

Are General Education Science Teachers
at Readington Middle School
More Stressed Than Their
Special Education Colleagues?



Blair Alber
The College of New Jersey
June 2014

Abstract

All teachers want to ensure that they create a positive learning environment for all learners. For the 2013-2014 school year, the administrators at Readington Middle School implemented a new schedule in which all special education students were scheduled together on one of the two academic teams. This means that some content specialists had no students with learning disabilities, while others had over thirty. How would this new schedule impact the stress level of the science specialists with all of the inclusion students? This study examined the behaviors of the teachers in the science classrooms to identify how class time was used and if the teachers appeared more stressed. The teachers were also interviewed and completed a stress survey.

An analysis of the data revealed the following:

- General education teachers in a non-inclusion setting appear more stressed. They have greater frustration, anger, and fatigue. They report they have too much work to do and have too many deadlines.
- General educators in an inclusion setting spend a lot of class time reteaching content, making connections to prior knowledge, and reviewing study habits.

Table of Contents

I.	Introduction.....	4
II.	Literature Review.....	7
	a. What are General and Special Educator's Perceptions and Inservice Needs for Inclusion?	
	b. What Do Principals and Special Educators Believe About Inclusive Classrooms?	
	c. What Causes Teacher Burnout in Special Education?	
	d. What are Best Practices for Detracking Reform?	
	e. How Do Special Educators Use Class Time?	
III.	Methodology.....	15
	a. Participants	
	b. Type of Data Collected	
	c. Data Analysis Procedure	
IV.	Findings.....	17
	a. Classroom Observations and Interviews	
	b. Survey	
V.	Implications.....	25
VI.	Limitations.....	27
VII.	Emerging Questions.....	28
VIII.	Conclusions.....	29
IX.	References.....	31

Are General Education Science Teachers at Readington Middle School
More Stressed Than Their Special Education Colleagues?

I. Introduction

I am currently in my seventh year teaching sixth grade science at Readington Middle School in Whitehouse Station, NJ. The middle school belongs to Readington Township's K-8 affluent school district (DFG I), and most of its graduates attend Hunterdon Central Regional High School. The middle school services nearly 750 students from sixth to eighth grade. There are three other schools in the district: an intermediate school educating approximately 500 fourth and fifth graders and two elementary schools each teaching about 380 children from pre-kindergarten through third grade.

With a 9:1 student to teacher ratio, Readington Middle school values academic excellence and is dedicated to creating a positive learning environment that supports personal growth, intellectual development, and shared decision making among its adolescent students, ultimately producing life-long learners. Each student is assigned to one academic team of core content teachers: science, social studies, mathematics, language arts, and foreign language. They also have two elective periods which include physical education/health, innovation and design, financial literacy, art, music, and/or one of its intervention programs. Each day, students are scheduled for nine 43-minute periods including lunch and an 86-minute language arts block. Students have a range of access to technology including laptops, PC tablets, SMARTboards, LCD projectors, and a new 'Bring Your Own Device' (BYOD) initiative. The school also offers a variety of extracurricular activities including more than twenty clubs and a full athletics program.

According to New Jersey's Department of Education's School Performance Report for 2012-2013, the ethnicity of the middle school's student population is primarily white (88%). There are

also Hispanic (4.7%), Asian (3.9%), and Black (2%) students. The middle school population primarily speaks English (96%), and there are few Spanish speakers (1.5%); only two students are limited English proficient. Of the 747 students, 7.6% of students receive free/reduced lunch and 17% have individualized education plans. To meet the diverse learning needs of all of its students, there are a variety of programs available: gifted and talented, reading and mathematics intervention, and out-of-class and in-class support for special education students.

In each of my first six years teaching, I taught five daily science classes, three that I co-taught with a special education teacher. In six years, I have worked with eleven special education teachers, only one of whom I worked with for consecutive years. This has always been a frustration of mine, especially after learning how to co-teach effectively with my colleague across five years. With a new principal and vice-principal starting their first full school-year together, they implemented a new schedule.

