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Chapter

Building Community and Fostering Health and Well-Being through a Collaborative School Based Project

Abimbola O. Asojo, Hoa Vo, Suyeon Bae, Chelsea Hetherington, Sarah Cronin and Judy Myers

Abstract

This article presents lessons learned from collaborative service-learning projects aimed at bridging the gap between theory and practice by providing students design experiences in authentic settings. Interior design students gained disciplinary and civic benefits while problem solving for a preK-5 elementary school calming room, dining room, and teacher sanctuary. The elementary school teachers and staff reported the redesigned calming room supported students' emotional and self-regulation skills. Teachers and staff also reported the dining room and teacher sanctuary supported the school community well-being. The authors' present findings and hope the article can serve as a model for educators interested in community building service-learning projects in school environments.

Keywords: Community, collaborative, service-learning, civic benefits, interior design

1. Introduction

Several researchers have presented how community engagement enhances partnerships between the University and the public while providing positive impacts on learning experiences [1, 2]. This article discusses a partnership between a school community and University in the design of the school calming room, dining room, and teacher sanctuary. Calming rooms have been found to support the well-being of children and youth, particularly in improving their self-regulation skills. Calming rooms are spaces that students can retreat to when they feel particularly agitated or dysregulated [3], and trauma-informed care approaches support the creation of such spaces where students can learn to better self-regulate [4–6]. Such spaces utilize design elements that facilitate calming and relaxation, such as soothing colors, like blue, green, and violet color palettes, and minimal stimulation [3, 7]. Calming rooms, or "sensory rooms", have largely been implemented with children and youth in residential psychiatric settings and juvenile justice facilities. For schools, this is a relatively novel approach, with limited empirical research on its impacts. Anecdotally, teachers have reported that calming rooms in schools have led to improvements in self-regulation [4]. Teachers have also reported that children

have a positive view of calming rooms as a quiet, peaceful space to retreat to when something is bothering them [8, 9]. As such, improving self-regulation skills, which are often negatively impacted by chronic stress and trauma [10, 11], is a fundamental goal in supporting children's health and well-being. Dining and cafeteria spaces can be another source of influences on students' mood. A friendly, family-like, and collaborative eating environment boosts comfort and relatedness in children [12]. While elementary students can experience the primary effects of trauma and stress, other school personnel also suffer from secondary effects. Teachers and staff are involved in students' development, and in need of health and well-being support [13, 14]. A teacher sanctuary provides space for teachers and staff to refuel and rejuvenate in the school environment.

2. Elementary school calming room project

The University of Minnesota Extension Children, Youth, and Family Consortium collaborated with Bruce Vento, a local elementary school, to capitalize on the strengths of the school and its community in supporting its students [15]. The project partners worked together to identify the biggest areas of need in this East Saint Paul school, which is under-resourced with a diverse student body, many of whom experience chronic stress and behavioral dysregulation. During the process, the implementation of a calming room to provide a space for students to develop self-regulation skills was derived. The University personnel then connected with the Interior design program to join the project partners in the design process. This led to the integration of the calming room project in a sophomore level interior design course at the University of Minnesota in spring 2015 taught by the first author. Interior design students were able to connect directly with the community through site visits and working with the school staff to learn more about the design problem and existing conditions (**Figure 1**).

2.1 The design

The project goal was to redesign the existing institutional looking calming room in Bruce Vento elementary school to foster students' self-regulation. In several days in a design studio course, 23 interior design students worked in groups of three to design a safe place for children to express emotions, develop effective coping skills, and learn self-regulation skills. On day one, students visited the school to meet with the principal, counselor, and teachers in the existing calming room. On day two, students presented their existing space analysis and building system report then developed their concept and schematic designs (2D floor plan and 3D interior vignette sketches) in studio. On day three, students presented their concept and schematic design to the clients and for their feedback. Days four and five were spent in the studio finalizing the design with the instructor's feedback and desk critiques. On day six, students presented finalized design drawings to the school principal, counselor, representatives from the University of Minnesota Extension Children, Youth and Family Consortium, a local architect, instructors, and their peers.

After the presentations, two groups had their design solutions selected and incorporated in the actual space. The first group proposed a design to allow children experience a personal adventure (**Figure 2**). The second student group proposed the space to be a haven for students and enable them to self-regulate quickly, efficiently (**Figure 3**). The implementation of the final calming room (**Figure 4**) was within a limited budget of $4975. A large bean bag chair and four cubbies filled with



Figure 1.
Bruce Vento School Exterior and former Calming Room Interior Condition (Source: Pictures by Author 1).

