

HEALTH AND WELLNESS



LOCAL



# Learning About Sports-Related Traumatic Brain Injuries

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“ I am trying to make a difference and save someone’s life. If I save someone’s life, I’ll know that I can help save many more. If I don’t do this or help get Second Impact Syndrome noticed, someone could die. ”

— Robert S., 8th grader at Buckeye Middle School

## What?

A few fast facts . . .

- ▶ Students and teachers wanted to help raise awareness about sports-related traumatic brain injuries.
- ▶ 80 eighth graders
- ▶ Teacher: Pam Reed
- ▶ Curriculum Area(s): Language Arts
- ▶ Community Partners: Capital University; Brain Injury Association of Ohio; The Ohio State University; Dublin Jerome High School; Nationwide Children’s Hospital; and Parsons, Cedarwood, and Watkins Elementary

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## The Big Idea

*Traumatic Brain Injuries are a leading cause of injury among youth. Proper prevention and awareness of the issue can help to save innocent lives. Traumatic brain injuries are especially prevalent in athletic youth. The eighth grade language arts classes at Buckeye Middle School helped to raise awareness among youth and helped to keep their fellow student athletes safe.*

## Investigation

This service-learning project idea was developed by the ideas and voices of the students. At the beginning of the school year, the students created *Imagine a World* statements. The most popular theme from these statements was “*Imagine a world without illness and injury.*” Researching this topic further, we discovered that **injuries are a leading cause of death among children and youth. Traumatic brain injuries are at the top of the list of injuries in Ohio.**

These 8th grade students were excited and engaged in this project because it was centered on sports-related traumatic brain injuries. This immediately caught the students’



interest because sports are prevalent in many of their lives. The students enjoyed that their homework was to watch a football game and count the number of head-to-head collisions. It did not really feel like homework to the students.

## Rigor, Relevance and Relationships

Service-learning has demonstrated the potential to provide a curriculum that is rich in rigor, relevance and relationships—three elements of learning that play a crucial role in the school improvement process, according to Bill Daggett and his associates at the *International Center for Leadership in Education*. Consistent with these elements, research clearly shows that students who participate in high quality service-learning experiences become more engaged in learning, more committed to their communities, and more empowered to make positive life and career choices.

*International Center for Leadership in Education, www.leadered.com*

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Once the students started learning about traumatic brain injuries and the consequences that could arise, it was easy for them to be emotionally engaged. The personal stories that they heard and read about were enough to tug at each of their hearts. **This emotional connection inspired the students to make a difference in their own school and keep their athletes safe.** ▶

## Preparation

The students learned about traumatic brain injuries for more than four weeks. The students read articles covering the issue. The students read personal stories as well as viewed personal video stories. They watched head-to-head collisions in football and learned

**RIGOR . . .** *One of the students' most significant demonstrations of their authentic learning was their presentation of the Concussion Management Plan to the Columbus City Schools Board of Education members and the superintendent. The students were also able to present their plan to handle concussions within the district to the superintendent's Cabinet.*

*-- Allison Cochran, AmeriCorps Fellow*

about the new National Football League (NFL) law regarding head-to-head hits. The students researched the Columbus City School Districts' concussion management plan that was currently in place.

A number of speakers came in and shared their knowledge on the topic

with the students. The speakers consisted of an athletic trainer from **Capital University**, a spokesperson from the **Brain Injury Association of Ohio**, the Director of **The Ohio State University's Division of Athletic Training**, a representative of **Nationwide Children's Hospital Sports Medicine Department**, and a student with a personal story from **Dublin Jerome High School** (Dublin, Ohio). The speakers helped to extend the students' understanding of traumatic brain injuries and provided the students with a deeper understanding from their expertise in the area.

Once the students became "experts" on the topic, they created their service-learning projects. These projects lead to a partnership with Columbus Public Schools elementary schools, where they presented their work in order to increase awareness among other students. In addition, they made a presentation to the CPS Board of Education. ▶

## Action

The students took action in nine different ways as a part of this service-learning project, all focused on raising awareness about this issue. **They informed children, youth, and even adults on their work.** They even gave a presentation to the Superintendent of Columbus Public Schools and her cabinet.