I can remember the day in August when the new schedule was released. I was not working with the same special education teacher, nor was I working with any! I thought it had to be a mistake, so I checked the schedule of the other sixth grade science teacher. She was working with the same inclusion teacher for four out of her five class periods. Upon further research, I realized that one of the two science teachers in each grade was teaching a nearly full inclusion schedule with the same special education colleague and the other was not. Seemingly, I got the better population of students, and immediately called my sixth grade science colleague to debrief. We discussed our inequitable student populations and administrators' intent to establish co-teaching relationships in the content areas. We both knew this year was going to be a learning experience for both of us.

Throughout the fall, she, the special education teacher in her class, and I worked together and

quickly figured out how to divide tasks among ourselves to be most efficient. Once it became mid-year, however, she became overwhelmed as there was a decrease in her planning time. She had to spend non-instructional time dealing with guidance issues, discipline problems, IEP meetings, and creating substitute plans. She had also grown increasingly frustrated as her students were not understanding simple concepts and she heard me talk about higher level discussions about the same content in the adjacent classroom. Sometimes she would come over and observe my class during her prep period so she could see what “normal” was like this year. Mid-year, she also began sharing her thoughts on grouping her classroom homogeneously by ability groups so that the regular education students in her classroom were treated fairly and challenged academically.

Upon further discussions with the seventh grade science inclusion teacher about similar issues, I wondered more about the benefits and disadvantages of scheduling all special education students on one academic team. Research studies have shown that there is a negative impact when tracking students. Students assigned to low-ability groups move more slowly through the curriculum, do worse in school, (Braddock & Dawkins), and score lower on standardized tests (Hallinan & Kubitschek, 1999). What are the implications on the teacher’s well-being? Are general education science educators teaching a nearly full inclusion schedule more stressed than their grade level colleagues who have no inclusion students? If yes, what are the primary stressors? In order to investigate this issue, I observed the five other science classrooms, three inclusive and two non-inclusive settings. To explore the issue further, I also interviewed and surveyed each science specialist and his/her special education colleague.

II. Literature Review

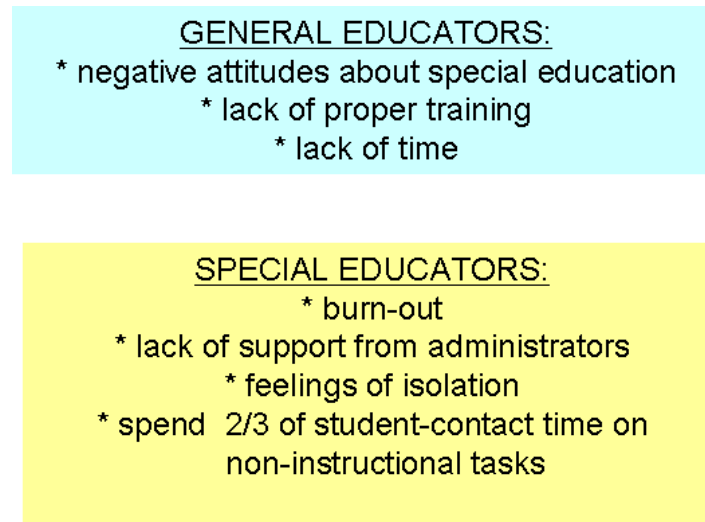


Figure 1. Literature Review Summary

a. What are General and Special Educator's Perceptions and Inservice Needs for Inclusion?

In the United States, special education and general education teachers are often trained separately and develop different perspectives, beliefs, and methods for educating students. Ultimately, both groups of teachers need to be able to collaborate and create a partnership to produce the most meaningful instruction for students with special needs in inclusive settings. This study examined factors that supported or hindered teacher's abilities to meet students' needs. In order to be effective, general education and special education teachers need to feel empowered and experience some small successes with students from the inclusion classroom. Adequate class sizes and inservice training were two supports that both groups needed in order to feel successful. The researchers also discovered that general educators need training in program modifications, assessing academic progress, adapting curriculum, managing behavior, and working with IEP's. Both groups expressed a lack of confidence working with parents and using assistive technology. Both groups, however, also expressed they

received support from both principals and specialists.