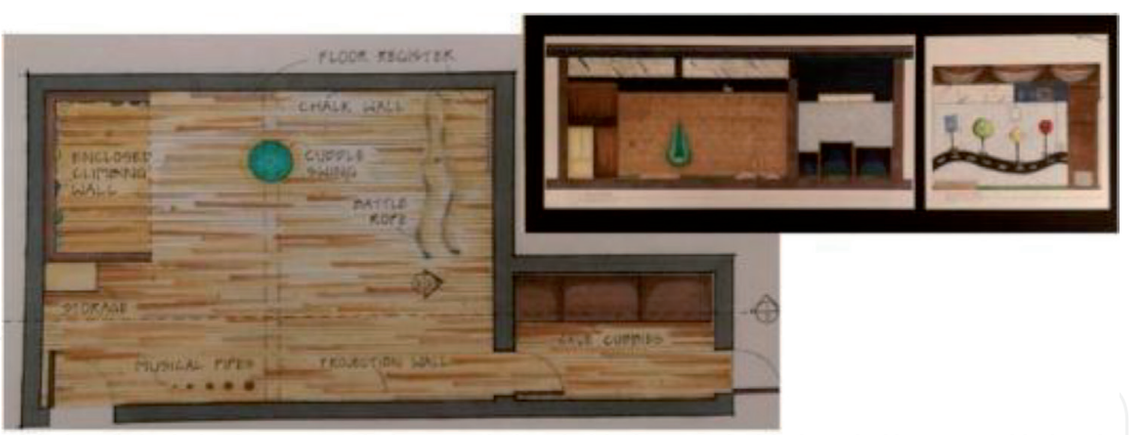
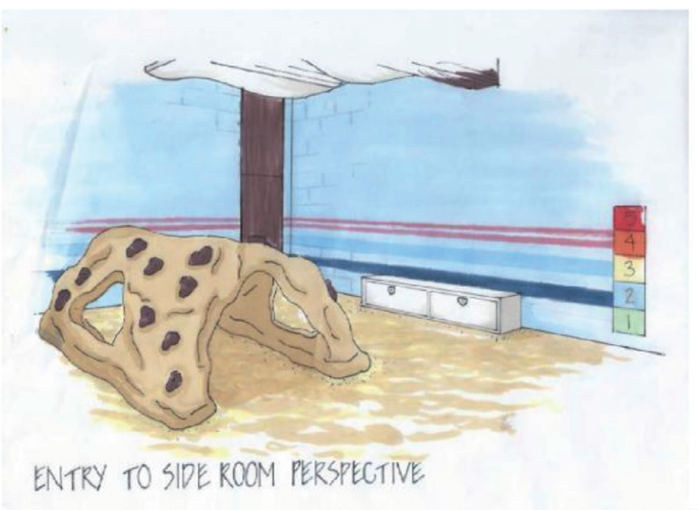


Figure 2.
Design proposal by student team to allow children experience their personal adventure (Source: Emily Devore, James Thoma, and Hailey Wrasman, Spring 2015 IDES 2604 Interior Design IV course).

soft pillows were incorporated in the space to help students relax and regulate their emotions. The cubies provided a crawl and snug space for students. Nature inspired imagery were placed on the wall since the space lacked direct sunlight to provide connection to the natural environment. Cloud ceiling panels were used to soften the harsh fluorescent lighting and the huge rug softened the space and provided connection to nature. The wall labyrinth mural, blues, greens and earth tones colors in the space were used to create a soothing atmosphere for the students. A dark blue color accent on the upper portion of the wall was used to reduce the impact of the high ceiling and make the anthropometric proportion and height of the room more relatable for the students. The simplicity in the new space was to avoid over stimulating the students and help them relax and self-regulate.





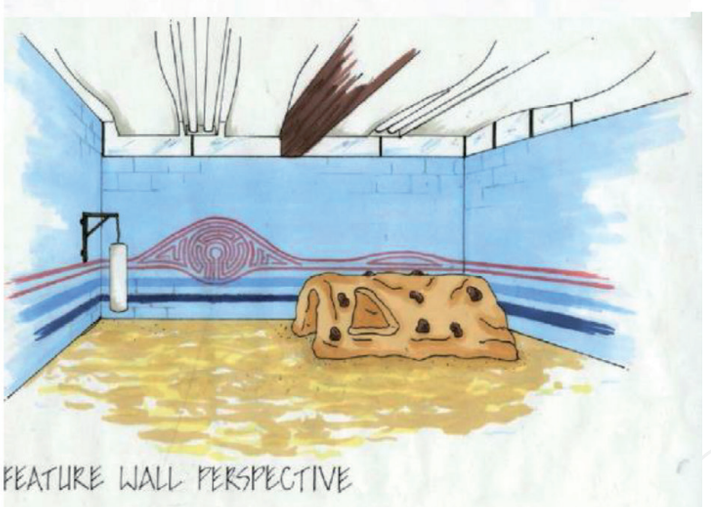


Figure 3.
Design proposal by the student team proposed the space to be a haven for students and enable them to release their anger quickly, efficiently, and safely. Light and dark blues with small amounts of light pink and dull yellow were used to create a tranquil environment. Curved lines were repeated throughout the space to imitate the soft curves of waves and clouds (Source: Rachel Grothe and Hannah Segar, Spring 2015 IDES 2604 Interior Design IV course).