One of the projects that the students created was **a picture book on traumatic brain injuries**. They created their own written work as well as

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photographs for the book and then read the book to elementary students to raise awareness among younger children. The students **formulated a**

**RELEVANCE . . .** "With mine and my team's actions, I believe we will make a difference in the world. We may be saving a life with sharing our information on concussions and everything else we have learned about in our project."  
-- Sierra A., 8th grader

**concussion management plan for Columbus Public Schools that they then presented to the Board of Education.** They created an **awareness video** as well as a **second impact syndrome video** on Animoto with their own photographs and words. The students **designed a PowerPoint**

**presentation on player safety** to present to players and youth to help them see how, as a player, they can stay safe and avoid a traumatic brain injury. In order to help the players stay safe, the students hosted a school dance to **help get funding for their Baseline testing** (determines if a person has a concussion) for the teams. They also held a pennies war in order to help in this effort. The two fundraisers combined raised over \$800, enough to buy Baseline testing for 160 athletes at *Buckeye Middle School!*

These nine projects were created by students to raise awareness among others. The students created projects to spread the word about this prevalent issue. Their projects are making an impact community-wide. ▶

## Reflection

Students reflected in numerous ways on their work for this project. The most structured approach came from a *reflection journal*. The students were provided with a list of questions to choose from and reflected on each of the questions in their journal. This allowed the students to take silent time to reflect on their work and share how they personally contributed to the project.

In addition to their reflection journal, students also reflected within their work on their projects. **Students created Animoto videos, a PowerPoint, and a picture book.** All of these creative forms allowed the students to take the knowledge that they studied and reflect on that knowledge in order to create their own artistic take on the topic. ▶

## Celebration/Demonstration

The students celebrated their work throughout their presentations. The students traveled to *Cedarwood, Parsons, and Watkins Elementary Schools (Columbus City Schools)* **to teach the younger kids about concussions and bring awareness to these children early.** During their presentations students shared their *PowerPoint* presentation which contained the students' reflection on the information that they learned throughout their project. It shared what concussions and *Second Impact Syndrome* are, as well as what some of the side effects and symptoms are of these injuries. The presentation

## A typical service-learning project includes five components:

**Investigation:** Teachers and students investigate the community/world problems that they might potentially address. Investigation typically involves some sort of research and mapping activity.

**Planning and Preparation:** Teachers, students, and community members plan the learning and service activities, and address the administrative issues needed for a successful project.

**Action:** The "heart" of the project . . . engaging in the meaningful service experience that will help students develop important knowledge, skills, and attitudes, and will benefit the community.

**Reflection:** Activities that help students understand the service-learning experience and think about its meaning and connection to them, their society, and what they have learned in school.

**Demonstration/Celebration:** The final experience when students, community participants and others publicly share what they have learned, celebrate the results of the service-learning project, and look ahead to the future.

**Assessment** is part of all activities to ensure that the learning and development that occur through service-learning can be measured, and to help diagnose student needs, provide feedback, and improve instruction.

*K-12 Service-Learning Project Planning Toolkit. Created by RMC Research Corporation for Learn and Serve America's National Service-Learning Clearinghouse*

## K-12 Service-Learning Standards for Quality Practice

**Meaningful Service:** Service-learning actively engages participants in meaningful and personally relevant service.

**Link to Curriculum:** Service-learning is intentionally used as an instructional strategy to meet learning goals and/or content standards.

**Reflection:** Service-learning incorporates multiple challenging reflection activities that are ongoing and that prompt deep thinking and analysis about oneself and one's relationship to society.

**Diversity:** Service-learning promotes understanding of diversity and mutual respect among all participants.

**Youth Voice:** Service-learning provides youth with a strong voice in planning, implementing and evaluating service-learning experiences with guidance from adults.

**Partnerships:** Service-learning partnerships are collaborative, mutually beneficial, and address community needs.

**Progress Monitoring:** Service-learning engages participants in an ongoing process to assess the quality of implementation and progress toward meeting specified goals, and uses results for improvement and sustainability.

**Duration and Intensity:** Service-learning has sufficient duration and intensity to address community needs and meet specified outcomes.

Source: National Youth Leadership Council ([www.nylc.org](http://www.nylc.org))

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also covered a true personal story of a boy named **Preston Plevretes** whose life was drastically impacted by a head-to-head hit he took while playing football.

During their presentations, the students read the picture book that they created to the younger children. The book describes how a student acquires a concussion and the process of recovery. The *Buckeye Middle School* students are extremely proud of their work. **They created all of the text for the book, as well as took all of the illustration photos.**

The last part of the presentation is the video that the students created. This video starts by showing the true story of Preston Plevretes. Then the video showcases what the students have learned about *Second Impact Syndrome* and the short-term and

*"This is exactly the kind of learning (service-learning) our students need to be doing."*

*--Gene Harris, Columbus City Schools Superintendent*

long-term effects that come along with the injury.

