

BYRAM HILLS CENTRAL SCHOOL DISTRICT  
ARMONK, NEW YORK

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**Title of Project:** *Designing a Classroom to Meet the Needs of a Student in the 21st Century*  
**Year:** 2015-2016  
**School/Grade:** H.C. Crittenden Middle School, 6th grade

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SUMMARY OF *INVESTIGATORS OF PRACTICE* ACTION RESEARCH PROJECT

**Context:**

Life for a student in 2016 is quite different from that of a student in 1992, the year I started teaching 6th grade at HCC Middle School. By and large, however, the physical setup of the classroom has changed very little. New technology such as the introduction of Google Classroom and the 1 to 1 Chromebook program has presented both new opportunities and new challenges for our students as well as their teachers. In addition, there is a greater emphasis today on teaching methods such as differentiation of materials, co-teaching, using collaborative groups in the classroom, and critical thinking skills. With all of these changes, would changing the environment itself be beneficial? Are there better ways to set up the class to allow for more collaboration, further differentiation, and easier facilitation of the new technology? By investigating different furniture options and the way classrooms are set up, I hope to be able to change the physical environment of my own room, resulting in benefits for my students.

**Action Plan:**

The focus of my research this year was: How might we design a classroom to meet the needs of a student in the 21st century? While this question was on my mind throughout my first year using the co-teaching model, which was also the first year we were using the 1 to 1 Chromebook model, I felt limited in my ability to make any real furniture changes as my own budget did not allow for it! In June, 2015, however, Assistant Superintendent for Curriculum Dr. Tim Kaltenecker, asked if I would like to be part of a pilot program to investigate new classroom furniture options. I was more than happy to take part. Thus, I have spent the past year researching new classroom furniture, reflecting on what my own needs are, surveying students on their needs, and working with Dr. Kaltenecker to put a Byram Hills Education Foundation grant in place to fund the changes for my classroom. While we are still waiting to meet with the furniture people and to get things going, I now feel I have a better focus on what changes I'd like to make in my classroom to create an environment that will encourage more collaborative learning opportunities for my students.

Although research on the topic of classroom furniture was not as extensive as others, I was able to read some articles that were helpful. One was *Are You Hacking Your School's Learning Spaces?* posted on [www.middleweb.com](http://www.middleweb.com) on 8/17/14. Here, digital designer and strategist David Jakes makes a great observation:

"I'm wondering why the spaces that students inhabit for learning haven't received more attention in the conversation surrounding 1:1 implementations. . .Can you afford to miss the potential catalyst that 1:1 computing can be for rethinking spaces? Are you satisfied by placing that capacity into a classroom that has a decades old collection and arrangement of furniture and space?"

The article goes on to state that learning spaces in the 21st century need to be:

- Flexible
- Connected

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- Collaborative
- Multisensory and
- Graphic
- The new spaces need to be a blend of physical and virtual environments

This article was particularly helpful as it had many additional links and was a great starting point. In addition, the work my colleagues Dawn Selnes and Dr. Andrew Taylor compiled on how to rethink learning spaces was an excellent resource for me. While they are focusing on making changes to a technology lab, their recommendations to consider the lighting and even the colors of the room helped me to remember to think outside the box and not just limit my focus on the shape of the desks. As they state in their [Rethinking Learning Spaces](#) presentation, “The learning space should reflect what you value.”

What do I value in my classroom? I hope my students know I value kindness, respectful dialogue, teamwork, and a feeling of comfort and safety, but is the current set up of my classroom reflecting these things? My room has the desks set up in tables of four to allow the kids to work in groups, but could I do better? I have my own desk at the front of the room taking up some prime classroom space near the Smartboard screen. The kids’ desks are rather big and can be difficult to move quickly, so they pretty much stay in the “4 desks in a table” form. The Smartboard is off center in the front of the room so it can be hard to see it from one side of the room. What changes should I make to this set up to improve my students’ learning and overall experiences? Thus my own personal reflection and journaling was an important part of this process. An article posted online on January 11, 2016, in the [Sentinel Tribune](#) about a school in Ohio made me reflect further on my current classroom set up. “Traditional classrooms look mostly the same - rows of pupil desks facing the same direction, with a board and the teacher's space at the front of the room, as well as a large desk of their own. New models buck that trend, opting instead for a more open feel that is often notably missing that familiar desk at the front of the room. Teachers will still have space for supplies and lesson materials, but their own workspaces will be together in a different area.” An article from Smith System on [color choice](#) in the classroom was also interesting. “Calmness, relaxation, happiness and comfort are feelings elicited by colors such as green and blue. While it is best to have a calming and neutral color on the walls, furniture can add a splash of color to an otherwise dull classroom...Select yellow furniture to elicit feelings of liveliness, energy, happiness and excitement. Red and orange in small quantities can also demand attention and attract learners’ attention to detail – a great way to lead students to a certain part of the room for an engaging activity.” Reading these articles made me realize I am ready to make some (bold?!) changes in the arrangement of my classroom, and the grant money will allow me to do so.

