

## Peer tutoring as a Strategy to Promote Academic Success

### Introduction

Durham Public Schools (DPS) is currently looking to develop peer tutoring as a successful instructional strategy to reach out to low-performing students in an individualized and positive way. DPS seeks to improve and expand on an existing peer tutoring program called Caring About The Concepts that Help (CATCH). This brief examines the benefits of peer tutoring based on existing research on peer-assisted learning strategies, identifies the best practices for peer tutoring, identifies how CATCH is currently implementing the best practices of peer tutoring, and provides recommendations based on best practices. Information and recommendations presented in this paper will serve as the initial component of a three-part evaluation of the CATCH program requested by Durham Public Schools. *For more information on the CATCH program, please refer to the insert, right.*

Given the high unemployment rate that exists in the United States and in North Carolina, preparing students for academic success and dropout prevention continue to be topics of concern for policy makers and educators. The nation's unemployment rate is currently 7.9% [1], while North Carolina is experiencing an even higher unemployment rate of 9.6% [2]. Given these statistics, the responsibility of school administrators and educators to prepare students to succeed in the workforce is especially relevant. High school dropouts are among the most disadvantaged in the labor market. The unemployment rate for individuals without a high school diploma is at 13.1%, compared to 8.4% for those with a high school degree and 4.2% for those with a college degree [3]. As of 2005, the difference in lifetime earnings between a high school graduate and a high school dropout was about \$260,000 [4]. In 2007, over 23,000 of North Carolina's high school students dropped out, setting the state dropout rate at 5.7% [5]. Dropouts not only risk their future economic stability, but also are a drain on the local and national economy through losses in tax revenue and negative impacts on public health [6]. Education attainment is a strong indicator of health [6], and policies that increase educational achievement could have a large effect on public health [7], and can save more lives than medical advances [8].

Created in 2010 by middle school language arts teacher and athletic coach Jeff Whitt, CATCH has trained approximately 170 middle school mentors, and matched them with over 114 peers in need of tutoring assistance. Currently, the program is implemented in two Durham middle schools. For the 2012-2013 school year, CATCH has grown to train 75 additional mentors, assisting 54 peers in every subject offered within Carrington and Githens Middle Schools. It has garnered the interest of DPS officials as well as other school systems in North Carolina, and gained local media attention.

Dropout prevention in the form of interventional instructional methods can save students who are at risk, especially in the middle grades [9]. Risk factors for dropping out are identifiable as early as elementary school [10]. Researchers have found that of sixth grade students exhibiting just one of a number of risk factors 29% graduated high school. Sixth graders with all of listed risk factors saw only a seven percent high school graduation rate [9]. While many eighth-grade students are able to pass standardized tests to enter high school, some students may still be behind academically, which may prevent them from being ready for college and career, despite the quality of high school instruction and the effort students make in the classroom [11]. Educators and community leaders must provide substantial support to students who are at risk of dropping out of school, encourage active engagement in the learning process, and prepare middle school students for success in their high school and college careers. One such strategy that can supplement teacher-led instruction in a way that actively involves students in their learning process is peer-assisted learning.

### **What is Peer Tutoring?**

For the purposes of this brief, peer tutoring refers to an instructional method that uses pairings of high-performing students to tutor lower-performing students in a class-wide setting or in a common venue outside of school under the supervision of a teacher. The terms “tutoring” and “mentoring” will be used synonymously, as the role of tutor also includes maintaining a supportive and encouraging relationship with the tutee.

### **Benefits of Peer Tutoring**

Currently, there is sufficient research that documents the benefits of peer tutoring as a supplement to traditional instruction. Peer tutoring has been used across academic subjects, and has been found to result in improvement in academic achievement for a diversity of learners within a wide range of content areas [12-14]. Common components of peer tutoring programs facilitate both cognitive and social gains in both higher-performing mentors and low-performing mentees in an individualized and positive way.

#### **Academic and Cognitive Gains through Peer Tutoring:**

*Positively affects mathematics performance [12, 15]*

Overall, peer tutoring in mathematics is most effective in improving mathematics performance for students at risk for or experiencing mathematics disabilities, elementary-aged participants, and mathematics computation content [15].

*Improves reading achievement for students of all levels [13, 16]*

. Some established positive outcomes of peer tutoring in reading classes include improvements in key reading skills as well as gains in self-concept and competency in reading [16]. Results from a study of peer tutoring reading programs in middle schools indicated that students’ oral reading rate increased following peer tutoring programs.

