

CLASSROOM CLIMATE IN A RURAL SCHOOL CONTEXT:
REFLECTION, MODIFICATION, AND IMPROVEMENT
IN THE SCIENCE CLASSROOM

by

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A professional paper submitted in partial fulfillment
Of the requirements for the degree

of

Master of Science

in

Science Education

MONTANA STATE UNIVERSITY
Bozeman, Montana

July 2018

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DEDICATION

For Lj, Nathan and Max. Thank you for the support and patience throughout this process.

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ABSTRACT

When the tardy bell rings and the door closes behind the last student, a very peculiar thing happens. In an age that promotes complete and total connectivity, classrooms are very often being ran in isolation. Only during passing periods or time outside of the teacher/students class periods do conversations regarding student behavior, best practices and classroom climate take place amongst the teachers. This study was an attempt to modify this common occurrence and challenge teachers to learn from their peers during the most critical part of the school day, the time teachers and students were interacting during class time. Instructors observed their own students in different settings, commonly exhibiting different strengths and weaknesses academically, socially and behaviorally. Observing teachers learned from other teacher's good instructional strategies as well as learned from watching poor teaching strategies. Professional conversations regarding what happened during each aspect of the class period were held. Teachers collaboratively identified what works and what needs to be modified to work better. The results of the surveys that were given to the participating teachers indicated that for the first time in many of their careers, they feel that they had an honest assessment of their classroom climate as well as new strategies and teaching methods that could transform their teaching.

INTRODUCTION AND BACKGROUND

Clear Creek Middle School in Buffalo, Wyoming serves the educational needs of the sixth, seventh and eighth grade students of the town and surrounding area. To accommodate the needs of the 270 students attending the school, 30 staff and support personnel have been employed. The total enrollment for each of the grade levels are, 98 sixth grade students, 84 seventh grade students and 88 eighth grade students. The ethnicity breakdown for the school looks like, White 91.86%, Hispanic 4.65%, American Indian or Alaska Native 1.94%, Asian, Native Hawaiian or Other Pacific Islander 1.16%, Black or African American 0.39% (as reported on the October Wyoming Department of Education Form 684). For each of the different grade level core disciplines and elective courses offered, there is a single teacher responsible for the delivery of the material. The science department at Clear Creek Middle School consists of one sixth grade science teacher, one seventh grade science teacher and one eighth grade science teacher. The years of service of the teachers to the education profession reflects an experienced staff. The certified staff members who have 10 or fewer years of experience in the teaching profession make up 16% of the total population. Teachers with 11-20 years of teaching experience make up 37% of the staff and the remaining 47% of the staff have 20 or more years of teaching experience on their résumé. Graduate degrees have been earned by over half of the Clear Creek Middle School teaching staff. As of 2017, 23% of the staff members have achieved National Board Certification as reported in the October Wyoming Department of Education Form 602. For this study, five members of the Clear Creek Middle School teaching staff participated in my project.

At the conclusion of this school term, I will have been employed as a classroom teacher for twenty years. During this time, I have attended countless seminars, participated in conferences both large and small, as well as listened to many motivational speakers. The purpose of all this time spent out of the classroom was to become better in my classroom. My personal goals with these professional development opportunities included being exposed to the latest national recognized education trends. I also attempted to network with other educators and expand my knowledge base. And finally, I hoped to bring a more enlightened, knowledgeable teacher back to my classroom. I have learned a lot from all these events. Whether what I gained from these events equals the time, effort and money spent to send me to them, debatable. I have always been able to integrate new knowledge gained from these opportunities into my teaching, but to honestly say that what I was adding was better or worse than what I was already doing in my job was just a guess. I was looking for a more personal critique.

On average, I have been observed by one of my supervising administrators once a quarter for twenty years. Roughly eighty critiques of my classroom management, teaching ability and summary of student learning. To be truthful, most observations were scheduled in advance, and like any strategic person, I definitely made sure that my best foot was forward during those evaluations. I received a lot of advice during those observations, both extremely helpful and career changing, as well as other occasions where I felt boxes on the evaluation form were just being checked off. As a person who thinks of themselves as a lifelong learner, I could not say that I was maximizing my potential. These events and experiences led to the creation of my focus statement: Can

teachers in a small rural, isolated teaching situation benefit and improve their overall classroom climate by using each other as both an element for change and/or motivation in their everyday professional life? In addition, the following sub-questions were researched. Primary Question: What is the current status of your classroom climate? Secondary Question: Is the classroom's climate in your teaching space set to the highest standard for student learning?

CONCEPTUAL FRAMEWORK

American educators are often considered resilient and independent. Beginning around the nineteenth and early twentieth centuries youths in first grade through eighth grade received their formal education primarily at one-room schoolhouses. Overseeing these multi-aged, multi-disciplinary classes was a single teacher. To make matters even more challenging, the teacher more than likely was just a few years older than their oldest pupil and may have only graduated from the very school they were now in charge of the previous year. Isolation and the absence of professional collaboration among peers was the norm for this profession (Vicksburg, 2017). Trial and error and learning from one's own mistakes were how improvements came about. Professional dialogue was near impossible for the isolated teachers because of the school model design. Ultimately, in conjunction with other factors such as low salary, challenging administration, limited curriculum and challenging personal/social experiences, this isolation frequently contributed to teachers prematurely leaving the profession (Steadman, 1987).

Fast-forward to today's educational experience and we find that the one-room schoolhouse has been largely driven to extinction by reasons such as budget cuts and the

availability of reliable transportation permitting students to travel longer distances and attend more centralized larger schools. Teachers and students are now housed in large communal buildings only separated by hallways and walls instead of multiple miles between schoolhouses (Kamenetz, 2014). Strangely, once the tardy bell rings, and the door closes behind the last student, the continued isolation of teachers persists. Often, the teacher is still instructing by trial and error and learning from one's own mistakes and successes. While this can be argued as a time-tested method for teacher training, there has to be a more efficient technique (Swiniarski, 2005). The one-room schoolhouse is a thing of the past as should be the mentality that teaching is an independent, isolated occupation.

Every modern American school contains a wonderful and rarely used resource, the combined experiences from all its staff is a priceless commodity. Every teacher, both new to the profession, as well as seasoned veterans have firsthand experiences that have shaped the culture and climate of their classroom. It is common practice to team up new hires with tenured mentors within the period of the rookies' first school year. A closely monitored and documented set of collaborative meetings between teachers attempts to acclimatize the new addition to the school (Wong, 2004). After the initial school year concludes so does the mentor/mentee relationship. Casual passing-period conversations will continue, but the close peer collaborative observation and conversation often reverts back to a similar isolation experienced by the teachers of the one-room schoolhouse (McKay, 2000).

Whereas peer collaboration is one way for a teacher to build their professional practice, relationships and formative assessments with administrators is another. Formal

administrative observations are common to all professions. In the teaching profession, a principal or an assistant principal will arrange a time to observe a teacher during one of their classes, and evaluate the effectiveness of that teacher during that one period through a series of performance rubrics. Dialogue will continue between administrator and teacher days following the observation. Both parties will review the notes that were taken during that period, questions will be asked, answers will be given and the two parties go their separate ways until the next scheduled observation (Conner, 2015). The administrator observed a single point in time and the teacher being observed, was shown and told what he probably already knew.