What do my students value and want? To address this question, I surveyed my students and asked Deb DeFrancesco, my colleague who teaches the other half of the sixth grade social studies sections, to do the same. We surveyed them in September, November, and again in February. My goal was to determine what desk arrangement helped promote kindness and collaboration amongst the students, as well as what they felt about the classroom in general.

**Results:**

By February, 80% of the students surveyed reported that sitting in table groups helped them become more comfortable working and talking with new people. 67% stated that having the teacher change seats often helped them become even more comfortable working and talking with new people. Thus, flexible groupings is something that both my students and I value. In addition, students made comments on the following aspects of our current classroom environment:

Desk size: Most students report either wanting a larger desk or liking the current desk size.

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Chairs: There were more more negative reactions to the chairs than to the desks. The majority would like to have chairs that have cushions.

Lighting: Responses here are positive to current lighting, but some are expressing an interest in colored lights, dim lights.

Projection screen: Most students report that it is fine, but some report wanting it larger.

Storage area: Students report positive feelings on current storage although some feel there should be more shelves or a better place to store their large binders.

A priority for the students was definitely new chairs and desks. The reasons they gave for wanting these new furniture items often had to do with their comfort, but students also reported that new chairs and desks would improve their ability to focus and decrease their stress level:

“Kids would be more comfortable and have a better learning experience not just be uncomfortable where they sit. It should be a happy place with a comfortable seat.”

“I think that changing the chairs to have cushions would improve or learning space. During a test it sometimes is really stressful and having cushions on the seats would help us to relax and calm down. With rolling chairs, we can roll our chairs across the room without having to pick them up, they're kind of heavy. And if you drag it, it scratches the floor, and makes annoying sounds. Rolling chairs can 100% improve that.”

“...it would help because then everyone would be a lot more comfortable in their seats and maybe be willing to learn more since it's comfortable, and if they had wheels everything would be a lot easier and we don't have to turn our body we could just turn our chairs in like 1 second.”

“When I am comfortable, I can learn more efficiently compared to when I am uncomfortable.”

“[Change the] chairs because if you are not comfortable while doing something from classwork to a test you will not be able to concentrate more.”

The students' responses on these surveys were somewhat surprising to me. While I expected them to do some critiquing of the comfort of the chairs they sit on, I was not really expecting to see such a connecting to their own learning. Students clearly linked their ability to concentrate and do well to how physically comfortable they are in class. Thus, while I value kindness, respectful dialogue, teamwork, and a feeling of comfort and safety, it is clear that changes could be made to the set up of my classroom to reflect these things better.

**Implications:**

As a result of my work this year, I am hoping to make changes to my classroom which will create an even more positive learning environment for me and my students. The grant from the Byram Hills Education Foundation will help make these changes possible. Depending upon the schedule and funding available, I hope the changes my students in September will see include the following: (I am trying hard to think outside the box!)

-New desks: allow for flexibility and collaboration (on wheels, can change height, can be arranged

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into various sized groupings), large enough work space for students and storage area

- New chairs: more comfortable for students to increase their focus and ability to work

- Elimination of large teacher desk: rolling podium instead to allow for movement around the room, open up more space

- New storage/flexible large group areas: possible fold-down shelves or tables, elimination of some of the old, non-functioning shelves

- New computer monitors positioned around the room: allow for easier access of material when working in groups, allow students in all areas of the room to see material, allow for more multi-sensory, visual lessons

- Paint: Green and/or blue on the walls, perhaps a different chair color?

- Air Conditioning: powered by a solar panel (!?!)

- Lighting: Possible new shades to allow for natural light while students can still read/see the monitors

- Room dividers: Rolling screens for artwork but also to divide kids into groups

While my research this year focused on the changes I'd like to make in my classroom for my 100 sixth grade social studies students, I am also the advisor of the HCC Student Council, now called S.A.I.L., for Students Acting in Leadership. My other interest in this topic of setting up and using the physical space to better benefit the students and staff stems from my work in this capacity. One complaint of many sixth through eighth grade students that is voiced by those students running for a position in SAIL, centers on the setup of the tables in the cafeteria. Currently the round tables allow for eight students to sit together. Thus, a large grouping of students must break their group up at lunchtime into more than one table. Who will be left out? This is a cause of great distress for a middle school child. Trying to avoid this lunch-time stress can become a primary focus of the kids, and even their parents report how difficult navigating the lunchroom can be for their children. Can the setup of the cafeteria be changed to create a more welcoming environment for all students while still meeting the safety and efficiency needs of the staff? As I investigate furniture options for my 6th grade classroom, I would like to keep this question in mind as well. Perhaps this is a Byram Hills Education Foundation grant of the future!