This article brings up two major concerns. How can school districts increase teachers' understanding of inclusion to improve their confidence? Increasing confidence is imperative, as there is a strong positive relationship between understanding inclusion and a belief teachers can get through to a student with special needs. The other major concern is that general educators reported less support and resources than special educators. If general educators think they have more access to supports, it would aid them in the inclusion setting.

This research was completed as part of a mid-Atlantic statewide survey directed by the Department of Education. There seem to be many parallels to the experiences of general education teachers in an inclusion setting because it is located in close proximity to New Jersey and included teachers' responses across an entire state, but the results are also limited because the data does not include responses from any other state. Another caution is that there could be a possible bias because more special educators responded to the surveys.

From personal experience, I understand the results of this research. In my undergraduate education, I received no training on dealing with children with special needs or disabilities. In six of the seven school years I have worked as a general education science teacher, I have worked with eleven different special education teachers and around 100 students with a variety of disabilities. None of my training focused on working with this population of students, and I truly experienced on-the-job training and learned most of what I know from my supportive special education colleagues. General education teachers in my school feel so overwhelmed because we lack support, training, and time to collaborate with colleagues and meet the needs of all of our students.

b. What Do Principals and Special Educators Believe About Inclusive Classrooms?

As the survey between general education and special education teachers demonstrated, there is a lack of support among teachers who must work in the inclusive classroom. Many special education teachers support inclusion but do not have adequate materials, support, training, time, or personnel support. Administrators rely on the special education teachers to lead the implementation of inclusion, convince general education teachers the inclusive setting is valuable, and deliver instruction and support their students with disabilities. There were three major discrepancies between principals and special educators. Principals agree that an inclusive classroom is the best setting and will increase student achievement, whereas special educators disagree. Special education teachers strongly agreed that special education resources must be protected if students are placed in an inclusion setting. These differences can be explained by principals' interest in cost-saving measures. In order to improve attitudes and positive outcomes, school districts must improve and extend professional development, reduce teacher isolation by regularly scheduling time for collaboration, and involve more teachers to reduce an individual's workload.

At the completion of their study, the researchers wondered if there a significant discrepancy between the beliefs of principals and special education teachers because administrators are increasingly implementing inclusive programs and special educators are not seeing better results with these programmatic changes. This question stems from their research from a wide array of settings, population sizes, socioeconomic statuses, and varying degrees of inclusion, a strength of this article. It does not, however, extend nationwide, as the research was focused in one region. There was also a threat to the construct validity because there were a limited number of survey items.

There is definitely a disconnect among teachers and administrators at our school, especially with the new inclusion schedule. The special educators have rarely had consistent schedules from year to year and are increasingly frustrated. This study recognized the necessity to examine the attitudes of general educators. At Readington Middle School, the general science educators who have inclusive classrooms for at least 80% of their day feel isolated and deflated. These teachers feel under-trained, unsupported, and have less time to plan. They are seemingly operating with a more negative attitude and higher level of stress than their grade-level colleagues.

c. What Causes Teacher Burnout in Special Education?

There was a shortage of teachers in education, and there were higher attrition rates of special educators compared to their regular education peers. Since special education has been evolving, working conditions are becoming worse and teacher stress is increasing because there is a greater demand for inclusive instruction, changes in discipline and behavior plans, and an increase in paperwork. Teachers also leave special education because they lack time to plan, administrative support, staff development, and/or job experience. Others leave because they are responsible for large ranges of student performance levels and spend excessive time in meetings. Special education teachers need professional development in stress management. Novice teachers need support of a mentor and all teachers need support from their building principal.

Although the article is over ten years old, it summarizes a variety of research studies and offers several solutions to enhance special educator retention. The authors do question if other more politically risky solutions would alleviate the burnout of special educators. Should special educators be paid more? Should districts hire older, veteran, and more-certified teachers?

