Evaluating CATCH, a Peer Tutoring Program at Carrington Middle School

Introduction

Durham Public Schools (DPS) currently offers a variety of peer tutoring programs, which aim to pair mentors and mentees in a one-on-one relationship, in order to assist and better engage underachieving students. However, in order to maintain equity and achievement, DPS seeks to make these programs more consistent, effective, and available throughout the district, starting with by evaluating existing programs. Because of the very positive feedback it has received from teachers, student participants, and DPS officials, one potential model for the design of new and existing programs at the elementary, middle, and high school levels, is Caring About The Concepts that Help (CATCH), a peer tutoring program at Carrington Middle School.

This brief summarizes the academic gains of peer tutoring programs similar to CATCH and the ways in which such programs have been evaluated. Finally, it proposes a comprehensive mixed-methods evaluation plan for CATCH, based on these tested methods and the input of CATCH’s founder, Jeffrey Whitt, and other DPS officials. Evidence shows that peer tutoring can positively impact academic, social, and behavioral outcomes [1-3]. Because research indicates that these positive outcomes are highly correlated [4], the evaluation plan recommends quantitative and qualitative components that assess long-term academic impact (via analysis of end of grade exams scores), as well as social-emotional gains, which are more subtle indicators of improvement, such as student
conduct, perceived improvement, and the mentor-mentee relationship[5-8]. The brief concludes with preliminary data from an interview with Jeffery Whitt, the head and founder of CATCH, and data from observations during two peer tutoring sessions. The evaluation plan, while created specifically for CATCH, could be utilized for evaluating other existing peer tutoring programs within DPS in order to assess best practices and determine which programs and program elements should be spread throughout the district.

Academic Gains
Evaluating CATCH is particularly important because there is strong evidence for the academic benefits of peer tutoring when it is implemented effectively:

- Middle school students exposed to Class Wide Peer Tutoring (CWPT), which pairs students in a mentor-mentee relationship during class, **outscored their control group peers on state EOGs, unit tests, and weekly quizzes** [2, 9, 10].
- Across multiple grade levels, students who were peer tutored **scored higher on weekly quizzes across content areas**: language arts, math, science, and social studies [11].
- Increases in state exam scores and grades have been found not only for tutees, but tutors as well [12].

Prior Peer Tutoring Evaluations
Most peer tutoring programs employ a mixed methods approach that:

- Assesses students’ grades, perspectives on the program, in class behavior, and other social/emotional gains [2, 7].
- Includes student surveys, scores on weekly quizzes, end of year exams, and student grades, with respect to a comparison group [9, 10, 13, 14].

Most evaluated peer tutoring programs focused on specific subjects [11], but CATCH focuses on individual students’ needs in a variety of classes. Although this flexibility maximizes opportunities for tutees to utilize their tutors, it makes assessment more
difficult; expected outcomes will vary for each tutee, depending on his/her personal experience with CATCH.

Although CATCH does not have a ready comparison group, a practical alternative is an Action Research Study (ARS) [14]. ARS focuses on practical research approaches for limited time frames (under 6 months), in which teacher/student surveys and tutoring observation can assess program effectiveness and be used to recommend changes [14].

**CATCH Evaluation Plan**

![Diagram of CATCH Evaluation Plan]

**Figure 1: Overview of proposed evaluation plan for CATCH**

The ARS model will be applied in the CATCH Evaluation, which relies on the four main components seen above: academics, formal interviews, surveys, and observations, in order to capture a holistic view of CATCH’s impacts on tutors and tutees.

**Methods**

Based on my review of similar program evaluations, discussions with DPS officials and the creator of CATCH, and advice from my Duke University advisors, my evaluation plan for CATCH includes the following components:
• Key Stakeholder Interviews: Structured interview with the Creator of CATCH & an informal interview with the Exceptional Children teacher in charge of in-class peer tutoring
• Observations of the in-school, afterschool, and Saturday Peer-tutoring Sessions
• Survey of CATCH Tutors
• Survey of CATCH Tutees
• Review of Academic Data (e.g. EOG scores) for CATCH Participants

The formal interview, observation protocol, and surveys were self-developed in order to address specifically the interests of CATCH’s founder and DPS officials; they also aim to assess components identified as crucial to peer-tutoring’s success after my literature review (e.g. one-on-one pairings [15], quality of tutor training [8, 14-16], tutor confidence [6], increases in academic self-perception, engagement, and motivation[6, 17]).

The interview questions for Mr. Whitt were developed with input from my advisors; questions were directed at understanding how to 1.) Assess and improve CATCH and 2.) Implement it elsewhere. The observation protocol and survey questions were based off of key areas noted by Jeffrey Whitt, CATCH’s founder, as critical to the program’s success (e.g. tutor-tutee relationship), and also aimed to assess the fidelity of the program—the extent to which CATCH followed through with its proposed methodology [2].

**Academic Gains**

I recommend using pre and post assessments of tutors and tutees to examine if participation in CATCH is related to academic gains.