### *Accommodates diverse students within a classroom [13]*

Inclusive learning, which is the practice of teaching disabled students alongside non-disabled peers in regular classroom settings, can be facilitated through an emphasis on differentiated learning, where students of varying academic levels receive instruction appropriate for their individual learning styles and speeds [13]. Differentiated learning, which emphasizes providing students with varied opportunities to acquire knowledge and master skills, can be difficult to implement in a traditional classroom setting [13]. Peer tutoring can be an effective strategy for educators to facilitate differentiated learning without stigmatizing and alienating students. When peer tutoring is implemented in a class-wide setting, students are able to approach the curriculum at their individual learning level, using strategies tailored to individual mentees [17].

### *Promotes higher-order thinking [18]*

By explaining concepts in detail, high-level questioning, and the use of supportive communication skills, peer tutors can help low-performing students master material previously introduced in a traditional classroom setting and build on their knowledge using higher-ordering thinking skills [18].

## **Social and Behavioral Gains through Peer Tutoring:**

### *Results in positive effects on social, self-concept, and behavioral outcomes [14, 19-22]*

Social, self-concept, and behavioral outcomes were affected positively with the use of peer-assisted learning strategies, including peer tutoring. Additionally, researchers found a significant positive relationship between social and self-concept outcomes and academic achievement. Decreases in disruptive behavior [21] and improvement in social interactions among culturally and developmentally diverse peers are also noted outcomes of peer tutoring programs [19]

### *Increases students' sense of control and responsibility for their academic achievement [18, 23]*

Peer tutoring increases students' sense of internal responsibility for their achievement [18]. Peer tutoring programs have also been shown to improve student's ability to accept constructive feedback from adults [23]. Training students in peer tutoring strategies can help students take responsibility for their learning, and their ability to recognize and accept responsibility for academic failures.

## **How does the CATCH program operate?**

The Caring About The Concepts that Help (CATCH) Program is designed to match high-performing students with students who are struggling to be successful academically, both working under the leadership of a teacher. The program offers tutoring for all middle school grade levels in all

subject areas. Students may participate in in-class tutoring during the school day, after school tutoring time, and standardized test preparation and review sessions on the weekend.

Students demonstrate interest in participating in CATCH as a mentor by attending CATCH interest meetings and maintaining a high grade point average. After acknowledging the expectations of a student mentor, students have the opportunity to commit to the CATCH program. Students register for the program as mentors or mentees when they sign a contract outlining expected behavior and outcomes for their participation in the program, as well as obtaining consent from their parents.

Student mentors are high-performing students who must go through a training course in order to become mentors. The training course addresses a list of specific expectations of a student mentor, emphasizing positive peer relationships, leadership, timeliness, and commitment to the program [24]. After completing an academic year of tutoring, the program trains mentors to teach new mentors entering the program.

### **CATCH in-school tutoring**

In-school mentoring within the CATCH program relies heavily on communication between the mentor, mentee and both their teachers. The program requires both teachers to meet and discuss the needs and expectations of the class for which the mentee needs tutoring. This discussion also addresses what objectives the pair should cover, materials students may need, and any behavioral issues that may be relevant to the tutoring experience. Once the objectives are given, the cooperating teacher will divide his/her class with the lead teacher once a week, when half of the students will go to each other's classroom – paired one-to-one with mentors/mentees. The CATCH program places a strong emphasis on organization and timeliness as an imperative for the program's success.

### **CATCH Out-of-School Tutoring**

The CATCH program was initially designed for afterschool tutoring sessions to take place three days a week. The program advises that all grade levels meet in a common space during this time in order to promote efficient learning. The afterschool tutoring session begins with a snack and time to socialize, usually immediately after school dismissal. Mentees spend an hour paired with their mentors in consistent pairings. The session ends with a fifteen-minute reflection on the tutoring session in order to review objections, and voice any questions to cover in the next session.

This school year, CATCH has also expanded to include Saturday tutoring sessions. Two hour-long sessions on designated Saturdays accommodate students who are interested in additional out-of-school tutoring time with their mentees.

Starting in March of each school year, the CATCH program also serves as standardized test preparation. In North Carolina, middle school students take yearly End-of-Grade tests (EOG) in math and reading.

## **Exemplar Applications of Peer Tutoring Programs**

The following programs were selected as exemplars based on their inclusion of a system of rewards to encourage student participation, and a commitment to selecting and adequately training qualified peer tutors in their program design.

### **Class-wide peer tutoring with rewards to promote participation [25]**

Sixth-grade students enrolled in general reading education classes in a Midwestern, urban middle school were assigned to tutoring pairs of either equal ability, or pairs in which high-achieving students modeled successful learning with lower-achieving students. Similar to CATCH, the students received training prior to tutoring. During the first week of the program, project staff explained the tutoring procedures and the lottery, modeled each component of the program, and used role-playing to effectively demonstrate ways to praise and correct their peers. Students also underwent a refresher training course at the beginning of the spring semester.