With the new science inclusion situation at Readington Middle School, it is obvious that I have less discipline and behavior problems, less paperwork, less time spent in meetings, and a smaller range of student performance levels than my colleague who teaches four inclusion classes. My main concern is how the inequitable schedule will negatively impact our working relationship because our roles and responsibilities are becoming vastly different. Ultimately, we spend less time collaborating and the entire grade is not getting the most effective instruction. Teachers need to be scheduled fairly and have enough support, time, and professional development to reach the needs of all students, especially those in an inclusive classroom.

d. What are Best Practices for Detracking Reform?

Tracking by ability groups became predominant in public schools in the United States. Originally developed to provide more individual educational experiences for all students, multiple studies over the past decades have shown there is a negative impact on students. Detracking will ensure that all students have access to a high quality education including curriculum, teachers, and resources. When implementing detracking programs, it is necessary to have deep structural reform and thoughtful pedagogical change. School districts must also engage all stakeholders, students, teachers, and the community, to re-evaluate their beliefs about ability and achievement.

Classrooms must build an underlying set of principles and establish a respectful community of diverse learners. All students should be challenged and actively involved in their own learning. Teachers should incorporate real-life experiences, student interests, and flexible grouping in addition to building higher-level skills of analysis. The researchers did find that support classes can help assist struggling students and build confidence in the non-tracked classroom settings. The other major component of a detracking program is evaluating beliefs about tracking which can be changed using the

empirical data that supports heterogeneously grouped classes.

The article discusses a range of successful detracking reforms. Some schools completely eliminate tracked classes. Other schools limit tracking to some subject areas, generally mathematics. If educators do not have support for the detracked classes, they will revert back to their old methods. It is necessary to provide teachers with time and resources to design and develop new curriculum. Educators also need common planning time built into their contracts to meet with their departmental colleagues. Lastly, it is essential that teachers involved in detracking receive plenty of training on differentiated instruction. Since detracking efforts vary greatly from one district to another, it is difficult to determine why one program is more effective than other. That is, there is not one assessment to determine each reform's effectiveness.

Personally, this article has made me rethink grouping students by ability. When I was in eighth grade, I was scheduled in two inclusion classrooms as a regular education student, and my science teacher changed my schedule because I was bored in class, and he wanted to provide me with a more challenging setting. I had always thought positively about tracking as both a student and educator. On the other hand, as a more experienced teacher, I have noticed that grouping lower achieving students with higher achieving students forces the lower achievers to think at a different conceptual level, but I was only able to see this after several professional development workshops that focused on methods of questioning and identifying big ideas and concepts instead of minute facts and trivia.

With the special education students grouped on only one academic team this year, our administrators have essentially tracked our students by ability level. My colleagues and I are afraid that some higher level regular education students are not learning to their full potential because they were randomly scheduled on the academic team with all of their special education peers. Some have a full

academic schedule of inclusion classes. Will these students be challenged enough and show growth if never scheduled with higher achieving students? If the inclusion classes are distributed equally among content teachers, then I completely agree with detracking because it is less likely that a general education student would be scheduled in all inclusion classes.

The article also discusses the benefit of supportive classes to help the lower achievers, and our administrators have abolished the middle school's every-other-day study skills class so that our students with learning disabilities have every day foreign language. I am sure that our middle school needs more equitable scheduling for the benefit of all students and teachers.

e. How Do Special Educators Use Class Time?

Another body of research investigated how special educators spend their class time across different academic programs. The researchers wanted to discover if there was a general trend for how special educator teachers use their time and/or if there were variations of time use among each of four programs. A total of ten different codes were used to label teacher time. Perhaps most extraordinary, the researchers found that the special education teachers are not instructing for two-thirds of class time. Most surprising might be the amount of time teachers spent on paperwork, 12%, and how little time was spent on preventing and responding to negative behaviors, 9%. The teachers were only testing this often-tested population 8% of the time, and just over one-third of the special educators time with the students in class were spent on academic instruction, 20%, and instructional support, 17%. Although the results may not be representative of the nation, there was a huge sample size encompassing a variety of districts, settings, and programs. There was also a large number of hours sampled in both winter and spring. One area of future research could be a causal study so that researchers can identify why there are differences in teacher time use across special education programs.