When two or more educated people begin a conversation regarding changing practices for the common good, the direction of that conversation could divert into countless directions. Creating a platform that focuses those constructive initiatives is mandatory in order to stay productive. To this end, one process that educators and schools have adopted is the Professional Learning Community model. The Professional Learning Community (PLC) has been defined as an ongoing process in which educators work collaboratively in recurring cycles of collective inquiry and action research to achieve better results for the students they serve. Professional learning communities operate under the assumption that the key to improved learning for students is continuous job-embedded learning for educators (Dufour, 2006). This model that has been implemented into many schools around the nation is one attempt to end the isolation of the teaching profession. In the attempt to bring teachers from their isolated classrooms into a collaborative cohort has been met with mixed success depending on whom he or

she speaks to on this subject. The need for a school schedule that accommodates common planning periods during the school week as well as the rigid criteria that all participating members of the PLC must follow, has been also often met with resistance. Regardless, allowing teachers exposure to the professional thoughts and methods of their colleagues does open up the isolation that many teachers would otherwise experience (Gentile, 2010).

According to Dufour (2004), professional learning communities require the school to function as a team, characterized by a shared mission, vision, and values; collective inquiry; collaborative teams; an orientation toward action and willingness to experiment; commitment to continuous improvement; and a focus on results. Through a series of peer observations and feedback sessions will a community of teachers who are currently in an isolated teaching environment become more well informed of both their teaching and classroom environment as well as their faculty counterparts? Through controlled observations and constructive feedback, observers will provide to their colleagues' information that is intended to inform, not criticize what was taking place in the classroom, both productive as well as nonproductive. A dual benefit for both the observer and the one being observed will be the conversation that will follow. Providing an opportunity for teachers of the same group of kids an outside perspective of possibly different classroom management methods and share how others handle similar situations (Jacques, 2013). Teachers have a rewarding but nevertheless challenging role. With increasing class sizes, the diversity of students in terms of culture and language, the changes in curricula standards, and rapid developments in teaching practices, to name but

a few, they often have little time and energy to devote to their own professional development. The latter often comes in the form of one-day seminars with little follow-up, and teachers return to busy schedules, having neither the time nor support to implement new learning. There is increasing evidence that professional development programs, including those for teachers, are more effective when they involve intensive forms of support. Teachers often resist change programs that offer too little support (Knight, 2000). The expectation that we place upon our students is that they learn from their actions, both successful and not, and grow from the experience. If we as educators have found that isolation from others in our profession is an ineffective method, new practices are necessary.

Every classroom and to that extent, every classroom teacher has their own style and delivery method that they believe works best for themselves and their students. Even to the untrained eye of an outside person looking for a productive classroom, common practices and expectations held by the teacher can be identified. Classroom climate is seen as a major determiner of classroom behavior and learning. Understanding how to establish and maintain a positive classroom climate is seen as fundamental to improving schools (Adelman & Taylor 2005). Research suggests significant relationships between classroom climate and such matters as student engagement, behavior, self-efficacy, achievement, social and emotional development, principal leadership style, stages of educational reform, teacher burnout, and overall quality of school life (Fraser, 1998, Freiberg, 1999). The classroom climate is a combination of the feelings of teachers and students during a learning session as a result of teacher behavior (i.e., teaching methods,

expressions) and student behavior (e.g., cooperation, continuous involvement in activities, etc.) whilst learning activities are practiced. The construction of the classroom climate is an ongoing process. At the beginning of a learning activity, the teacher who organizes the activity triggers the classroom climate. Later, the teacher controls the classroom climate by stimulating student behavior. Following this, students contribute to the classroom climate so student learning is effective (Sriklaub, Wongwanich, & Wiratchai, 2015).

METHODOLOGY

Project Design

Classroom climate is defined as “the intellectual, social, emotional, and physical environments in which our students learn (Ambrose, 2010, pgs. 4-6). Determining one’s ideal classroom climate and then comparing that vision to what was actually occurring in the classroom was at the heart of this study. Besides the main focus question, sub-questions were created as follows:

1. What is the current status of your classroom climate?
2. Is the climate of the classroom set to the highest standard for student learning?

To assist with this self-reflection, teachers were asked to both observe and be observed by fellow classroom teachers at random, unannounced times throughout the time frame of my study. In conjunction with these observations, detailed and focused conversations took place shortly after the meeting of that pair of teachers and informed and nonjudgmental feedback was given. The direction of this conversation was to help assist in answering the study’s focus questions. Shortly after the Ideal Classroom Inventory

Survey was administered, the same teachers took the Actual Classroom Inventory Likert Survey. The arrangement and the wording of the questions were identical to the first Ideal survey. The goal was to identify discrepancies between the two sets of responses on their Ideal and Actual surveys. Again, the twenty questions focused on four areas that influence classroom climate. Each of the areas addressed on the survey, the physical classroom, the students, the teacher, and the material being covered had five questions pertaining to each. These differences would establish the focal points that teachers would then concentrate on during the rest of the action research study. The research methodology for this project received an exemption by Montana State University's Institutional Review Board and compliance for working with human subjects was maintained (Appendix A).

Research Treatment

From many of the conversations with my fellow teaching peers regarding the effectiveness of Professional Development speakers, presentations, workshops and seminars a thought came to me. I could not say with 100% certainty that the time and money that was put into improving my colleague's and my classroom climate using these professional developments were effective. I felt that the majority of my most influential classroom practices were brought to me by focused observations and professional conversations with teachers in my own building. Visiting with neighboring teachers confirmed that they had similar thoughts as well. When asked if the teachers made it a priority to observe and be observed by other teachers, the vast majority said no. Upon further reflection, the teachers could not find a reason why they would not make this

professional development a common occurrence in their professional lives. I am treating the time period before the implementation of my study as the pretreatment phase of the action research-based project.

Data Collection Methods

Determining if one's classroom climate was providing the most productive environment for student learning required a number of different data sources in order to make a valid conclusion. A blend of both qualitative and quantitative data collections were used in this research project. After the teachers reflected on the questionnaires, they completed their surveys and the forms were returned to me. That data was analyzed and relevant patterns were established (Table 1).

Table 1
Data Triangulation Matrix

Focus Question	Data Source 1	Data Source 2	Data Source 3
<i>Primary Question:</i> 1. Define or describe classroom climate.	Teacher Interview Questionnaire	Classroom Climate Survey	Post-treatment Survey
<i>Sub-Questions:</i> 2. Is the current classroom climate providing the most productive learning environment for student learning?	Teacher Interviews, Observations, Peer Teaching Evaluation Form, Classroom Self- Appraisal Form	Classroom Climate Survey	Post-Treatment Survey
3. What are modifications to your classroom climate you can make to improve classroom climate?	Teacher Interviews, Observations	Classroom Climate Survey	Post-Treatment Interviews

Interview

The interview that I conducted with my participants used the Teachers and Classroom Climate – Teacher Interview template that centered around identifying the teachers’ interpretation of Classroom Climate (Appendix B). After that was established, questions were directed at explaining strategies that the teachers used for different aspects of classroom climate, management, organization and building relationships among students. I also asked if there were obstacles or other barriers that they perceived as challenges to establishing their ideal Classroom Climate. I also was interested in how the interviewed teacher’s teaching style had evolved over the years of their career.