2.2 Evaluation

To study the impact of the redesigned calming room, interviews were conducted with teachers and staff in fall 2016 (n = 20). 11 participants reported being teachers, 5 were behavioral staff (e.g., school social workers), and 4 were other school staff. In the first part of the interview, two interviewers asked teachers and staff to reflect on the impact that the calming room had on students and the school environment. In a second part of the interview, teachers and staff were asked about the impact of other aspects of the partnership, though those results are not detailed here. Interviews were then transcribed and coded for themes.

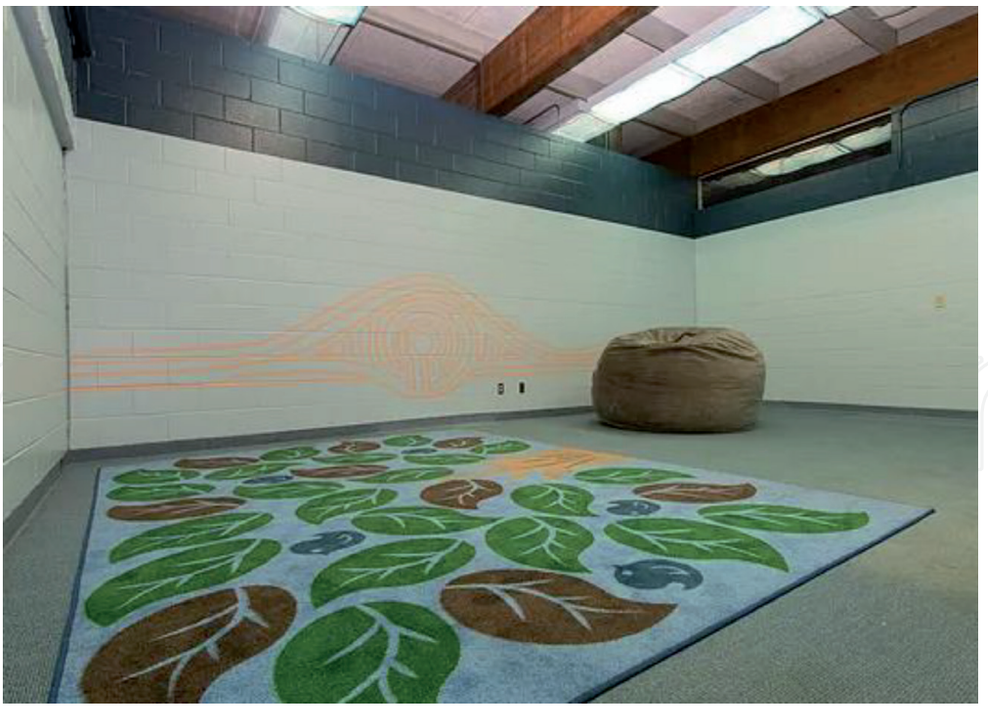


Figure 4.
Finalized Calming Room Space from University of Minnesota Extension (Source: https://bventoumn.wixsite.com/bvento/calmingroom).

Seven themes were identified as follow (1) teachers and staff play a role in helping students calm down, (2) that the use of the calming room supports students in getting back to class sooner, (3) that the calming room has improved the school environment, (4) that students ask to visit the calming room, (5) that the calming room has improved students' self-regulation, (6) that the calming room has increased physical safety, and (7) the importance of simplicity in the calming room design.

2.2.1 Theme 1: Staff help calm

The most prevalent theme (81% of interviews) mentioned in teacher and staff interviews reflected the importance of staff when using the calming room. Even though the calming room was designed with features that promote self-regulation in students, the staff are also an important component to the success of the room:

> *"It gets them back on task again. When they're ready, we can tell and then the students [are] able to talk, you know, we can... process with them a little bit and see what's going on. By the time they go back to the classroom, they're ready."*

The school staff are also important supports that help students stay calm outside of the calming room:

> *"The social workers in our building have been training the entire staff on trauma and how that affects students and what can help students... to self- regulate when they're in the classroom and try and catch on before it escalates."*

Staff also play a role in helping students see and realize that the calming room is a safe space for them – not a place where they are being sent as a punishment:

> *"When they walk into the room, they think they're being isolated... [I say] 'This is just to reset you, to get you back on track.' So in the beginning, you have to explain*

> *to them, 'No, this is not a punishment, this is not a secluded room for you, this is a room that's supposed to be soothing and getting you to know what you're supposed to be doing, getting you back on track."*

These examples provide evidence to the value added by teachers and staff both in the calming room itself and in supporting students' emotion regulation.

