Research and Effective Schooling

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Abstract

The District Leadership Team of the Coshocton City School District has targeted two low-achieving elementary schools to be the focus of intensive academic remediation. Situated within a community struggling with high unemployment, with only 15% of the population having attained a degree beyond high school, these schools face considerable challenges. Current strategies in use include a high level of data collection regarding student achievement, and research-based Tier 2 and Tier 3 interventions for children who are performing below the state proficiency criteria. These elementary schools lack of cohesiveness between the instruction of the general core curriculum and the use of pull-out, supplemental interventions. This proposal will outline three strategies that have been shown by research to increase student achievement: the constructivist practice of reciprocal teaching, the teacher-centered approach of direct or explicit instruction, and the setting of high-level goals by teachers and students. A final, related recommendation involves the length of the instructional day in the schools.

Research and Effective Schooling

Improving schooling at the elementary level is an important concern for many school districts and the Coshocton City School District is no exception. This paper proposes that the use of research is the most effective means by which school reform can be addressed. The context of the community and schools is first described and then three recommendations based on Hattie's (2009) meta-analysis of 800 meta-analyses of factors related to improving student learning are presented with the rationale for their selection. Finally, a process for implementing and assessing these recommendations is made.

Community and Elementary School Characteristics

Schools do not function outside of the community system and are not independent of the community. When attempting to institute school reform, educational leaders must "understand classrooms, schools, families, and communities as systems" (Huitt, Huitt, Monetti, & Hummel, 2009, p. 2). Hattie (2009) found that influences such as home environment, socioeconomic status, and parental involvement have effect sizes of over 0.50, which is significant. As social demographics influence school performance, it is important to examine the context of the Coshocton City School District. The city of Coshocton is the county seat of rural Coshocton County, Ohio, and has a population of 11,000. Of the citizens eligible for the work force, 50% are employed. The percentage of adults over the age of 25 who have no high school diploma is 10.6%, while 46.6% graduated from high school. The presence of a community college has been a factor in allowing nearly 20% of the population to take some college courses, while approximately 15% of the adult population has completed a college or graduate school degree. Of the Coshocton City families with children under the age of 5 years, 40% are living on an income below the poverty level (United States Census Bureau, 2006-2010).

These statistics are mirrored in the school population. There are three elementary schools in the city of Coshocton. Two have very similar demographics in that 80% of the student population receives free or reduced lunches; Ohio Achievement Assessment data showed that the children in both schools score significantly below the state standard of 75% in reading (61%) and mathematics (53%) in the third through fifth grades (Coshocton City Schools, 2012). One school has 19% of the student population on Individualized Educational Plans (IEPs); the second has 27% of their population on IEPs. The third elementary school in the district serves a population that is very different from the previous two. Only 34% of the students receive free and reduced lunches, and the students' scores on reading and mathematics average 92.3% and 90% respectively (Coshocton City Schools, 2012). These scores are significantly above the state standard (Ohio Department of Education, Offices of Curriculum, Instruction and Assessment. (2010). Less than 1% of the students in this school have IEPs.

Targeted Intervention Population and Current Strategy

The Coshocton City School District has begun utilizing a district leadership team, comprised of teachers and administrators, to address the challenges faced by Coshocton's elementary schools. Using data from the Ohio School Report Card (Coshocton City Schools, 2012), the team identified two specific areas of need in the elementary population: students with Individualized Educational Plans (IEPs) and students with economic disadvantage. These are the student populations that were targeted for intervention focus in a district-wide three year plan. As a result, intensive intervention efforts will be directed at the two low-performing elementary schools.

Extensive professional development time has been utilized by staff teams at each grade level to align all learning maps and prescribers to the Ohio Core Curriculum. The district has

strong curricular leadership who have allowed kindergarten and special education teachers to be trained in a variety of research-based reading programs including Orton-Gillingham (www.orton-gillingham.com), Lindamood-Bell (www.lindamoodbell.com), Leveled Literacy Intervention (www.heinemann.com), and Reading Recovery (readingrecovery.org) to benefit tier two and three intervention students. In addition, a tremendous amount of data is being collected in the form of Benchmark Reading Assessment (www.heinemann.com), Dibels (dibels.uoregon.edu**)**, and STAR reading and mathematics (www.renlearn.com) to supplement the results of yearly administration of the Ohio Achievement Assessment (ohio3-8.success-ode-state-oh-us.info**)** and Terra Nova (www.ctb.com**)** assessment.