Surveys

To determine what each teacher’s ideal classroom climate would resemble, the Ideal Classroom Inventory survey consisting of twenty questions that collected responses of strongly agree, agree, disagree, strongly disagree were administered. The twenty questions focused on three areas that influence classroom climate. The areas addressed on the survey were, the physical classroom, the teacher, and the material being covered in the classroom (Appendix C). Two days after the Ideal Classroom Inventory survey was given, an identical set of questions was given to the teachers on a second Likert type survey called the Actual Classroom Inventory (Appendix D). Responses of strongly agree, agree, disagree, strongly disagree were recorded. To make a comparable set of data charts, the replies from each of the participating teachers was placed into graphs that allow analysis of the frequency of each response. Teacher’s self-reflection on their

classroom climate was made comparable and changed if needed, the charts allow a teacher to focus on specific areas that may contribute positively to that outcome.

Evaluation Form

The third and fourth data collection instruments were the Classroom Self-Appraisal Form and the Peer Teaching Evaluation Form (Appendices E & F). These two forms helped to guide a directed comparison and conversation to take place between the observer and the one being observed. To facilitate this data collection, a teacher randomly attended a fellow colleagues' classroom teaching lesson and recorded on the Peer Teaching Evaluation Form what they saw and heard. The teacher presenting the lesson at the end of class reflected on the lesson, completing their Classroom Self-Appraisal Form (identical forms, formatted differently for each perspective) and the two sets of responses were compared. The quantity of conversation and discussion over the findings was determined by the two teachers. The responses to the questions were recorded on a Likert type survey with strongly agree, agree, disagree, strongly disagree being provided as responses to the questions. To analyze the survey questions and written responses recorded by the participants, the two involved parties systematically compared the Likert responses and provided feedback to why they chose that numbered response. Real-time and relevant criticism was provided for all aspects of the observations.

DATA ANALYSIS

The results of the Ideal Classroom Inventory Likert Survey were used to document what each of the participating teacher's ultimate view of the most ideal

classroom climate would be ($N=5$). The fact that this survey group included both males and females was just the start of the differences among participants. Of them, the survey included both experienced, greater than 20 years of classroom time, and less experienced, less than 20 years of classroom time. Coincidentally, the majority of the participants taught different subject matter as well. From many different backgrounds common themes were identified and used as evidence to support the research.

Teacher's ultimate interpretation of their physical teaching space's ideal classrooms climate was surveyed first. The analysis of the responses to the questions pertaining to the physical teaching space revealed that 80% of the surveyed teachers stated their ideal classroom climate would have enough physical room for both individual and group work and that the classroom would very often be noisy. When asked about the physical appearance of the room, 100% responded that it would impact the classroom's climate. As one teacher responded, "My classroom is an extension of who I am. If I am at ease, this level of comfort is conveyed to my students." Displays around the room and the comfort level of the room would also have an impact. Lastly, 100% of the surveyed population agreed and or strongly agreed that the number of students in the class does have an effect on its productivity (Figure 1). One teacher commented, "A classroom that has kids sitting on top of their neighbors, is an invitation for disaster. Pretty tough to stay focused when you are fighting for space."

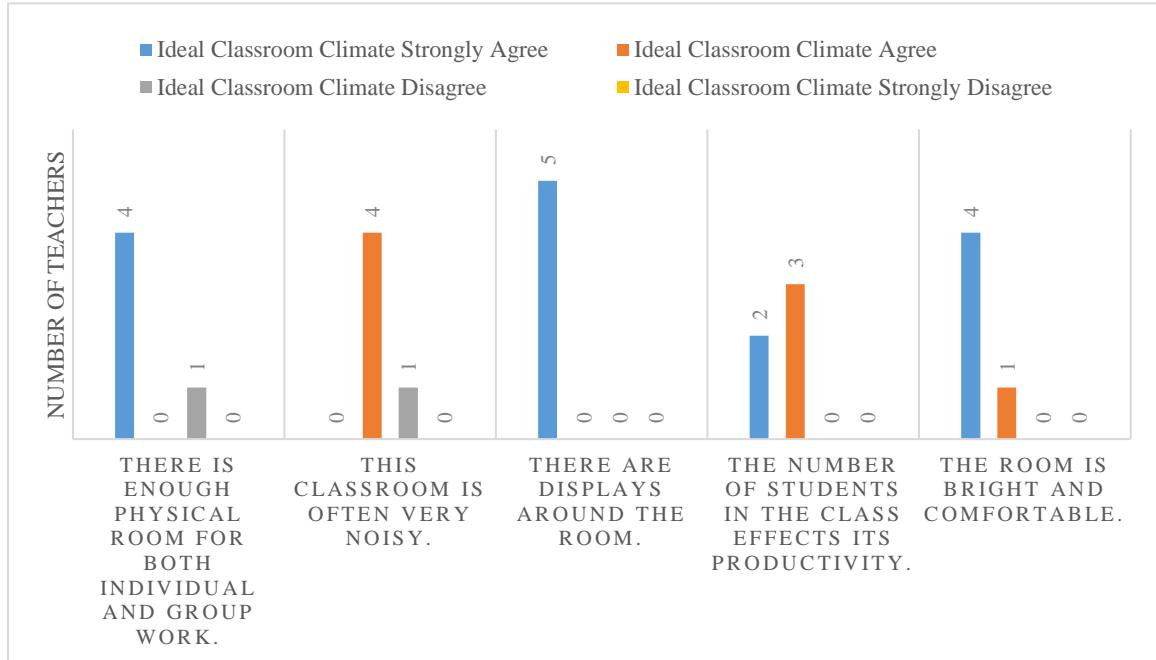


Figure 1. Comparison of teachers physical teaching spaces' ideal classroom climate, (N=5).

Comparing the ideal classroom climate versus the actual classroom climate in regards to the physical teaching space revealed that 20% of the teachers strongly agree and 40% agree that they actually have enough physical room for both individual and group work. A participant noted that the reality of teaching to perfect student numbers is out of their hands. “We teach to those who are in our classrooms. Sometimes the numbers are wonderful, other times it seems like standing room only.” Teachers reported that the noise level in their classrooms are identical to what they perceive as ideal, not quiet. The actual displays around their room and an overall comfortable feeling in their classroom show very similar reflections to their ideal classroom climate settings. The number of students in the classroom also have an impact on the overall actual classroom climate as reported by the teachers (Figure 2).