2.2.2 Theme 2: Back to class

Another key theme (69% of the interviews) uncovered in the data was that due to the implementation of the calming room, students are returning back to class sooner and more regulated than they did before the calming room was re-designed. One staff member described:

> *"I think it can help kids get back to class faster... whereas before...they did not have that place."*

This outcome is particularly important – if the use of the calming room is leading students to return to the classroom more quickly than before, then they are losing out on less classroom time and can spend more time learning. Students are returning to class more focused and more regulated after having used the calming room:

> *"Once we leave [the calming room], they're more engaged when they go back to the classroom. I think they're more engaged then when they first come into the building in the morning."*

This has also had an impact for students who do not spend time in the calming room, in that their classmates who do use it are returning to class more calm and are less distracting:

> *"It not only helps them, but it also helps the rest of the class so the learning can continue for the other 27 students while that student is calming themselves down, and they come back a lot calmer. ... It's been a lot better than trying to deal with it all in the classroom."*

2.2.3 Theme 3: Improved school environment

The calming room has also benefited the overall school environment (69% of the interviews). Teachers and staff across all types of backgrounds and experiences commented on the reduction in "chaotic movement" in the school. A staff member who spends most time outside of the classrooms reported a notable change in the overall environment:

> *"I know that before the calming room... [it] wasn't as great and it has improved. I can tell that the building is calmer in general."*

Another staff member said, "We don't have as many things being damaged since the room has come into play."

Due to the calming room, students are damaging less and not roaming the halls as much as they did in the past. One staff member even noted the calming effect that the room has had on staff:

> *"I think it's also calming for the staff, I really do. To know that they've got a specifically designed place to take their students, that they're not going to be judged by administration. They're not going to be judged by other staff members... Sometimes if they are going to the library, or the family center it's like 'Oh, they are messing around.'... 'Are they just being allowed to do whatever they want?' But in the calming room, they're not judged there. You take your student there for a specific purpose and you're not judged, so I think it's good for the staff too."*

2.2.4 Theme 4: Students ask

Another theme (69% of the interviews) revealed in the data is that students request to go to the room when they need to calm down. One staff member said: "Some of them have even said, you know, 'I need a break, can I go to that room?". Another staff member reflected upon the usefulness of the calming room for a specific student:

> *"After a while it would seem like he knew that's where he was going so [he would] go and run, he would like run to the room and it's unlocked. And it happened at least once I remember, where he was somewhere in the building... and I found him in there on the bean bag [in the room]."*

Students recognize that the calming room is a positive space they can retreat to when they being to feel dysregulated:

> *"I know that students are being a little more proactive. They're asking to go to the calming room if they kind of starting to get agitated ... they kind of start to get a little agitated or escalating behavior so and they're asking to go there before like: "I just need a break can I go there?" ... It's giving them a tool to kind of regulate their own behavior and you know kind of notice where they are themselves you know some kind of watch themselves."*

Students ask to use the room, willingly take themselves there, and are learning to monitor themselves to know when they should visit it proactively provides evidence that students recognize the value of the calming room.

2.2.5 Theme 5: Emotional regulation

Many of the interviewees reported the room helps students with emotion regulation (63% of interviews). A specially designed space such as the calming room is a key important factor to encouraging students to learn emotional regulation. For example, one respondent said:

> *"The kids seem to be very engaged when they are in there and it does seem to really work its purpose."*

Another staff member commented on the significance of having a room specifically devoted to student emotional regulation rather than a space designed for academic uses:

> *"They stop things from escalating, you know, they gave the student a safe place to go. It wasn't a teacher's office, it wasn't an academic setting per se, so he was able to just go and de-escalate... It's giving them a tool to kind of regulate their own behavior."*

Other staff members also reported how beneficial it was to have a space specifically designed as a calming room:

> *"Before it was there... we would take them to a room and just calm them down but... it didn't have the same calming effect."*

2.2.6 Theme 6: Safety

Teachers and staff reported that the design of the calming room promotes physical safety for students (63% of interviews).

> *"Especially compared to the way it was before the renovation, it's safer now. That's number 1... We're able to just let them be and we don't have to stop them from playing with the sink or go to the pipes or the TV or whatever you know... It's a safer space."*

Interviewees reflected that students are able to express themselves safely in the calming room. One respondent said: "They know it's a safe place." Another component of the theme of safety is that because the students ask to go to the calming room and feel it is safe, staff are less frequently required to use less physical escorts with students:

> *"[Students] are more than willing to walk there without having to be physically escorted."*

The need for fewer physical escorts promotes increased student safety. One teacher commented on the value of having a safe calming room:

> *"I can't imagine not having a safe space like that for when someone gets really dysregulated."*

2.2.7 Theme 7: Simplicity supports regulation

The minimalist, simple design of the calming room is a key facet of its success (25% of interviews). One staff member commented that when a student escalates emotionally they need to "get away from the stimuli." A staff member described the importance of a simple space to promote emotion regulation:

