

The Brain and Student Behavior

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Background That Led to Your Team's Inquiry:

PCMS staff and administrators had a chance to hear from Dr. Lori Desautels on the topic of current brain research and its impact on education beginning in May of 2017. The research centered around the effects of Adverse Childhood Experiences (ACEs) on students' preparedness and ability to learn. ACEs occur more frequently in instances of poverty, and they also have a tendency to cluster.

Students with a high number of ACEs exhibit symptoms similar to Post Traumatic Stress Disorder. As a result of their difficult childhood, their brain is in a near constant state of "Fight or Flight", rendering them nearly incapable of learning. In order for learning to take place in these students, they need to learn to regulate their emotions and stay in the learning centers of the brain.

PCMS has a high percentage of students who come from poverty, and therefore, have a higher likelihood of ACEs accumulating.

Therefore, the purpose of our action research was to educate staff and students on research based neurological practices in educations and implement a few simple strategies into daily classroom use.

Statement of Your Team's Wondering:

With this purpose, we wondered if regular, research based brain breaks and focused attention strategies along with education of staff and students about the role of the brain in learning could lead to a positive increase in classroom as well as overall school learning environment.

Methods/Procedures:

To gain insights into our wondering, we started by providing basic professional development to staff regarding the latest in educational neuroscience research. We then gave the student body similar education regarding the brain's role in learning over a span of three weeks. We followed up this education with daily "focused attention strategies led by staff and other students to begin the day. These focused attention strategies allowed students to practice techniques for regulating their own brain using breathing and movement techniques. Staff found and created short videos that demonstrated these techniques to students and then led practice of them. The practice of these techniques daily continued for the entirety of the 2nd semester. Teachers were free to use focused attention strategies and other brain breaks more frequently if they chose to. As research also shows that a sense of belonging and connectedness makes students feel more comfortable and trusting, PCMS created opportunities for students to be part of clubs on a weekly basis.

The team collected data on discipline referrals, attendance, and club attendance. Club data was analyzed using Excel software, and attendance and discipline data was analyzed using a combination of Harmony SMS and Excel software. Students were also surveyed about the level of anxiety they felt at home and school, as well as how comfortable and knowledgeable they felt in managing their own emotions both at home and at school.

The data collection period was from January to mid-April. Administration and teacher leaders analyzed the data over a period of several days in April. Specifically, the team compared the difference in attendance data from 1st semester to 2nd, when the strategies had been put in place, as well as the number and type of disciplinary incidents that happened in 1st semester compared to 2nd semester.

Stating Your Team's Learning and Supporting it with Data:

As a result of analyzing our data, two important things we learned include: 1): Students felt a great deal more anxious, worried, or nervous while at school than they did at home and also did not understand how the different parts of the brain worked together before PCMS provided education on the topic. 2): Students learned a great deal as a result of the school's educational efforts regarding the brain.

Providing Concluding Thoughts:

As a result of the research cycle just concluded, our team has learned a great deal about the brain's role in education and the importance of getting the brain ready to learn for all students. Our staff and students were made much more aware of how difficult it can be for some students, specifically those with a high number of ACEs to get their brains ready to learn. We also learned that until the brief education provided to staff and students, that much of the information and knowledge about the brain and its role in learning was largely unknown to both groups.

Our team learned that many teachers on PCMS staff want to do what is best for students and when given logical, concrete information and practical ways to apply it, there are several teachers who are willing to take risks in applying this new understanding of best pedagogical practices into their classrooms. Perhaps not coincidentally, these teachers often most willing to take these risks are often our school's better teachers. In part as a result of some of the baby steps that PCMS has made, the school corporation sees the need for more staff professional development in this area. Our team of teachers presented some of our findings to the school board and was able to convince the board approve an early release day in May of this year in order to give all corporation staff some basic understanding of how current educational neuroscience can and should be applied in the classroom. The board also approved regular early release days for the next two calendar years to make this kind of training possible in the future as well.

The new wonderings that our team has is how to best continue to apply current educational neuroscience in individual classrooms as well as the building as a whole. The team is making plans to expand our efforts by creating a "recovery room" where students who are emotionally triggered can go to calm themselves before returning to their regular classes.

References:

N/A