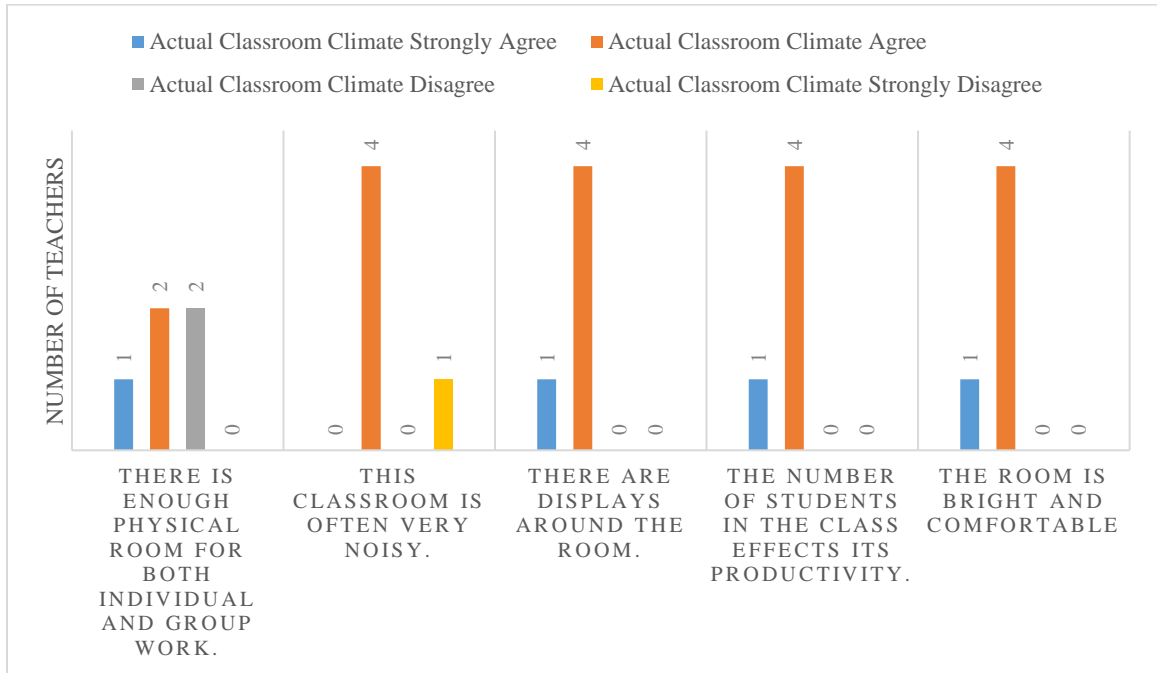


Figure 2. Comparison of teachers physical teaching spaces’ actual classroom climate, (N=5).

Every teacher’s classroom management style and preferred method of content delivery has been forged through much trial and error within their teaching career. The level of control a teacher keeps to themselves or shares with the students was addressed next. The second classroom climate component analysis revolved around the teacher themselves. Teachers had mixed responses to the question if movement and talking of the students should be heavily dictated by the teacher. Forty percent of the surveyed population agreed this would be a factor in classroom climate while 60% disagreed with this statement. Taking a personal interest in their students was universally similar with 100% of the population stating that they agreed with this report. Teachers also reported that to promote the most productive classroom climate 100% of the responders agreed that teachers must explain what will happen to a student who breaks the rules of the

classroom. “Every teacher has different levels of what they deem tolerable in their classroom, one teacher noted, but right and wrong are pretty cut and dry. Making it very clear from day one as to what the consequences are for choosing wrong seems to make the world of difference in the long run.” Deciding who each student gets to work with showed a slight discrepancy in teacher responses. Sixty percent agreed with this statement while 40% disagreed. The final question pertaining to the ideal classroom climate component focusing on the teacher created seating chart. Again 60% of the responses agreed that it was crucial while 40% disagreed that this was not crucial to their ideal classroom climate (Figure 3).

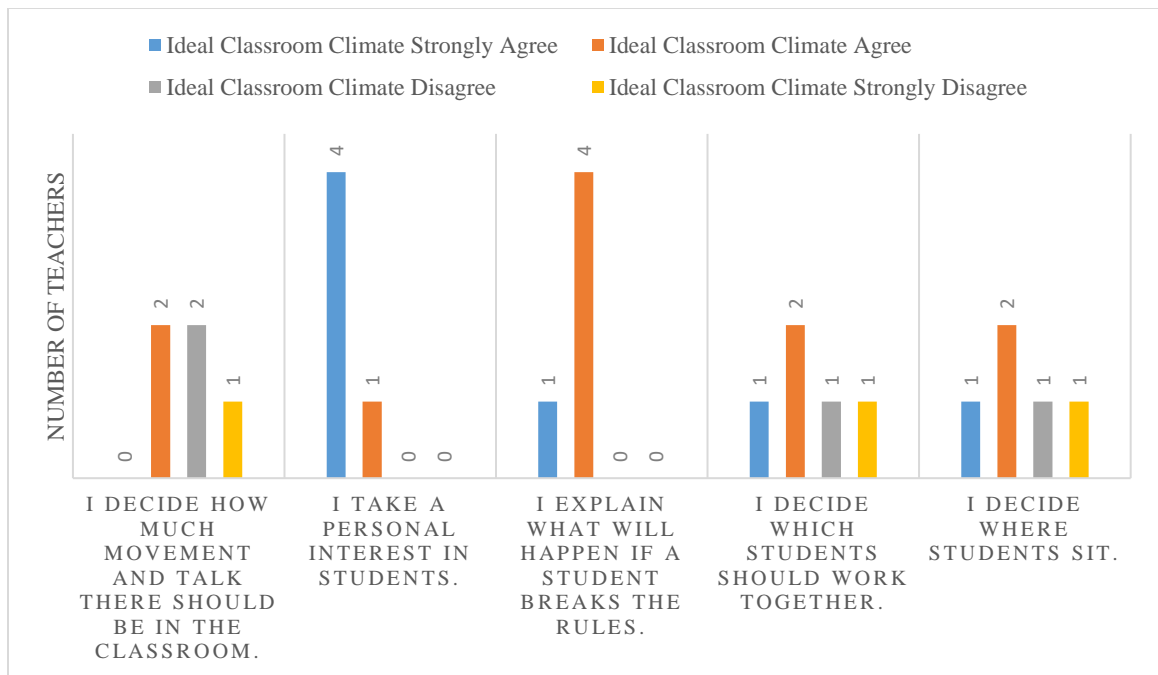


Figure 3. Comparison of teacher influences on the ideal classroom climate related issues, (N=5).

A comparison of what teacher’s actual classroom climate was compared next. For the question of how much movement and talk there should be in the classroom,

differs from their ideal classroom climate. One hundred percent of the population agreed that this aspect of the classroom climate was the responsibility of the teachers in order to run an effective classroom. Teachers taking a personal interest in their students as opposed to treating them like clients or customers was also universally agreed upon as a major part of a productive class. Identifying the rules to the students in addition to explaining the consequences for breaking those rules was unanimously agreed upon as a key component in their actual classrooms. A mixed response of 60% agree and 40% disagree was shown in regards to if the teacher should be the one who decides which students should work with another. One teacher noted, “Kids have to see that if they choose to visit with their friends instead of finishing the work, there will be consequences.” Another opposing viewpoint on the subject responded, “We don’t have time to not stay focused in class. If I can remove at least one distraction from the classroom, workmates, then I feel that I may be gaining ground.” The final teacher related question focused on deciding where students will sit. Again, 60% of the surveyed staff stated that it was their responsibility to pick the students seats, while 40% disagreed with this statement and felt it was not a critical component to their actual overall classroom climate (Figure 4).