> *"Less is more. So the more things in the room, the more distractions, the more heightened alertness and everything the students already have that they have to deal with."*

A minimalist design also promotes student safety:

> *"[Students] try to find something to break and there's nothing to break, which is great."*

3. Elementary school dining room project

As a result of the positive feedback from the school community about the redesigned Calming room (**Table 1**), the University of Minnesota Extension Children, Youth and Family Consortium initiated another project. This time, the dining hall

Theme	Percentage of sample
Staff help calm	81.25%
Back to class	68.75%
Improved school environment	68.75%
Students ask	68.75%
Emotional regulation	62.5%
Safety	62.5%
Importance of simplicity	25.0%

Table 1.
Themes related to the calming room (n = 16).

at Bruce Vento became the venue for renovation. An undergraduate Interior design student collaborated with the first author in a funded undergraduate research project to develop design solutions for the dining space taking into account the need for a healthy eating and trauma-sensitive space [16]. The project goal was to reduce the noise level and address circulation issues in the existing dining space. The original dining hall's loud eating environment, institutional atmosphere, and a limited amount of natural light contributed to a sterile environment (**Figure 5**). These characteristics can negatively impact disruptive behavior especially in students with behavioral challenges. The University of Minnesota Extension Children, Youth and Family Consortium staff, interior design team (author 1 and interior design student), and the Bruce Vento team explored best practices to have a positive impact on the dining hall at the school and toured the design spaces of a leading edge school, the Creative Arts School in St. Paul to study best practices and gain inspiration.

3.1 The design

To create a welcoming and nurturing dining environment to foster students' learning and to support their health several ideas emerged from research, ideation and team brainstorming. The ideas included creating a teaching kitchen space for nutrition educators to use with students and families, promoting family dining style



Figure 5.
Bruce Vento dining hall former Interior condition. (Source: Picture by Author 1)

and healthy eating through round tables, and solving acoustical problems by adding sound absorbing materials in the dining space (**Figure 6**). Recognizing there is no simple solution and "one size does not fit all," the team prioritized six design solutions (**Figure 7**): (1) sound reduction materials, (2) family style eating to increase times for eating, (3) natural elements create calming and restorative environment, (4) teaching spaces for students and parents, (5) communal eating spaces, and (6) glass walls that provide light and open feeling. However, due to the financial restriction, the team was only able to implement a design that reduced noise levels and enabled positive interactions. The team focused on one major change, which is a shift from long, rectangular tables to round tables (**Figure 8**). The round tables were funded through an internal grant received from the University of Minnesota by Author 1.

3.2 Evaluation

As mentioned earlier, the team was able to only change one major thing, the furniture which is a change from long and rectangular tables to round tables. One small change was enough to make a big difference. In the new layout, condiments, napkins, and utensils were placed in the center of each table, based on dining room workers' input. This placement reduced noise levels dramatically because students did not need to get up and retrieve condiments or utensils from the other end of a long table. Both the dining hall workers and students noticed the change and liked it. In a quieter and calmer dining hall, students' stress levels may decrease and they are making better food choices and having richer interactions with their friends. A 5th grader told 5abc Eyewitness News, in an interview regarding the design intervention at Bruce Vento elementary school, "Last year it was very loud, and this is a little bit more quiet… when nothing is loud, it is all peaceful" [17].

The teachers' feedback on the dining hall renovation was also positive. 91% of the teachers surveyed preferred the new round tables in the dining hall. The teachers reported the round table, above all, created senses of "inclusivity" and family style dining which encouraged students to interact and socialize while staying



Figure 6.
Bruce Vento dining hall schematic design. (Source: Rendering by Miranda McNamara).

