbes.com/sites/jamesmarshallcrotty/2013/03/13/motivation-matters-40-of-high-school-students-chronically-disengaged-from-school/>
- Dukes, C., & Lamar-Dukes, P. (2006). Special education: An integral part of small schools in high schools. *The High School Journal*, 89(3), 1-9.
- Felner, R. D., Seitsinger, A. M., Brand, S., Burns, A., & Bolton, N. (2007). Creating small learning communities: Lessons from the project on high-performing learning communities about “what works” in creating productive, developmentally enhancing, learning contexts. *Educational Psychologist*, 42(4), 209-221.
- Gordon, E. E., Morgan, R. R., Ponticell, J. A., & O’Malley, C. J. (2004). Tutoring solutions for no child left behind: Research, practice, and policy implications. *NASSP Bulletin*, 88(638), 59-67.
- Grolnick, W. S., Farkas, M. S., Sohmer, R., Michaels, S., & Valsiner, J. (2007). Facilitating motivation in young adolescents: Effects of an after-school program. *Journal of Applied Developmental Psychology*, 28(4), 332-344.
- Herrera, C. (2004). *School-based mentoring: A closer look*. Chicago, IL: Public/Private Ventures.
- Ku, H.-Y., & Sullivan, H. J. (2000). Personalization of mathematics word problems in Taiwan. *Educational Technology Research and Development*, 48(3), 49-59.
- Martin, D., Martin, M., Gibson, S. S., & Wilkins, J. (2007). Increasing prosocial behavior and academic achievement among adolescent African American males. *Adolescence*, 42(1), 689-698.
- McClure, C. T. (2008, March). How tutoring fares against NCLB. *District Administration*, 78-79.
- Nelson-Royes, A. M. (2013). Tutors can improve students’ reading skills. *Reading Improvement*, 50(2), 48-53.
- Oakes, J., & Lipton, M. (1990). *Making the best of schools. A handbook for parents, teachers, and policymakers*. New Haven, CT: Yale University Press.
- Ponce, H. R., López, M. J., & Mayer, R. E. (2012). Instructional effectiveness of a computer-supported program for teaching reading comprehension strategies. *Computers and Education*, 59, 1170-1183.
- Robinson, D. R., Schofield, J. W., & Steers-Wentzell, K. L. (2005). Peer and cross-age tutoring in math: Outcomes and their design implications. *Educational Psychology Review*, 17, 327-362.
- Ross, S. M., McCormick, D., & Krisak, N. (1986). Adapting the thematic context of mathematical problems to student interests: Individualized versus group-based strategies. *Journal of Educational Research*, 79(4), 245-252.
- Somers, C. L., & Piliawsky, M. (2004). Drop-out prevention among urban, African American adolescents: Program evaluation and practical implications. *Preventing School Failure*, 48(3), 17-22.
- Southern Regional Education Board. (2010). *Giving students extra support to meet standards in challenging academic and career courses*. Retrieved from http://publications.sreb.org/2010/10V01w_BestPractices_Extra_Help.pdf
- Stenhoff, D. M., & Lignugaris-Kraft, B. (2007). A review of the effects of peer tutoring on students with mild disabilities in secondary settings. *Exceptional Children*, 74(1), 8-30.
- Stevens, K. (2001). The effect of topic interest on the reading comprehension of higher ability students. *Journal of Educational Research*, 73, 365-368.
- Sugai, G., & Horner, R. (2011). Chapter 13 -Defining and describing school-wide positive behavior support. In W. Sailor, G. Dunlap, G. Sugai, & R. Horner (Eds.), *Handbook of positive behavior support* (pp. 307-326). New York, NY: Springer.
- Usher, A., & Kober, N. (2012). *Student motivation—An overlooked piece of school reform*. Washington, DC: Center of Education Policy, The George Washington University.
- VanLehn, K. (2011). The relative effectiveness of human tutoring, intelligent tutoring systems, and other tutoring systems. *Educational Psychologist*, 46, 1-25.