Personally, I have witnessed the other sixth grade science teacher spend her time quite differently than mine. She is often busy meeting with other content-area teachers, the guidance counselor, and the case manager to discuss individual students. She also spends more time communicating with parents through email and phone conferences. In the spring, she has spent a huge amount of time preparing for and attending IEP meetings in addition to discussing behavioral issues with the vice-principal. It is obvious we spend our time very differently when we are not with students, but this article made me wonder if there are similarities in how we spend our class time when we are with our students. Does she spend more time reteaching? Does she spend more time preventing or reacting to behavior? Does she spend more time completing paperwork? Does she spend more time on non-academic instruction like study habits?

f. Conclusion

Current research has demonstrated that special education teachers are suffering burn-out from a lack of support from administrators and feelings of isolation as summarized in *Figure 1*. They also spend two-thirds of their student-contact time on non-instructional tasks. On the other hand, general education teachers have negative attitudes toward teaching their content in inclusive settings because they do not have proper training or time to address the diversity of needs of all students. Finally, all students should have equal access to opportunities in a detracked educational setting.

The purpose of my research is to identify how general education science teachers at Readington Middle School are adjusting to the newly tracked science program schedule with special education students grouped entirely on one of two academic teams in each grade level. Informally, the general education science teachers appear to be more stressed with this new schedule. My goal is to determine what stressors are most prominent in the science classrooms and determine if general education science

teachers in inclusive settings are more stressed than general education science teachers in non-inclusive settings. Under the assumption that they are, what are the primary stressors? Are they stressed because they do not have enough time? Are they stressed because they feel isolated or not supported by their administrators? Are they stressed because they feel less confident or harbor more negative attitudes? Ultimately, if the schedule remains, how can all general education science teachers work together to work in the least stressful environment and ensure a positive learning environment for all students?

III. Methodology

a. Participants

There are two science teachers in each of the three grade levels, sixth, seventh, and eighth, and an additional science classroom services our LLD students in a pull-out setting. For the 2013-2014 school year, each grade level science teacher was scheduled to teach five periods of science. The sixth grade science content teacher is Sherry Krial, and she works with Dianna Barkman, the special education teacher, for four of her five class periods. They have taught at least one class together for three years. Mrs. Krial also works with an additional special education teacher for one of her periods and an instructional aide is assigned to two of her classes. Mrs. Krial has eighteen years of teaching experience, and Mrs. Barkman has been teaching for over thirty years. The seventh grade science content teachers are Gerry Slattery and Chip Shepherd. Mrs. Slattery retired at the end of the school year after thirty five years in science education. Mr. Shepherd works with Mike Roosen, the special education teacher, for four of his five science periods. They have worked together teaching two classes together for the past two years. Mr. Shepherd and Mr. Roosen both have seven years of teaching experience. The eighth grade science content teachers are Kelly Lee and Jillian Tundidor. Ms. Lee

only teaches in an inclusion setting for one period of the day, whereas Ms. Tundidor teaches a full inclusion schedule and works with Bruce Wild for all five of their science class periods. Ms. Tundidor and Mr. Wild have taught one class together for the past two years. Ms. Tundidor and Ms. Lee have both been teaching for three years, and Mr. Wild has over fifteen years of teaching experience. This is the first year where there is inequitable scheduling of inclusion classes. In the previous years, all science teachers worked with special education students and taught two or three inclusion classrooms.

b. Type of Data Collected

I explored this issue by observing the other five science classrooms, excluding the pull-out setting, three times over a two-month period. All but two of the observations occurred during the last period of the school day. Each science specialist and special education colleague were interviewed before, during, or shortly after the observation. Finally, each participant completed a stress survey toward the end of the study. This survey included items asking about the frequency of emotions or feelings participants regularly experienced, frequency of physical symptoms often associated with stress, and types of tasks and/or people that made it difficult to complete their job duties. Participants also responded on a scale about how much stress is created by certain items.