Current Challenges

Despite the clear identification of the target population for intervention based on district and school-level data and the significant amount of time and money that has been invested in professional development for educators to gain mastery of specific reading interventions, there has been no clear plan devised for how these resources will be utilized to enhance overall student performance in the schools. Implementation has been non-strategic, and lacks uniformity between the two elementaries. Students are benefitting from the various "pull-out" interventions, but there is little mindful integration of the discrete skills being attained in these settings to the teaching of the general core. Services to students on IEPs and instructional practices in general education classrooms are not cohesive.

The goal of this proposal is to bring cohesion and a degree of uniformity to the instructional and learning practices within the general education classrooms, optimizing the exposure that all students have to high-quality, research-based instructional practices in both large and small group settings across the curriculum. Data collection has been a priority across

this school district, and administrators have utilized this data to make decisions about intervention programs that would be offered as supplements to the general core curriculum. Two critical challenges have not been overcome, however. First, data have not been translated into clear, effective practices for teachers. Second, due to lack of instructional time, tier 2 and 3 interventions (termed "2nd/3rd chance programs" by Hattie, 2009) have supplanted instruction in the general core. Recommendations of this proposal will center on training for in-service teachers to introduce or refresh the use of research-based, high quality instructional practice. These recommendations will seek to offer balance and integration between the teaching of the general core and intervention strategies already implemented within the two Title-One Elementary Schools.

Recommendations

The District Leadership Team (DLT) of the Coshocton schools has determined to focus on the academic achievement of low-income and identified special education students as measured by standardized tests. In seeking to reach these populations, the design of classroom instruction must be balanced between constructivist and direct instructional methods. The first recommended practices are related to these two teaching strategies. Hattie (2009) identified reciprocal teaching, which is a constructivist method, as having a significant effect size of 0.74. Reciprocal teaching, when used to increase reading comprehension skills across subject areas, may contribute to student motivation, active involvement, social collaboration (Alesandrini & Larson, 2002) and retention of learning (Upadhyay & DeFranco, 2008) making this type of instruction valuable in the classroom.

Constructivist practice must, however, be balanced with clear, direct, explicit instruction to ground children in a body of knowledge that is necessary for them to make connections and

reason thorough problems in a coherent manner. In examining the influence of direct instruction, Hattie (2009) identified an effect size of 0.59. When the outcome measures of standardized tests of basic skills are used as the evaluation of student learning, "direct or explicit instruction models most often produce the higher student scores and, therefore, should be considered a primary option teachers consider when designing instruction" (Rosenshine as cited in Huitt, et al. 2009, p. 1).

The final recommendation for the academic improvement of at-risk children in these two elementary schools centers on the practice of students and teachers setting goals, which was found to have an effect size of 0.56 (Hattie, 2009). To be most effective, the goals must be learning goals, not performance goals; they must be clear and specific. Students need not only be taught to set goals with observable, external standards, but also to internally evaluate their level of performance (Driscoll, 2005, pp. 314-15).

Reciprocal teaching. The recommendation of reciprocal teaching in general classroom instruction acknowledges the importance of social dialogue between a student, teacher, and peers to build understanding of written text. The four strategies of reciprocal teaching: predicting, questioning, clarifying, and summarizing, can be taught by two methods. The first method does not involve the introduction of the strategies prior to group activities and discussions while the second, called "explicit teaching before reciprocal teaching", introduces and practices the strategies before they are utilized in classroom discussion (Allen, 2003 as cited in Foster & Rotoloni, 2005). For the targeted elementary schools in this district, the latter method is recommended. Mayer and Patriarcha (2007) found that the modeling of strategies helps students with learning problems develop understanding and independence.

It must be stated that the practice of reciprocal teaching must, in these at-risk populations, be used in conjunction with the tier 2 and tier 3 reading supports already in place for students, as Hashey, et al (2003) found that students with decoding difficulties experience fewer gains in reading comprehension using the reciprocal teaching method. As students gain decoding skills in pull-out settings, they can practice the skills and improve reading comprehension when participating in this constructivist, collaborative learning process (as cited in Foster & Rotoloni, 2005).

Direct instruction. Direct instruction is often characterized by the explicit presentation of material in an organized, predictable, linear fashion (Huitt, Monetti, & Hummel, 2009). When evaluated for effectiveness in the areas of academic basic skill acquisition, cognitive development, and affect, the direct instructional model "produced the highest average performance of any program in all three dimensions" (Watkins, 1988 as cited in Huitt, et al., 2009). Further, direct instruction focuses on mastery learning, an influence identified by Hattie, 2009, as having a significant effect size of 0.58.