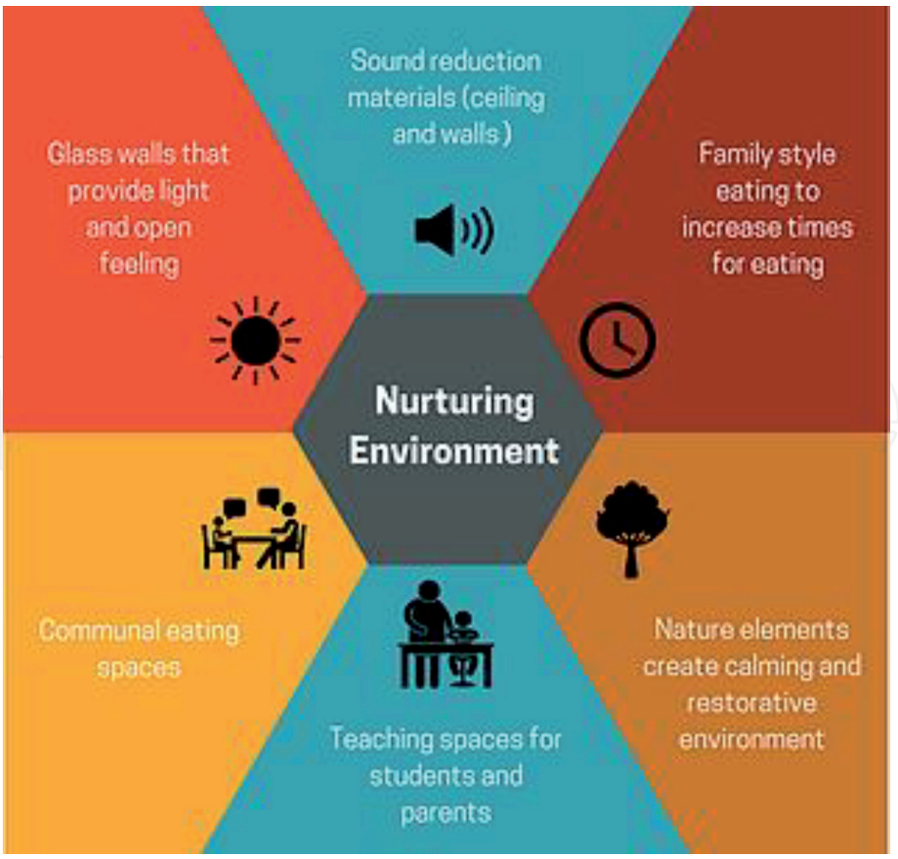


Figure 7.
Six prioritized design solutions for Bruce Vento dining hall redesign (Source: https://bventoumn.wixsite.com/bvento/calmingroom).



Figure 8.
Finished condition of Bruce Vento dining hall with the round tables (Source: https://bventoumn.wixsite.com/bvento/calmingroom).

seated. As the staff observed, the dining hall became less "institutional" and more "communal" which turned the overall atmosphere into "kinder" and "gentler". Suggestions for future improvements of the dining hall include "adding more components to contribute more to the family feel", adjusting current lighting conditions (e.g., "too harsh", "lower light", etc.), and providing wall storages to optimize student circulations.

4. Elementary school teacher sanctuary project

Both the calming room and dining hall contributed to the healthy development of elementary students in Bruce Vento School. These benefits of the new environments had to be extended to the school resource staff and teachers. As influencers who make significant differences in student success, teachers and school staff need the time and space to recharge and refuel for their important job of leading children's development. This led our interdisciplinary team and the school to collaborate on renovating the current teacher lounge (**Figure 9**). The goal of the space was to accommodate the needs of teachers, paraprofessionals, and other support staff during the day [18].

4.1 The design

As the first step of the design process, a need-analysis was conducted by engaging teachers to understand their expectations and necessities. The need analysis involved a wide range of methods including face-to-face conversation, in an online survey, and in an informal focus group in their lounge space. Throughout the processes, the team learned that the current lounge was not used frequently by many teachers due to several reasons (e.g., not an appealing environment, not properly functional amenities like the sink and cupboards, and lacked a sense of permanence with frequent changes in physical location). Based on these current problems and the teachers' needs, three guiding principles and strategies for the new teacher sanctuary were defined: (1) start small, and add more later; (2) build for multiple uses: community, relaxation, eating, and refueling; and (3) accommodate both teachers and teaching support staff.

> *"Relaxing lighting, comfortable seating, food preparation [space],[piped-in] music, wall decorations, [a] staff kudos board, places for information to share with staff. So much opportunity!"*

Within the three guiding principles, the team took several considerations for the project: (1) infusing natural light through lamps; (2) creating distinct spaces with