c. Data Analysis Procedure

After the observations and interviews were completed, I coded the data in order to identify themes from the personal interviews. Specifically, I tried to identify themes about time use, feelings of isolation, support from administration, feelings of confidence, issues regarding a lack of professional development or training, and negative attitudes. Relating to time, items were also coded on the amount of time spent reteaching content, completing paperwork, and teaching study habits. The quantitative data from the stress survey was used to identify if there are parallels to the classroom observations and

if there were any outstanding differences between the teachers in the general education classrooms and teachers in the science inclusion classrooms.

IV. Findings

a. Classroom Observations and Interviews

The most noticeable differences between the two types of science classrooms were the distribution of gender, use of time, and a evidence of a working partnership. The non-inclusion classrooms has twenty and twenty-three students. The first classroom had an equal number of boys and girls, whereas the larger class had five more females than males. The inclusion science classrooms, however, were noticeably dominated by boys. In the sixth grade classroom, there were fifteen (71%) boys in a class of twenty-one students. The seventh and eighth grade classrooms had a similar distribution: fifteen boys (62.5%) among twenty-four students and sixteen boys (76%) among twenty-one students. Teacher time was spent quite differently in the inclusion classrooms with two adults, and it was evident that the two teachers relied heavily on each other to complete the necessary tasks of each class period.

i. Non-Inclusion Setting

In the regular education science settings, teachers rely heavily on students' abilities to function independently and follow multi-step instructions. This is a necessary strategy to free up class time to work with individual students or small groups. Many of the students willingly become attentive when asked the first time; few need a second prompt for attention. This is especially noticeable as the general education teachers regularly call on students randomly to respond. All can answer the question, often times quite thoroughly, and there were little to no errors in their use of vocabulary and reading. During lectures or descriptions of diagrams, general education students take notes without being prompted.

One seventh grade female student appropriately used her laptop to take notes with no distraction. Most children had their notebooks ready and available with paper and writing utensils to hand-write their class notes.

The majority of students in the general education science setting are also able to listen, comprehend, and follow the directions that are always projected in writing. Students were regularly making direct eye contact with the teacher or referencing a classroom worksheet or resource when given instructions. Oftentimes students clarified directions or answers of which they were unsure or asked for further information before the activities started, evidence of the students' abilities to function at a higher level. During class activities, students regularly completed their work as assigned and met the teacher's expectations. At times, however, typical in a middle school classroom, some students would be off task if the teacher's back was turned during their independent work. If needed, the general education students were found referencing the written directions and could function independently or with some peer assistance. The students also followed classroom routines. Few left the classroom, and they left one at a time signing out without needing explicit permission from the teacher. On two separate observations, the students were given part of the class period to study, and students used the time effectively. They used the science textbook, class notes, flashcards, and one-on-one time with the teacher.

Neither of the general education science specialists reported feelings of isolation, but it was apparent that these two teachers were constantly on the move: teaching, monitoring behavior, and checking in with students. One approximately two-minute snippet during an eighth grade period in May:

Ms. Lee (*to Justin*), "You are out of control. You need to calm the guys down."

Ms. Lee (*to me*), "Did you hear anything about the science demos from yesterday?"

Hunter and Andrew (*to Ms. Lee*), “Can we start over?”

Ms. Lee (*to boys*), “Use the back. Make it organized.”

Cassie (*to Ms. Lee*), “Where is the colored pencil sharpener?”

Ms. Lee (*to Cassie*), “I don’t know. It’s here somewhere. Someone must have it.”

Jackie (*to Ms. Lee*), “Can you help me find the markers?”

Ms. Lee (*to Janie*), “Did you spell it right?”

Ms. Lee (*to Josh & Justin*), “Get your work done!”

Justin (*to Ms. Lee*), “What do we do when we’re done?”

Hanna (*to Ms. Lee*), “Can I go to reception?”