One type of directed instruction utilizes scripted lessons. The recommendation for this school district is that commercially-available scripted curriculum be adopted for core mathematics and reading instruction to enhance the probability of well-designed, incremental, mastery-focused teaching in all classrooms regardless of teacher expertise. These commercial direct instruction materials have been "subjected to rigorous standardization and field testing that teacher-made materials have not undergone" (Huitt, et al. 2009, p. 9).

Student/teacher goal setting. The power of setting clear and rigorous goals has been documented as a primary factor in the effective utilization of formative assessment to improve student achievement (Campbell & Levin, 2008). Goal setting is an integral factor in other

important teaching factors. Campbell and Levin (2008) stated that a learner must understand what goal he or she is aiming for as a first step in "engaging and empowering students in their learning and progress" (Black and Wiliam, 1998 as cited in Campbell & Levin, 2008, p. 48). Goal setting as a foundation for improved student efficacy requires that teachers begin in lower primary grades to build in students the feeling that learning is not a matter of "how many I got right" on an assessment, but rather, an understanding and acknowledgement of the gap between their current knowledge and the goal. Day and Burns (2011) identified this practice as a "mastery–oriented" focus. Students who develop this "mastery" view of learning are more likely to embrace challenging tasks as opportunities to increase their competence. These children enjoy challenges and are persistent when given a challenging task (Dweck & Leggett, 1988 as cited in Day and Burns, 2011). The recognition of the gap between current knowledge and knowledge needed to master a goal must be supported by a student/teacher relationship that allows the learner to trust that the adult can and will help him to close the gap. Thus, goal setting is integrated both into the construct of motivation and into the influence of teacher-student relationships (Hattie, d=0.72).

Recommendations in Practice

The implementation of these three recommended practices, reciprocal teaching, direct instruction, and goal setting, rests on an additional factor that must be considered by the Coshocton City School District if increased student achievement is to be realized. Current Ohio law requires that elementary students receive at least five hours of instruction per day, exclusive of the lunch period (Ohio Department of Education, 2011). Elementary schools in Coshocton conform to the minimum five-hour standard. All children in a particular grade level are held to the same standard of mastery: a proficient score of 400 (Ohio Department of Education, 2010).

Students differ greatly in their ability to master academic content. Because all students are required by state law to meet the same minimum standard of proficiency, there must be the opportunity to lengthen the time that students have to learn. "Schools and districts need to provide adequate time for all students to master required content and skills" (Berliner, 1990; Caldwell, Huitt, & Graeber, 1982; as cited in Huitt, et al., 2009).

In addition, tier 1 and tier 2 interventions are required to be offered in addition to instruction of the general core curriculum. At this time in the targeted elementary schools, children are removed from core instruction to receive intervention, which can actually result in the widening of the achievement gap.

In response to the "time-to-learn" consideration, it is recommended that the elementary school day in the elementary schools be lengthened by one hour. This hour should be devoted to the already-established research-based intervention programs, as well as to enrichment for proficient students. This allows all children to experience full access to the high-quality general core instruction typified by reciprocal teaching, direct instruction, and goal setting strategies in the general classroom. Negotiation between the teacher union and administration must take place to determine changes in teacher compensation in response to an extended work day.

Ensuring Fidelity of Practice

As the demands on teachers and students increase in response to higher accountability practices, interest in school reform measures, and 21st century skills in a global economy, new areas of expertise are required by educators. In the past two years, professional development (PD) in the Coshocton elementary schools has been focused on the areas of data collection, and for kindergarten and special education teachers, research-based reading interventions. In the coming two to three years, the district should focus its elementary PD on the microteaching of

the proposed teaching methods. "At the core of…every successful education improvement effort is a thoughtfully conceived, well-designed, and well-supported professional development component. Hence, although professional development by itself may be insufficient to bring about significant improvement in education, it is an absolutely necessary ingredient in all education improvement efforts" (Guskey, T., 2000).

The Coshocton City School District already has in place a system of teacher teams, peer review, informal administrative "walk-throughs", and formal teacher assessment. Additionally, there is a robust system in place for data collection and monitoring. These established practices may be altered minimally to include the collection of data on the proposed instructional and curricular changes. Monitoring of this data will occur at teacher, building, and district levels at regularly-scheduled meetings. Summative data from the Terra Nova test (grades K-2) and the Ohio Achievement Assessment (grades 3-6) will allow for longitudinal comparison over series' of years.

A desire on the part of a school district to improve the quality of education that they provide for their students is paramount. The Coshocton City School District has demonstrated the desire to equip teachers to provide an excellent education that will positively improve the lives of the students, their families, and the community as a whole. Many steps have already been taken toward excellence. It is the hope that the recommendations outlined above will further enhance the achievement of the children in Coshocton.

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