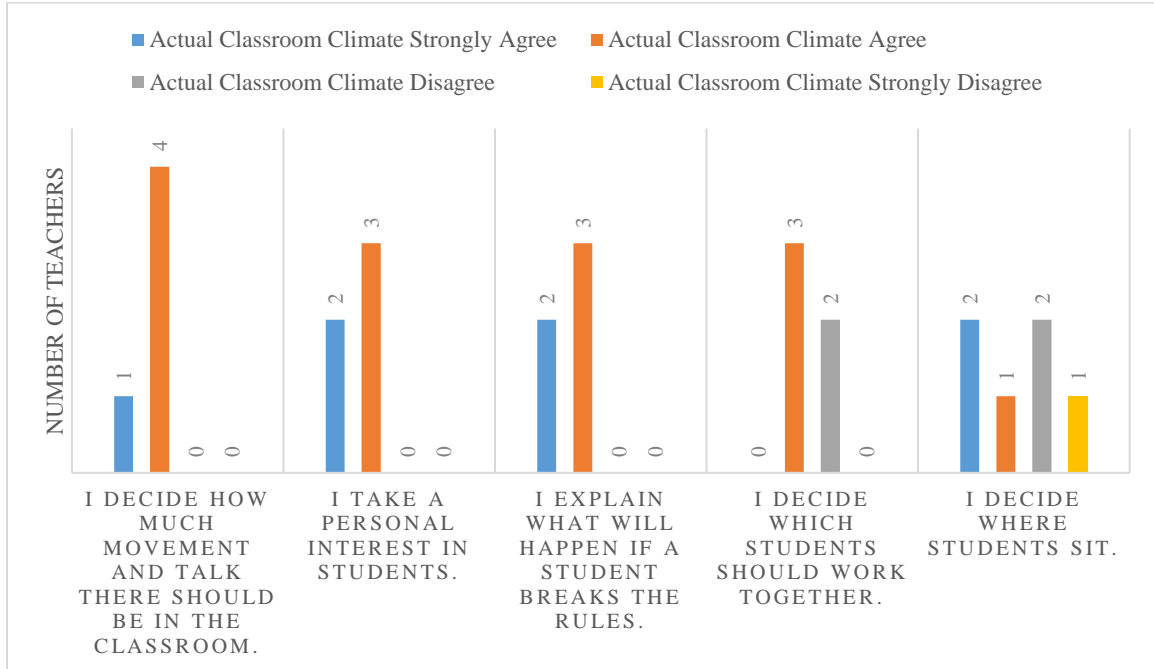


Figure 4. Comparison of teacher influences on the actual classroom climate related issues, ($N=5$).

The third set of questions looked at teacher's Ideal Classroom Climate with a focus on the area of content material. The curriculum that teachers of every grade level and content area teach are heavily dictated by outside influences. Local, state and federal mandates have attempted to ensure that regardless of the school in which a student attends, they will receive a guaranteed and viable educational experience. This promise comes regardless of teacher's background experience, class size or equal funding among school districts. The one similarity that teachers of the same school do have in common is the time they spend with the students. All periods within the same school are the same regardless of the discipline. The following questions reviewed by the teachers all pertain to time management.

In an ideal setting, 80% of the responses disagreed with the notion that classroom materials should be rushed or hurried and that the ideal classroom climate students do not

have to hurry to finish their work. Having plenty of time for the teacher to cover the required materials was also a high priority with 80% agreeing with this statement. One participant noted, “There seems to always be more material than time needed to cover the material these days.” There was a large percentage of teachers, 80%, who disagreed with the statement that all students in the class do the same work at the same time in the ideal classroom (Figure 5).

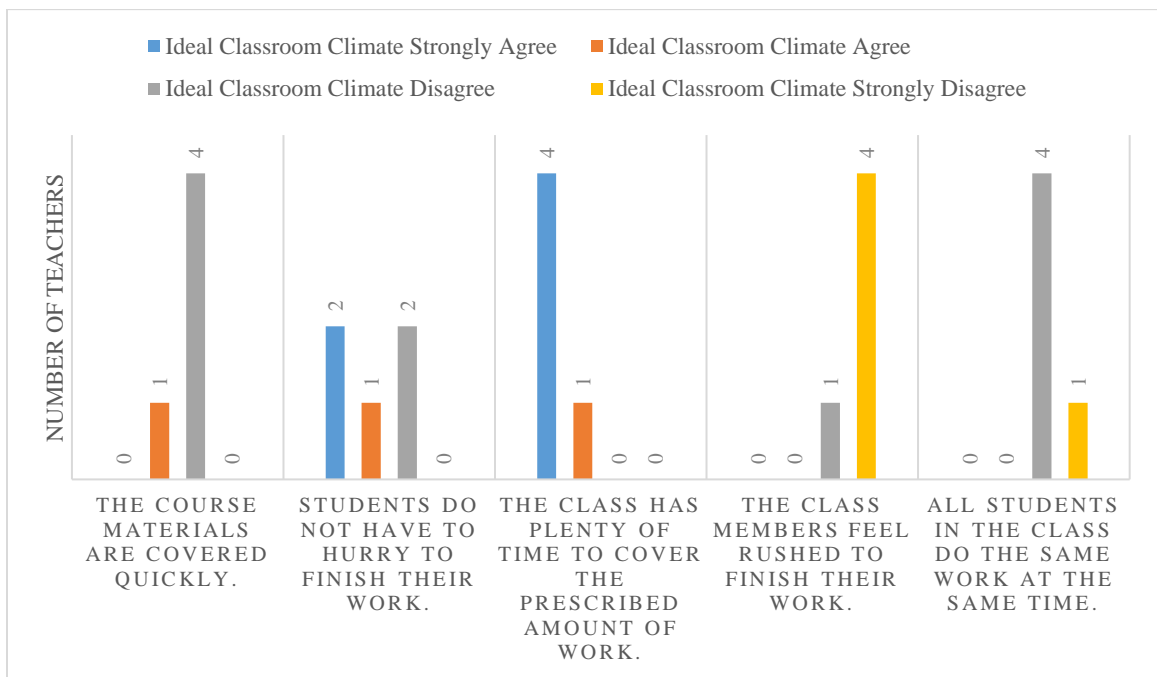


Figure 5. Comparison of content material influences on the ideal classroom climate, (N=5).

The actual classroom climate had several differences as first reported in the ideal survey. With 60% of the surveyed teaching reported that materials are covered too quickly in the classroom. And that 80% of the teachers stated the students are put in many situations in which they have to hurry to finish their work. It was noted that 80% of the teachers did report that they felt that the class did provide plenty of time to cover

the prescribed amount of work. A final discrepancy in the topic of materials was in regards to differentiation of materials. Sixty percent of the surveyed staff agree that currently all students in the class do the same work at the same time (Figure 6).

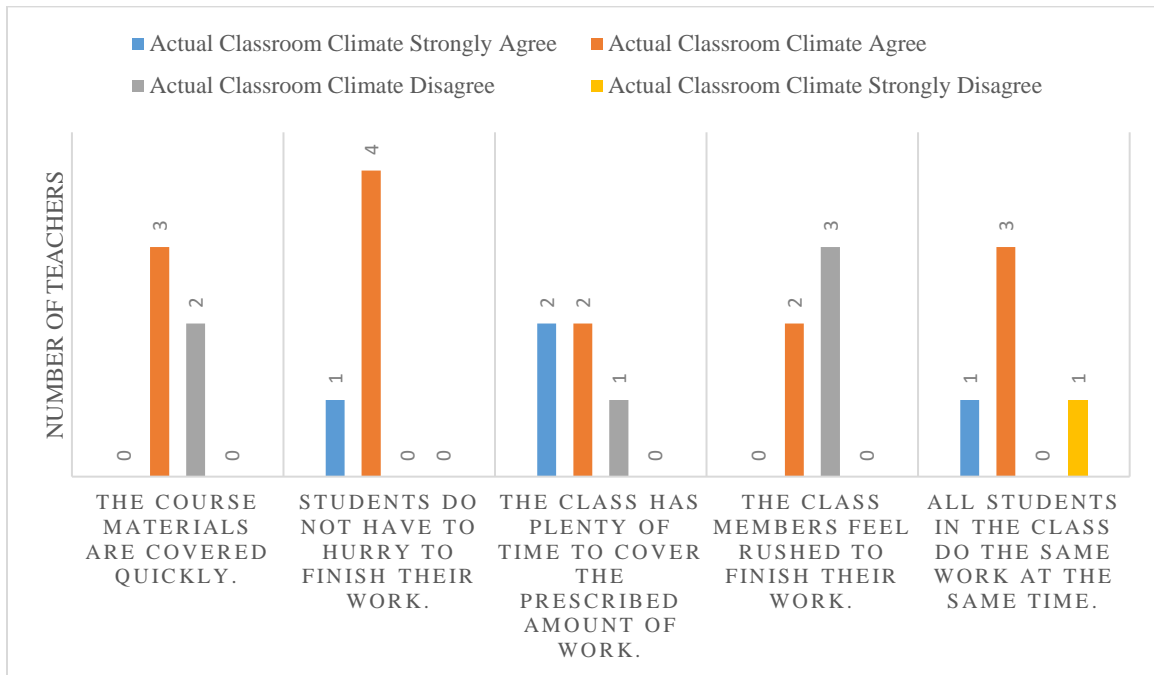


Figure 6. Comparison of content material influences on the actual classroom climate, ($N=5$).