What sets this peer tutoring program for the reading class apart from common peer tutoring practices is its inclusion of a reward system for students to encourage participation and on-task behavior. During peer tutoring sessions, the teacher supervised all activities and passed out raffle tickets to students exhibiting good tutoring or on-task behavior. Students wrote their names on earned tickets and placed them in a collection throughout each week. At the end of each week, the teacher would draw several names of students who could each choose a small prize from a box of inexpensive toys.

Evaluation of the class-wide peer tutoring model with rewards for good behavior showed substantial letter grade improvements for the students. The lottery system for reinforcing participation and on-task behavior was shown to overcome challenges to student motivation. Implementation of a reward or lottery system would be a feasible way to reinforce effective tutoring practices and behaviors and promote academic engagement on the part of the students [25].

### **Afterschool peer tutoring with a focus on tutor selection and training [26]**

An afterschool peer tutoring program implemented in a middle school in California, called Student-2-Student, offers tutoring in a variety of subjects to students with the help of high-achieving eighth-graders. Like CATCH, Student-2-Student is selective in their recruitment of tutors. Qualified eighth-graders meeting a minimum GPA requirement and demonstrating high citizenship must complete an application process and obtain approval from their teachers before pairing with struggling students. The program advisor then matches tutors to struggling students based on who seems to be a good match academically and socially.

Tutors received training on effective ways to work with their tutees, with an emphasis on confidentiality, providing positive reinforcement, and allowing adequate response time when asking questions. The training process also instructed tutors on explaining directions, designing work for extra practice, watching for and correcting mistakes, and providing positive feedback and encouragement.

Existing research identifies adequate tutor training as an essential component of peer tutoring programs [20, 27, 28].

The Student-2-Student program, with its unique emphasis on selective recruiting of tutors and quality tutor training, led to a significant improvement in core-subject letter grades for all participants. In an evaluation of the program, participants also demonstrated increased responsibility, completion of homework assignments, and significantly improved work habits [26].

## **Recommendations for CATCH**

Based on a review of existing research on effective peer tutoring practices, I recommend that the CATCH program continue to operate in both its in-school and afterschool program with a program design that strategically matches students, includes a strong tutor training course, is well-supervised by an instructor, and incorporates a reward system to reinforce participation.

### ***Match tutees strategically with high-performing tutors***

A common component of many successful peer tutoring programs is the selection of highly capable peer tutors [26]. CATCH currently selects high-performing students, usually academically gifted students or students involved in volunteer groups within the school, who demonstrate an interest in becoming a tutor. Matching low-performing students with a higher-performing tutor or mentor is consistent with research that shows low-performing tutees stayed on task and used effective learning strategies in mixed-ability pairs rather than with other low-performing students [26]. Program directors or instructors who are familiar with the social and academic backgrounds of participating students can also strategically match tutees with tutors who are socially compatible and perform well in their tutees' problem subjects.

### ***Train tutors to teach effective learning strategies and maintain positive peer relationships***

Evaluations of peer tutoring programs suggest that tutor training is a crucial part of a peer tutoring program. Tutor training is necessary to ensure that tutors are able to effectively use direct instruction, promote higher-order thinking, give positive reinforcement, and sustain a positive and supportive relationship with their tutee [20, 27, 28]. In some programs, tutors underwent continuing training sessions throughout the school year in addition to the initial training received at the start of the program. Continuing education for tutors could help to reinforce effective tutoring practices throughout the course of the school year.

### ***Frequently monitor tutor-tutee behavior and reinforce participation***

Frequent monitoring of participants' behavior during tutoring sessions maintains fidelity to the program design and the effectiveness of peer tutoring as a teaching strategy. Inconsistent tutoring practices and behaviors can undermine the effects of peer tutoring, and have been shown to directly affect student achievement in a peer tutoring setting [12, 14].

Instructors who monitor tutoring sessions should also provide a reward system to reinforce on-task behavior and participation. Research comparing peer tutoring with and without a reward system

has shown that offering students positive reinforcement in the form of a lottery reward system or small treats can help overcome challenges to student motivation [25].

## Conclusion

Peer tutoring has been extensively researched as an effective strategy to engage students and promote academic success. Caring About The Concepts that Help (CATCH) is a peer tutoring program that currently uses many effective practices found in similar programs. While CATCH already shares common elements with other successful peer tutoring programs, it is essential that any additional schools that plan to implement the CATCH program focus on these key elements.

*This research brief accompanies a larger literature review conducted in conjunction with the Duke School Research Partnership Office in the Center for Child and Family Policy at Duke University.*

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