This type of communication was observed when students were creating products. During these types of activities, it was difficult for the teacher to work one-on-one. They were found checking in with smaller groups of students. Another student needed them or they had to monitor the behavior of others, especially if their backs were turned. It was quite obvious that the general education science teachers did not complete other tasks like paperwork and grading. They were always up and active, providing direct instruction, working with kids, or monitoring activities.

Although the general education teachers were constantly spending their time communicating with the students in the classroom, they also seemed to have a much better rapport with the students. That is, the general education teacher and students laughed more, joked regularly, and spoke about personal things unrelated to science. The use of humor was visible in the seventh grade classroom when they had a discussion about cloning as Mrs. Slattery asked the students if Connor should get cloned. Although the kids became a little sidetracked, they were engaged in the discussion and contributed their knowledge and continued joking about the possibility of having many “Connors” walking around.

Another joked about how serial killers should clone people so they could not be convicted of their murders. It seems that there is more humor in the general education classrooms because the students extend ideas, have extra time because the content is delivered at a faster rate, and the students quickly refocus their attention when asked.

There was no evidence of a lack of confidence or a sense that the general educators had a lack of administrative support, but Mrs. Slattery hinted at the superintendent's distance from the classroom and the principal's character, "Barbara thought I was old and not innovative, and Sharon needs control." This comment was the only evidence of a negative attitude from the general education teachers during the classroom observations and interviews. In fact, Mrs. Slattery really enjoys her students this year and commented, "[The students] are really sweet; these kids say good morning - from the start of the school year."

ii. Inclusion Setting

In the inclusion science setting, teachers rarely provided multi-step directions. Directions were always simple. For example, students will do one or two step directions and wait for the next prompt. When computers were being used, teachers always asked students to shut the screens off during instruction. In addition to directions, teacher time was also spent reviewing tips on the SMARTboard. For example, teachers might review how to access a website, how to open a link, how to access the online textbook, or how students can locate answers. Unlike the general education classroom, kids would work independently for shorter periods of time before being brought together as a whole class. This ensured that everyone was getting accurate information and staying on pace with the lesson. During note-taking, both teachers checked-in with students to ensure that they were on-task, writing things down and using the correct resources. These classrooms were also observed regularly using

multimedia to engage the students. Even when given a choice activity, there were a multitude of options using technology: videos, online quizzes, games, and online access to worksheets and answers, but students were more apt to become off task and use the technology for something unrelated to studying. Teachers would have to monitor their on-task behavior.

Another major time difference that was apparent in the inclusion setting was the instructional time spent reviewing study strategies and making connections or reminding the students about how the current content related to their prior knowledge.

Mrs Krial asked, “What does mild mean?”

To which Hunter responded, “I like mild Slim Jims.”

and Mrs. Krial followed up, “Me, I like mild peppers!”

Reminders and connections were regular:

“Remember you can use the chart on the side board,” stated Mr. Roosen.

“Does this sound like any other world you know?” asked Mrs. Barkman.

“Who can tell me why the golgi apparatus is like a post office?” questioned Mr. Shepherd.

When interviewing Mr. Wild, he commented that he and Ms. Tundidor had to frequently prompt students about previous lessons to help them arrive at the right answer because the students had trouble remembering things and were very linear thinkers. Mr. Shepherd was frustrated in one interview, “We have to restate over and over again and provide an incredible amount of wait time. And this is my high functioning class. You should come in earlier in the day.”

The other major difference between the inclusion and non-inclusion science setting was that in the two teacher setting, one teacher was often doing another task. These observed tasks included paperwork, computer work, grading, handing back papers, meeting with another colleague (case

manager or guidance counselor), or leaving the classroom to make copies or use the restroom. More class time may have to be spent on non-instructional tasks because, as Ms. Tundidor stated, “We spend so much time communicating with parents regularly.” Another difference in use of time was how one of the teachers was able to spend a significant amount of time working with a small group or individual student. This was observed in all three grade levels. One of the teachers could take the lead with the rest of the class while the other could work with another student, notebook organization, make-up or re-do work, re-wording, clarifying, or prompting. There was more one-on-one time with all students in the inclusion science settings.