The fourth comparison allowed teachers to focused on the area of the student in their Ideal Classroom Climates. The hope that each of the students that enters the classroom comes with the dedication and passion to the course material equal to that of the instructor is a lofty goal. Students come to the classroom with a wide variety of educational and personal issues. Some students have deep rooted misconceptions which they have built their learning upon, while others have very solid educational foundations that they have built their learning upon all within the same classroom. Student behavior plays a large part in the overall success of the ideal classroom climate. Teachers replied

that 60% believed that it is the responsibility for the teacher to tell the students how to behave in the ideal classroom, while 40% disagreed. Students interacting and getting to know their classmates in a relationship deeper than just table mates was also universally agreed upon with 100% responding that it is a

priority. One teacher mentioned, “It sounds quite cheesy, but I want my class periods to feel like students are members of an extended family. Most people treat their family members with more respect than they treat strangers. I want this in my classroom.”

Teachers also unanimously disagreed that students fooling around in class was acceptable behavior in the ideal classroom. The educators were hesitant to allow students to choose their own partners for classwork in the ideal classroom with 60% disagreeing to this action. Finally, when the topic of students being given time to daydreaming in the ideal classroom, 40% strongly agreed that this should be allowed and 40% disagreeing that this should be allowed (Figure 7).

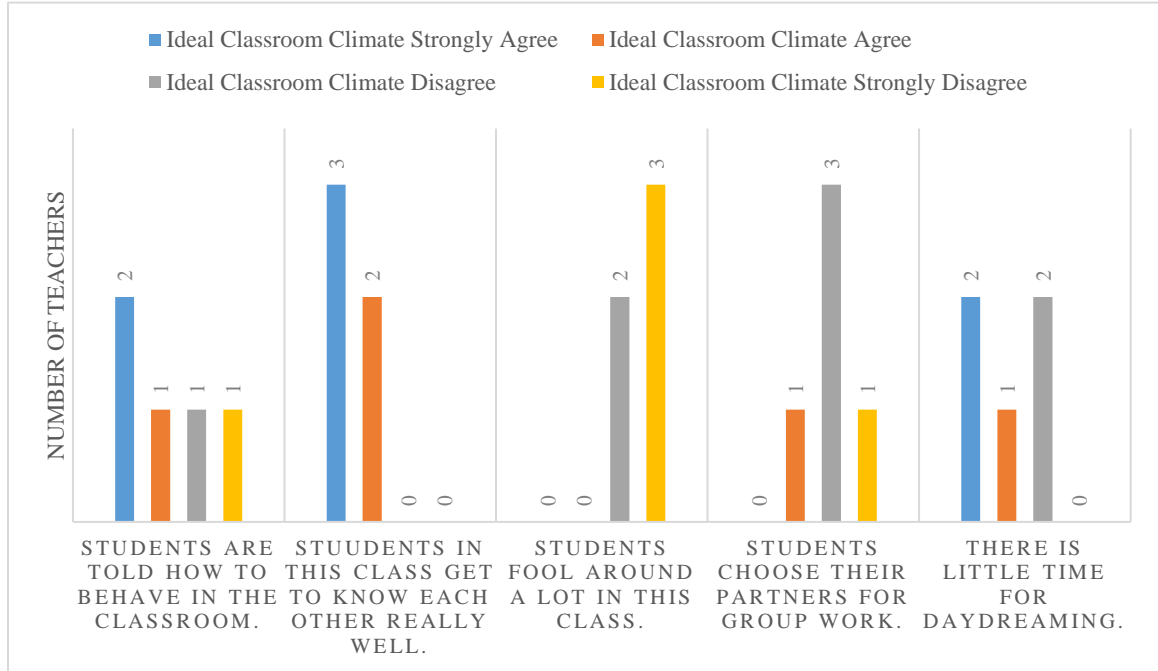


Figure 7. Comparison of how student behaviors influence the ideal classroom climate, (N=5).

Replies to the Actual Classroom Climate survey showed similar results as the Ideal. Eighty percent of the teachers do instruct the students on how to behave in their actual classroom. Students are given the opportunity to know one another really well in their classroom as well according to the data. Behavior that is unproductive, such as fooling around is also heavily mediated with 80% disagreeing that this would be acceptable behavior. Teachers are still hesitant to allow students the opportunity all the time to choose their partners for group work with 60% agreeing that this is the teachers job. The final question pertaining to daydreaming in class had split results. In teacher's

actual classroom climate 60% stated that this was allowable behavior while 40% disagreed that this behavior was acceptable (Figure 8).

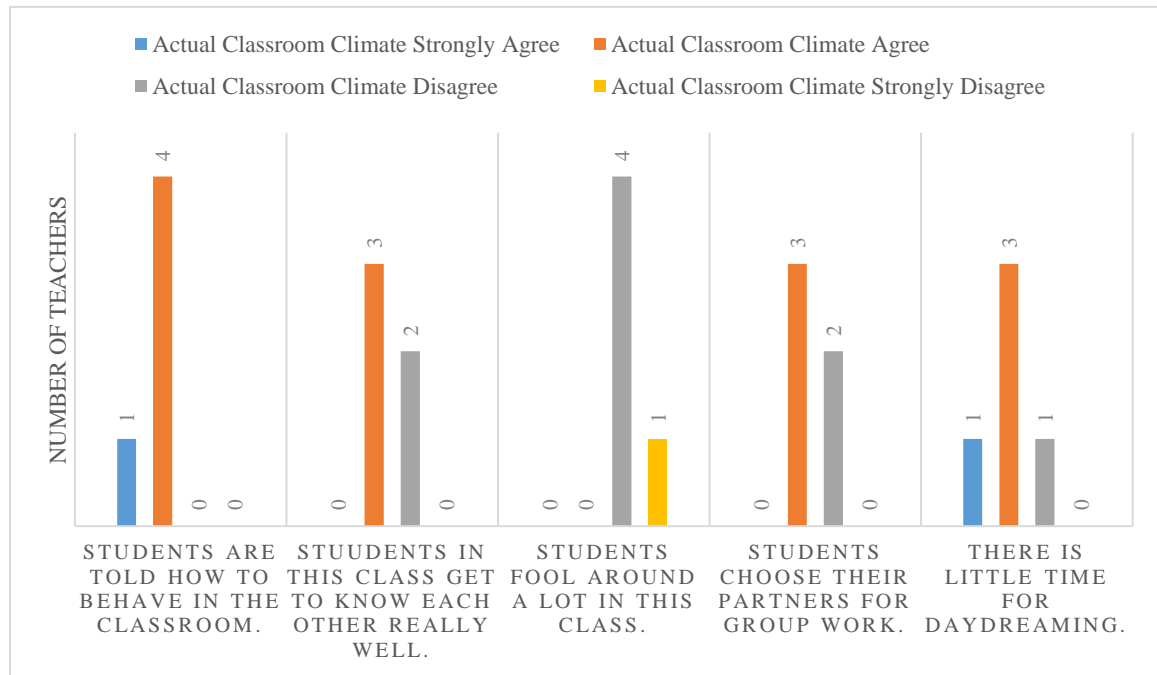


Figure 8. Comparison of how student behaviors influence the actual classroom climate, ($N=5$).