**One of the students' most significant demonstrations of their authentic learning was their presentation of the *Concussion Management Plan* to the Columbus City School Board of Education members, including the superintendent.** The students were able to present their plan to handle concussions within the district to the superintendent's Cabinet.

These **students felt empowered** and did a phenomenal job. The board members were thoroughly impressed by the students' work and are taking to heart what they presented.

Based on this presentation, our students will be the "face"

**RELATIONSHIPS . . .** *"We were invited by Columbus City Schools Superintendent Gene Harris to participate in a Concussion Roundtable, where our students will have an equal voice in spreading the word and persuading the district's Board of Education to pass the Concussion Management Plan."*

*-- Pam Reed*

of concussion awareness and education. We were invited by Columbus City Schools Superintendent Gene Harris to participate in a *Concussion Roundtable*, where our students will have an equal voice in spreading the word and persuading the district's Board of Education to pass the *Concussion Management Plan*.

My students continue to surprise and shock me. The effort and time, over 3,200 hours collectively put into this work, speaks wonders about their capabilities. **The students were dedicated to making sure that their work was the best that it could be.** What was even more impressive was the fact that they created their projects on their own. I was there as a resource and to answer questions, but the students took their ideas and ran with them. It was all self-directed. ▶

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## Assessment/Evaluation

Students summarized the information they learned in their PowerPoint presentation, videos they created, and the storybook they wrote and illustrated. These **student-created projects demonstrate the learning that took place and the knowledge that these students now have** on concussions, as well as a number of curriculum standards.

**Students motivated and inspired their fellow classmates** to donate loose change to this project in order to keep their athletes safe, which ultimately raised \$360. They raised another \$450 from a school dance that they held with **benefits going toward buying Baseline testing**

**for the athletes at Buckeye Middle School.**

The students' presentations demonstrate that they are

*"During this project I felt like we were working on something important and real because we do some projects in school that don't mean anything but a grade. But this project is for a grade and it will change people's lives."*

*--Keondre' S., 8th grader*

experts on this topic. Their deep understanding on this issue is evident in their ability to spread the word to others. ▶

## Curriculum Connections/Standards

**Writing:** business letter writing, persuasion, essays, reflection journals, personal letters including thank you letters, presenting, and compilations

**Science/Math:** graphing

**Reading:** article comparisons, research, and narrative reading

**Art/Technology:** website design, PowerPoint design, and Animoto design

**Speaking and Listening:** preparing for presentation, presenting

*"I didn't think that doing a concussion project would open up so many doors into presenting. If what we do gets through (to someone), we could save lives."*

*--Amber R., 8th grader*

## 21st Century Skills

The Partnership for 21st Century Skills has identified the elements described in the sidebar on the right as the critical systems necessary to ensure 21st century readiness for every student. The Learning About Sports-Related Traumatic Brain Injuries service-learning project clearly demonstrates connections to many of the skills.

21st Century Skills addressed and demonstrated by the Learning About Sports-Related Traumatic Brain Injuries service-learning project:

- Global Awareness
- Financial, Economic, Business, and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Creativity and Innovation
- Critical Thinking and Problem Solving
- Information Literacy
- Media Literacy
- ICT (Information, Communications, and Technology) Literacy
- Flexibility and Adaptability
- Initiative and Self-Direction
- Social and Cross-Cultural Skills
- Productivity and Accountability
- Leadership and Responsibility

Source: The Partnership for 21st Century Skills ([www.p21.org](http://www.p21.org))

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## So What?

### Results and impact . . .

- ▶ 3,200 service and learning hours contributed
- ▶ \$810 raised to support baseline testing for Buckeye Middle School student athletes

## Now What?

### A Call to Action:

Now that you have read about Buckeye Middle School students/teachers and their efforts to help raise awareness of sports-related traumatic brain injuries, what could you and your students do to make a difference? Just like Pam, Allison, and their kids, there are people everywhere making a difference. Let us know what you and others in your community are doing by posting your information on . . . [partnershipsmakeadifference.org](http://partnershipsmakeadifference.org)

To learn more about how to find out more about sports-related traumatic brain injuries, log on to . . .