1. End-of-grade exam (EOG) scores for CATCH participants have already been requested from DPS’s research department. De-identified data, split into tutees and tutors for each year (2010-11, 2011-12, and 2012-13), will be available for the evaluation in November 2013. EOGs are given in reading and math in grades 3 to 8, and have 4 levels of achievement: insufficient mastery, sufficient mastery, consistent mastery and superior mastery. Changes over time in achievement will be explored, comparing scores for the year(s) prior to participation in CATCH, and the year(s) after participation in CATCH.
2. Currently, student grades cannot be released. I recommend that any future evaluation of CATCH consider obtaining parental consent, requesting access to students’ quarterly grades. Because of this limitation, there is little available data to officially assess short-term academic gains. Mr. Whitt is currently able to assess these gains informally by checking in with tutees on grades and homework completion, but in the future, I recommend that parent permission be obtained so that these results can be systematically reviewed.

Social/Emotional & Behavioral Gains

Interviews[18]:

Interviews with key informants such as CATCH’s founder, Jeffrey Whitt, and the Exceptional Children (EC) teacher who facilitates CATCH’s in-class peer tutoring, can provide insights into how CATCH operates, and how it could be improved and spread throughout DPS. A formal 20-minute interview with Mr. Whitt was conducted in March of 2013, and was used largely to inform other aspects of the evaluation design. Questions pertained to four domains:

1. Leadership role (What has allowed you to be a successful leader of CATCH?)
2. Obstacles (What are the most consistent challenges you face?)
3. Implementing CATCH in other schools (What do you think would make it feasible for CATCH to be implemented in another school?)
4. Recommendations for an evaluation of CATCH (What kinds of elements would you like to see included in an evaluation of CATCH?)

Two main themes that developed from my interview with Mr. Whitt were 1) the importance of a strong mentor-mentee relationship and 2) the need for passionate leaders were CATCH to be implemented elsewhere.

Surveys:

In the fall of 2013, tutor and tutee surveys will be used to assess student impressions of CATCH and important components of a successful tutor/tutee relationships identified by Mr. Whitt (e.g. high levels of communication, mentor-mentee comfort level)[18]. Student perceptions of academic gains do not always mean that academic gains
have occurred, but are indicative of academic self-concept, which can affect academic achievement [4, 19].

Both surveys included statements on a five-point agree scale and short answer questions. They addressed four main areas:

1. **Perceived academic impact** *(I am more confident in my classes since joining CATCH)*
2. **General personal impact** *(I am more likely to volunteer in the future because of my experience with CATCH)*
3. **Mentor-mentee relationship** *(I am comfortable with my mentor/mentee)*
4. **Perceptions of the program** *(What do you like most about CATCH?)*

In any future evaluation of CATCH, I would also recommend teacher surveys before and after students begin CATCH, in order to gain an outside perspective on enhanced student conduct and class participation.

**Observations:**

An observation protocol for the three types of tutoring sessions, in-class, after school, and Saturday, was designed to assess: 1) the facilitator/s (normally Mr. Whitt and/or another teacher), 2) group dynamics, 3) efficacy of the tutor, and 4) tutee engagement. It asks for ratings from 1 to 4 (4 being the greatest) on the extent to which certain behaviors are displayed. For example: teachers were accessible, but not overbearing; tutors and tutees were working well together (operationalized as frequent eye contact, displays of mutual respect, dialogue, etc.); tutors were confident and open to questions; and tutees were on task and comfortable asking questions.

**Preliminary observation results.**

1. **Saturday Session (April):**
   - Forty-three students at the session; roughly 17 groups
   - Students were very mobile: groups with multiple tutees were the most frequently off task
   - Observation of three consistent 1-on-1 tutor/tutee pairs
     - All exhibited high levels of on task behavior and engagement
Evidence that the program meets its goals when 1-to-1 ratios are maintained

Based on these results, I recommend that CATCH and similar programs emphasize tutor recruitment so that a one-to-one mentor-mentee relationship is maintained. Schools considering implementing similar programs should aim to have enough tutors to serve their tutees one-on-one before beginning.

2. In-class: Exceptional Children (EC) Language Arts Class (April)

- Thirteen students: 8 EC mentees & 5 mentors
- Compared to the teacher-led lecture in the first half of class, students appeared much more engaged and on task when doing group work led by their mentors

Based on the ease and effectiveness with which in-class tutoring was implemented, as well as the abundance of evidence that peer tutoring is particularly beneficial for students with special needs[9, 10], I recommend that Carrington and other schools work to expand in-class tutoring offerings, by making it an official elective for mentors and by offering it in EC math classes as well.

Conclusion

This evaluation plan seeks to assess both the academic and social/emotional gains for students participating in CATCH, in order to provide DPS with a potential model of a peer-tutoring program to utilize throughout the district. Evaluating CATCH and other existing programs is vital in determining best practices that other schools can and should implement. A fuller understanding of CATCH’s efficacy will allow the program itself to be improved and may also help in soliciting program funding.

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.
References