INTERPRETATION AND CONCLUSION

The goal of this action research project was to utilize the combined experiences of the classroom teachers in my school building to help boost classroom climate to its highest potential. In the small school in which I teach, by the time a student reaches my class, the likelihood that that student has been taught by every teacher in the building is very high. Utilizing the knowledge gained from each teacher/student interaction is lost unless a concerted effort is made to bridge the gap between classrooms. Teachers observing teachers during unannounced visits and then having directed dialog over what was seen and heard during that class period was the primary treatment of this project.

Pretreatment interviews were conducted prior to teachers observing one another. The goal of this interview was to ascertain each teacher's interpretation of the concept of Classroom Climate. Before teachers were sent into classrooms, they had to know what to specifically look for. One teacher commented, "Climate, to me, is the feel of a classroom and/or school. In a positive climate, students feel physically and emotionally safe, empowered, valued, and see meaning in what they are learning and being asked to do." In general, all participating teachers had a very similar text book response to the question. The remaining study asked teachers to reflect on their current classroom climate, modify to maximize classroom climate potential, and then implement.

To assist in determining what each teacher's current classroom climate ideally and actually looked like, teachers took the Ideal and Actual Classroom Room Climate Survey. These 20 questions gave teachers an opportunity to compare what they wish was occurring in their classroom verses, what was actually happening. The 20 questions were divided into four themes, classroom, teacher, course material, and student. The responses helped to direct areas that teachers would eventually modify. When asked about their ideal classroom, one teacher commented, "Students are engaged, cordial to each other, and work is getting done!"

When teachers came in and observed their colleagues, there were specific aspects of the classroom climate I wanted them to focus on. First, I hoped they would focus on teaching methods and second, on the learning environment. To help assist this process, two relatively identical forms were provided, the Classroom Self-Appraisal Form and the Peer Teaching Evaluation Form. The two forms used in conjunction with one another

provided both parties a constructive avenue to direct conversation on classroom climate. “The questions that were asked on the self-appraisal form were blunt and to the point. They made me take an honest assessment of my method of many aspects of my classroom” was a comment provided to the researcher. “Comparing what I think was taking place in my classroom, verses what another teacher saw happening at the same time was very eye opening” was a response given by another teacher.

VALUE

A very lofty goal was presented when I designed this project. I not only wanted to elevate my teaching to the highest, most productive level it had ever been, but also bring an entire core group of teachers together to focus on that same goal. I felt that as if I could systematically improve the four areas that I deemed critical to maximizing a classroom’s climate: classroom, teacher, course material and the student, all aspects of my job would improve. Without the outside perspective and constructive criticism of my peers, this would not have taken place. It is my belief that every teacher believes that they are giving 100% to their job. The reality is that this may not be the case and the only way to make improvements is to first, identify, then modify and finally implement.

The conversations that were generated between the colleagues that participated with my study have been invaluable for my study. Having the ability to observe my students operating in another setting other than in my classroom, opened my eyes to alternative delivery methods. I will admit that I am, and always have been, a control freak when it comes to my classroom climate. I make the seating arrangements, establish predictable weekly routines and go to great lengths to institute an orderly delivery of the

daily material to my students. In all honesty, I believed that this was the norm, or the expectation, in all classrooms. Having the opportunity to have a directed, focused conversation with respected teachers who were both observed in their classroom and observed me in mine, have expanded my professional thinking. On return visits to and from those teachers, post conversations noted implementation and slight changes in delivery methods. Classroom management techniques were adopted and modified after the influence from the participation of the meetings. Ultimately I feel that the definitive goal of this study was eloquently recited to me by a former principal during a post-conference meeting, “How the teacher is teaching is important she said, but what I am ultimately looking for is if the students are learning” was the statement she gave to me. I think that I have been attempting to answer this question every day.

My perception of classroom climate has been expanded since I began this research project. I have always tried to be innovative with my teaching, and most of the modification to my delivery of the material have come from years of trial and error. This is a tried and true technique, but in terms of efficiency, quite archaic. Having an avenue to observe both exceptional and not so exceptional teachers in their classroom environment has given me new insight to my career. The post observation conversations that I have had with my colleagues has given me new directions I will take my teaching in. I have also been complemented on what others have observed in my teaching. One of my lofty goals was to not only improve my classroom climate with this project, but to also assist my fellow teaching cohort in their teaching as well.

I will happily state that at the conclusion of my research, all that participated claimed that the extra time that they put into this project for me, ultimately did benefit them as well. One teacher claimed, “Truly enlightening to see my students in a different environment performing different tasks. Teachers handling situations differently than I would with the same students. A truly beneficial opportunity.” My hope is that this frequent observation, conversation model continues and that my cohort grows as a more productive team.

Every student, class, and day presents different challenges and opportunities to the teacher. This profession is too big and important to be tackled independently. Taking advantage of the experiences and knowledge of my peers found in my building have been and will continue to improve my classroom climate. The future of this project has no endpoint. Lifelong learning is the goal; I think that this may be the way to make the most long lasting positive changes.

REFERENCES CITED

- Adelman, H. S., & Taylor, L. (2005). Classroom climate. In S. W. Lee, *Encyclopedia of school psychology*. Thousand Oaks, CA: Sage Publications. Retrieved from http://proxybz.lib.montana.edu/login?url=http://search.credoreference.com/content/entry/sageschoolp/classroom_climate/0?institutionId=7751
- Ambrose, S. A., Bridges, M.W., DiPietro, M. & Lovett, M.C. (2010). *How learning works: Seven research-based principles for smart teaching*. San Francisco, CA: Jossey Bass.
- Conner, T. (2015). Relationship and authentic collaboration: Perceptions of a building leadership team. *The Journal of the Ohio Council of Professors of Educational Administration*. (pp.1-13).
- DuFour, R. (2004). The best staff development is in the workplace, not in a workshop. *Journal of Staff Development*, 25(2), 63-64.
- DuFour, R., DuFour, R., Eaker, R., & Many, T. (2006). *Learning by Doing: A Handbook for Professional Learning Communities at Work™*.
- Fraser, B. J. Classroom environment instruments: Development, validity, and applications. *Learning Environments Research*, 1, 7-33. (1998).
- Freiberg, H. J. (Ed.). (1999). *School climate: Measuring, improving, and sustaining healthy learning environments*. London: Falmer.
- Gentile, D. (2010) *PROFESSIONAL LEARNING COMMUNITIES: A MIDDLE SCHOOL MODEL*. Dissertation Submitted to the Faculty of the Graduate School of Rowan University.
- Jacques, C. (2013, May). Leveraging teacher talent: Peer observation in educator evaluation. *American Institutes for Research*. (pp. 1-7).
- Kamenetz, A. (2014, July 2). *The return of the one-roomed schoolhouse*. nprEd. How learning happens. Retrieved from <http://www.npr.org/sections/ed/2014/07/02/326196530/the-return-of-the-one-room-schoolhouse>.
- Knight, J. (2000, April). Another freakin' thing we've got to do: Teacher perceptions of professional development. Paper presented at the American Educational Research Association, New Orleans.