Brain Injury Association of Ohio:

[www.biaoh.org](http://www.biaoh.org)

Real Sports HBO:

[www.hbo.com/real-sports-with-bryant-gumbel/index.html](http://www.hbo.com/real-sports-with-bryant-gumbel/index.html)

ESPN 60:

Second Impact Syndrome—The Preston Plevretes Story

Brainline.org

Sports Concussions:

[www.sportscconcussions.org](http://www.sportscconcussions.org)

Ohio Athletic Trainer's Association:

[www.oata.org/index.cfm](http://www.oata.org/index.cfm)

When I first encountered the idea of service-learning, I wasn't sure how the "learning" came in. I mean, the service is always showcased and obvious. But when we worked on this project, **I was amazed at how much deep and impactful learning we accomplished.**

For example, we wanted to save college and NFL football players' lives after learning how damaging concussions were to them. First, we had a weekend homework assignment where I asked all of the students to watch one quarter of a game and record the *Hit History* of players—any head hits they could see. I invited families to help and students came back with stories of watching the game together. **Then we graphed the results to connect with what our math and science teachers were doing.** Finally, students chose the player with the highest *Hit History* and **wrote persuasive business letters to the players in an effort to save lives.** Students took this assignment very seriously. **Their letters were deep, thoughtful and profoundly compassionate.** Students have even received responses back! And this was an example of the learning – just imagine what they accomplished with the service! ▶

## Impact: Kids Using Their "Best Stuff" to Make A Difference

Working on our *Concussion Project* not only **gave students the opportunity to hone their leadership skills**—it was an essential part of their projects. Because there were nine projects spread out among students in four separate classes, it was **necessary for them to be completely self-directed.** I was merely a "moving facilitator."

**Students were the problem-solvers, leaders, planners, and creative developers.** They ran ideas past other groups, worked out plans to meet outside of the classroom and contacted adults independently to ask contributing questions to their project. It was amazing! In

our district, we strive for an 80/20 division of work: 80% student-directed, 20% teacher-directed. In our class during service-learning, it was practically 100% student driven!

Often, our Buckeye students feel completely disenfranchised from being able to contribute to society in a positive way. **Service-learning provided an outlet for students to become empowered.** They are saving lives—through the proposed implementation of the *Concussion Management Plan*, through presentations to elementary students, through the baseline testing that money was raised for, and through the projects that can be shared over and over. ▶

## Next Steps/Call to Action

The students will continue to present their project to schools as requested. They will also continue to work with the school district to help put into

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place an updated concussion management plan. **The group of students who created the concussion management plan have been invited to attend a Concussion Roundtable with the Head Athletic Director of Columbus City Schools, two specialists (a psychiatrist and an athletic trainer), as well as staff from Nationwide Children’s Hospital.** The students will see this project out until the end.

But beyond what we do in the classroom, these students learned

important and valuable lessons. My students care about keeping others safe and will continue to spread the word of what they learned to those that they meet. They will continue to save lives.

The *Center for Disease Control* has several resources for information to understand the signs and symptoms of concussions. **It is important that if you or someone you know has these symptoms after a blow to the head, you must take action.** ▶

## Other Insights . . . Reflections of the Teacher

There was a moment when I was asking my 7th period class how they felt about service-learning . . . would they want to continue onto another project after this one. Matthew L. said, *“Miss Reed, how could we ever go back? I mean, learning in the old way was just learning something and then turning it in. This is real and it means something.”*

In my heart, I feel the same way. Learning without true and authentic action is pointless and flat. My students always do well on standardized testing—but creating test-takers is not my goal. **Creating caring, compassionate citizens who are able and willing to take action to make the world a**

**better place—that is my goal, my passion, and my job.**

My best words of wisdom are “start small and build big.” Having a foundation of how service-learning works, and the struggles involved, can give you the courage and understanding to accomplish more the next time.

Sometimes in education, we are tempted to “bite off more than we can chew.” The result can be a burn-out effect, giving up in frustration because it didn’t work. Service-learning is a process—two steps forward and one back. The learning curve is equally as applicable for the teacher as for the student! ▶

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## What Ideas Can You Add?

“Creating caring, compassionate citizens who are able and willing to take action to make the world a better place . . . that is my goal, my passion, and my job.”

— Pam Reed, Buckeye Middle School

“I get so excited when it's time for 7th period because I know we are doing something great to help others.”

— LeAire N., 8th grader