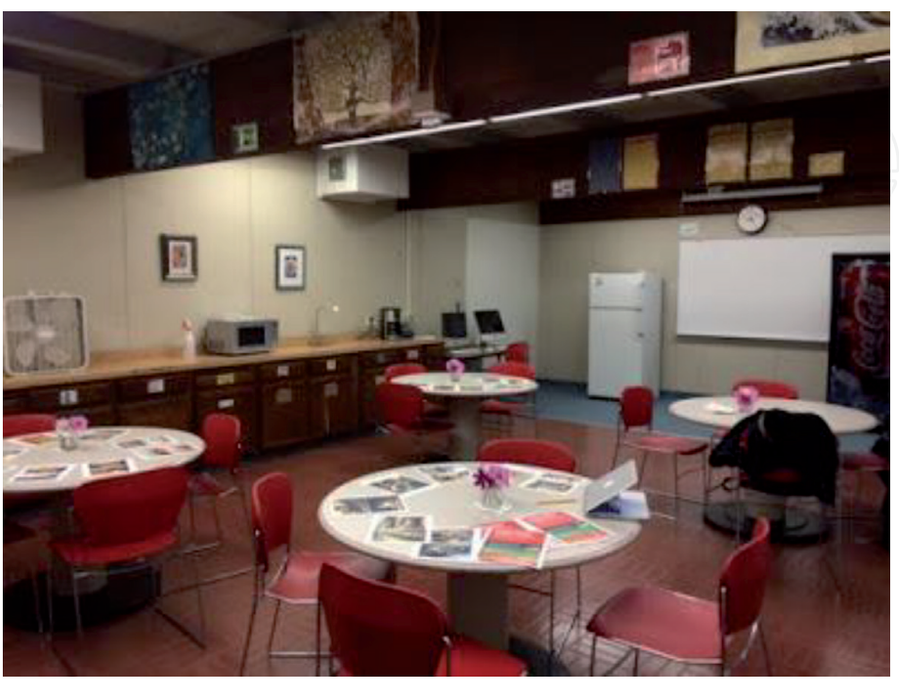


Figure 9.
Bruce Vento teacher lounge former Interior condition. (Source: Picture by Author 1)

partitions; (3) adding a communal table to facilitate communications; (4) maintaining computers in the room for staff needs; (5) creating ample space for meal prep and easy clean up; and (6) improving overall appeal with colored walls and few, but high impact design touches.

After a year, the project was completed during the summer break in 2017. **Figure 10** offers a comprehensive timeline description of the design and implementation process from start to finish. The final solution features a straightforward and functional layout. A central interactive area was a major portion of the space and it opened opportunities for collaborations and communications between teachers, staff and related personnel. At one end of the room, the relaxation space provides a location where teachers sit down and rejuvenate their energy plus motivation (**Figure 11**). For the implementation, Room and Board, a home décor retailer in Golden Valley Minnesota, inspired by the project and its purpose donated furniture to implement the proposed design at the school (**Figure 12**).

4.2 Evaluation

The school staff and teachers started using the completed space in summer 2017. The design, layout, and overall environment of the new space was different from the previous teacher's lounge. The school started to stock the cupboards with staple items, utensils, and extra coffee machines. According to the feedback from the teachers, they were satisfied with the new space which aligned with the initial project objectives. The teacher sanctuary, like all the initiatives undertaken at Bruce Vento Elementary School, will continue to evolve as users' needs and circumstances change.

After the project, an interview was conducted to learn how the teachers think about the new space. The teachers, especially, thought the redesigned space supports their well-being because it is relaxing with soothing colors, gives peaceful energy to recharge, and provides a comfortable place to get away. They also perceived the new space as welcoming and inviting space to meet their colleagues. There was a comment about cleanliness. The tables are not as dirty as they used to be, and that may be because the attractiveness inspires people to clean up after themselves. One teacher, in particular, mentioned that they used the space as an area to regroup and

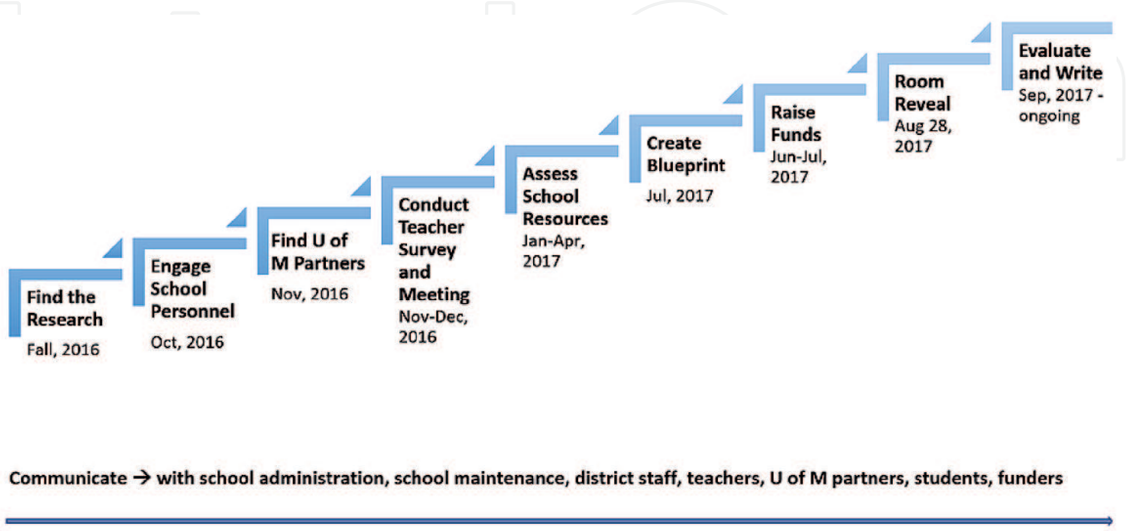


Figure 10.
The design and implementation process of Bruce Vento teacher sanctuary from 2016 to 2017. The steps are finding the research, engaging school personnel, finding U of M partners, conducting teacher survey and meeting, assessing school resources, creating blueprint, raising fund, revealing room, and ongoing reflection (Source: https://bventoumn.wixsite.com/bvento/calmingroom).