- McKay, K. A. (2000). Explorations in mentoring: A case study of a mentor and a mentee in the new brunswick beginning teacher induction program (Order No. MQ65508). Available from ProQuest Dissertations & Theses Global. (304667246). Retrieved from <https://search-proquest.com.proxybz.lib.montana.edu:3443/docview/304667246?accountid=28148>.
- Sriklaub, Wongwanich, & Wiratchai. (2015). Development of the Classroom Climate Measurement Model. *Procedia - Social and Behavioral Sciences*, 171, 1353-1359.
- Steadman, R. (1987) A five-year longitudinal study of teacher survival among teacher-graduates of Montana State University. Ph.D. dissertation Montana State University.
- Swiniarski, D. (2005). Working together is the answer. *ATA News*, 39(10), 2.
- Vicksburg, MI history, strong one room school house. (2017). Retrieved from <http://www.rootsweb.ancestry.com/~mivhs/vicksburghistoricstrong.html>.
- Wong, H. (March 1, 2004). Induction programs that keep new teachers teaching and improving. *National Association of Secondary School Principals*. (pp. 1-18).

APPENDICES

APPENDIX A
MONTANA STATE UNIVERSITY INSTITUTIONAL
REVIEW BOARD EXEMPTION



INSTITUTIONAL REVIEW BOARD
For the Protection of Human Subjects
FWA 0000165

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MEMORANDUM

TO: Aaron Kessler and John Graves
FROM: Mark Quinn [Signature]
Chair, Institutional Review Board for the Protection of Human Subjects
DATE: November 14, 2017
RE: "Classroom Climate: Self-reflection, Modification, Improvement" [AK111417-EX]

The above research, described in your submission of November 14, 2017, is exempt from the requirement of review by the Institutional Review Board in accordance with the Code of Federal regulations, Part 46, section 101. The specific paragraph which applies to your research is:

- X (b) (1) Research conducted in established or commonly accepted educational settings, involving normal educational practices such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
X (b) (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.
(b) (3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if: (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
(b) (4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available, or if the information is recorded by the investigator in such a manner that the subjects cannot be identified, directly or through identifiers linked to the subjects.
(b) (5) Research and demonstration projects, which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.
(b) (6) Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed, or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the FDA, or approved by the EPA, or the Food Safety and Inspection Service of the USDA.

Although review by the Institutional Review Board is not required for the above research, the Committee will be glad to review it. If you wish a review and committee approval, please submit 3 copies of the usual application form and it will be processed by expedited review.

APPENDIX B
TEACHER INTERVIEW

APPENDIX C
IDEAL CLASSROOM INVENTORY

TEACHERS AND CLASSROOM CLIMATE
 IDEAL CLASSROOM INVENTORY

Directions: The purpose of this questionnaire is to find out how you would describe your IDEAL classroom climate. Please indicate how much you agree or disagree with each of the following statements regarding your IDEAL classroom climate. Participation in this research is voluntary and participation in the study can be terminated at any time.

1. There is enough space in my classroom for both individual and group work to happen simultaneously.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

2. I decide how much movement and talk there should be in the classroom.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

3. I take a personal interest in students.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

4. This classroom is often very noisy.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

5. The course materials are covered quickly.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

6. There are displays around the room.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

7. Students do not have to hurry to finish their work.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

8. I explain what will happen if a student breaks a rule.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

9. The class has plenty of time to cover the prescribed amount of work.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

10. I decide which students should work together.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

11. The class members feel rushed to finish their work.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

12. The number of students in the class has been taken into account to maximize productivity.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
13. Students are told how to behave in the classroom.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
14. Students in this class get to know each other really well.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
15. Students fool around a lot in this class.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
16. The room is bright and comfortable.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
17. All students in the class do the same work at the same time.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
18. Students choose their partners for group work.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
19. There is little time for daydreaming.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
20. I decide where students sit.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

APPENDIX D
ACTUAL CLASSROOM INVENTORY

TEACHERS AND CLASSROOM CLIMATE
ACTUAL CLASSROOM INVENTORY

Directions: The purpose of this questionnaire is to find out how you would describe your ACTUAL classroom climate. Please indicate how much you agree or disagree with each of the following statements regarding your ACTUAL classroom climate. Participation in this research is voluntary and participation in the study can be terminated at any time.

1. There is enough space in my classroom for both individual and group work to happen simultaneously.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

2. I decide how much movement and talk there should be in the classroom.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

3. I take a personal interest in students.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

4. This classroom is often very noisy.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

5. The course materials are covered quickly.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

6. There are displays around the room.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

7. Students do not have to hurry to finish their work.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

8. I explain what will happen if a student breaks a rule.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

9. The class has plenty of time to cover the prescribed amount of work.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

10. I decide which students should work together.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

11. The class members feel rushed to finish their work.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

12. The number of students in the class has been taken into account to maximize productivity.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
13. Students are told how to behave in the classroom.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
14. Students in this class get to know each other really well.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
15. Students fool around a lot in this class.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
16. The room is bright and comfortable.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
17. All students in the class do the same work at the same time.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
18. Students choose their partners for group work.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
19. There is little time for daydreaming.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4
20. I decide where students sit.			
Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

APPENDIX E
CLASSROOM SELF-APPRAISAL FORM

Classroom Self-Appraisal Form

* Participation in this research is voluntary and participation in the study can be terminated at any time. *

Instructor:

Class:

Date:

Observer:

Number of Students in room:

1. Teaching Methods

A• Were my transitions between ideas smooth?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

B• Did I give relevant examples and use them to clarify concepts?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

C• Was my presentation organized?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

D• Was I enthusiastic about the subject?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

E• Did I use supplemental materials/visual aids/technology effectively?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

F• Did I notice and adapt to student feedback accordingly?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

G• Given the type and size of class, were the methods I selected appropriate?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

H• Did I integrate an assessment tool/strategy into the lesson?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

Successful elements:

Elements to refine:

2. Learning EnvironmentI• Was my classroom atmosphere participatory?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

J• Did my students seem engaged with the topic?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

K• Did I encourage questions and check-in with students?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

L• Was I attentive to cues of boredom or confusion?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

M• Did I provide a session that was thought provoking and stimulating?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

N• Did I provide an environment conducive to critical thinking and student-centered learning?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

Successful elements:

Elements to refine:

APPENDIX F
PEER TEACHING EVALUATION FORM

Peer Teaching Evaluation Form:

* Participation in this research is voluntary and participation in the study can be terminated at any time. *

Instructor:

Class:

Date:

Observer:

Number of Students in room:

1. Teaching Methods

A• Are transitions between ideas smooth?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

B• Are relevant examples given and used to clarify concepts?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

C• Is the presentation organized?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

D• Is the instructor enthusiastic about the subject?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

E• Are supplemental materials/visual aids/technology used effectively?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

F• Does the instructor notice and adapt to student feedback accordingly?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

G• Given the type and size of class, are the methods selected appropriate?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

H• Is there an assessment tool/strategy integrated into the lesson?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

Successful elements

Elements to refine

2. Learning Environment**I• Is the classroom atmosphere participatory?**

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

J• Do students seem engaged with the topic?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

K• Does the instructor encourage questions and check-in with students?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

L• Is the instructor attentive to cues of boredom or confusion?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

M• Was the session thought provoking and stimulating?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

N• Was the environment conducive to critical thinking and student-centered learning?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

Successful elements

Elements to refine