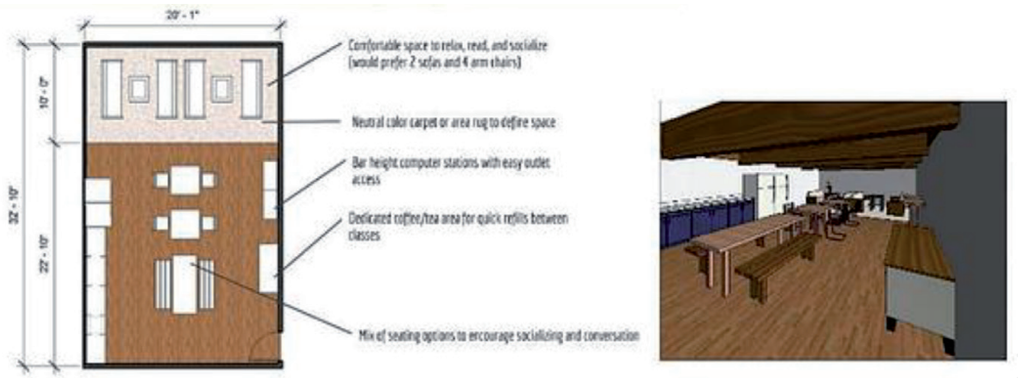


Figure 11.
The Bruce Vento teacher sanctuary proposed design (Source: Drawings by Noah Exum and Abigail Lundstrom).



Figure 12.
The renovation of Teacher sanctuary space (Source: https://bventoumn.wixsite.com/bvento/calmingroom).

refocus after helping students that are having a hard time. Therefore, there is no doubt that people use the new space to refresh themselves and like the space.

In addition, the teachers also thought the new space supports community building for school staff, mainly because they use the space for various purposes. They used the space as a gathering place, and they liked to see more people in the space, as the space is bigger than the previous staff lounge. In addition, they have a bi-weekly staff treat in the space. The teachers mentioned that as the space has plenty of room to have a nice spread of food, many utensils and supplies, it is a great place to accommodate many staff at once. One teacher said that food is set out in the new lounge, and different staff eat together in the lounge. Another teacher also mentioned that the new space is very nice for substitute teachers to eat or relax during prep time. Based on the teachers' responses, they appreciated the spacious and relaxing space for them.

> *"It's a welcoming, calm environment that provides some solace in the midst of a sometimes challenging day. [The new space supports staff community-building because] there's more people, more connections, and higher morale."*

5. Conclusion

Findings from the teacher and staff interviews support the literature about the impact of calming rooms and dining spaces in supporting students' emotional and self-regulation at the Bruce Vento School environment. There was an overall improved environment in the school, likely because students are able to regulate themselves and are asking to go use the calming room – a safe space where they can get the support they need and return to class. The new space allows staff to support and help students learn how to self-regulate, calm down, and then return to class sooner than before the space was redesigned. As in previous studies [9], students at the school ask to visit the calming room and recognize that it is a dedicated space where they can retreat to and feel safe. Also mirroring previous efforts in non-school settings, the implementation of the calming room leads to reductions in the amount of physical restraints staff had to use with students [19–21], thus increasing student safety. The data reinforced the strengths of approaching design problem solving through partnerships that seek out multiple perspectives. The simplicity of the final design solution implemented resulted from engaging multiple perspectives through interview of the clients, site visit, research, presentation, and feedback from clients. Likewise, the school community reported the new dining space created an inclusive and communal family style dining environment [22–27]. The round family style dining tables reduced students' traffic and movement to retrieve condiments or utensils from the other end of a long table and this reduced the noise level in the dining space. The school staff observed the family style dining encouraged interaction and socialization among students and the dining space became less institutional and more communal. Additionally, the new teacher sanctuary extended the benefits of the new environment to the school resource staff and teachers. The teacher sanctuary created a space for school staff to rejuvenate and to help support their job of leading children's development [28–30].

Finally, through this collaborative process, interior design students gained disciplinary and civic benefits such as application of their course knowledge, opportunities to connect to the community through real life design issues. The opportunity to visit the existing space and tour with the users to gather information and experience the space physically gave students better understanding of the space, building systems, and requirements for the projects. Overall, all the three design projects led to positive outcomes for the school community. Through the partnership with Bruce Vento Elementary School, a calming room, teacher sanctuary, and family style dining hall were all implemented in the school to build community and create a trauma sensitive environment. Anecdotal evidence shows that this Bruce Vento community building model of creating a trauma sensitive environment that fosters health and well-being has been used as a precedent for other school districts in Minneapolis St Paul.

IntechOpen

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