The isolation, or lack thereof, was very evident. In every observation of the inclusion classroom, the two teachers often exchanged glances and communicated both verbally and nonverbally. Nonverbal communication was often through facial expressions like smiles, eye rolls, and winks. These teachers also appeared more relaxed, as they could divide and conquer the various student needs and requests throughout the class period. The general education and special education teachers also worked together to clarify, add, and restate each other’s comments and directions. The two teachers also provided a significant amount of wait time and time warnings for task completion than their general education colleagues in the non-inclusion setting.

Just like their general education colleagues, the teachers in the inclusion setting also reported few negative attitudes. The greatest one being about administrators’ support. “This one student has twenty-one absences and nine tardies. Think about how much instruction he is missing. How are we supposed to catch him up? What is the administration doing about this?” questioned Mr. Wild. All three special educators remarked on several occasions about the number of students they see each day. “I have 37 kids this year. We need to limit the pairings. They are together all day,” said Mrs. Barkman.

There is an interesting finding. In the co-teaching classrooms, attitudes remained high. Teachers provided lots of encouragement, asked students not to become frustrated, motivated them with “cool storm magazines” for when they completed a task, identified easy problems. After a significant amount of wait time with no student volunteers, Mr. Shepherd encouraged the seventh graders to respond, “It’s great practice to verbalize your thoughts, even if you’re wrong.” Additionally, with two teachers in the classroom, if one was having a stressful or bad day, the other took lead of the class.

b. Survey

The stress survey yielded positive results. Collectively, the science department is not or is rarely angry, disgusted, furious, or miserable. As expected, there are sometimes feelings of anxiety, confusion, frustration, and inspiration. We are often annoyed, but we are also content, enthusiastic, energetic, and happy. Half of the department reported tiredness/fatigue and trouble sleeping, and nearly half reported having headaches and eyestrain. Other employees, inadequate training, and conflicting job demands were not stressors. The science team at Readington Middle School also unanimously reported that we like the people we work with, we like doing the things we do at work, and we feel a sense of pride doing our jobs. The science team also felt that our efforts are not rewarded the way they should be, we have too much paperwork to complete, communication is not good within school, and our administrators are incompetent. Although we do not feel like we are being paid a fair amount for the work we do, we all reflect on the satisfaction we get from being educators, and two-thirds of the department does not think of giving up education for another career.

The greatest stressors as a science department (*Figure 2*) were too much responsibility, too many jobs to do at once, and meeting deadlines and time pressures. The team also reported the most stress because there is often a great deal to be done and little time to get things done .

STRESSORS



Figure 2. Stressors in the Science Department

	General Educators	General Educators (Inclusion Setting)	Special Educators
Stressors	<ul style="list-style-type: none"> • most frustrated • most furious • most angry • most fatigued • least relaxed • least satisfied • least happy • least excited • work we do is not appreciated • too much responsibility • too many jobs to do at once • too many deadlines & time pressures • little time to get things done • too much work • upset stomach/nausea 	<ul style="list-style-type: none"> • most discouraged • most annoyed • always a great deal to get done • least energetic • too many meetings • heart pounding when not exercising • headache 	<ul style="list-style-type: none"> • most anxious • most lack of information • poor communication at school • too much responsibility • too many jobs to do at once • always a great deal to get done • too many meetings • conflicting job demands • need more training • eye strain
Non - Stressors	<ul style="list-style-type: none"> • least administrative interference 	<ul style="list-style-type: none"> • most inspired • least anxious • least confused • least frustrated • least furious • least interruptions • work late the least often 	<ul style="list-style-type: none"> • most content • most enthusiastic • most energetic • least angry

Figure 3. Stressors in the Science Department - 3 Teacher Roles

The chart in *Figure 3* best represents how the general educators in the non-inclusion setting experience the most stressors. These three report the most frustration, fatigue, amount of work to do, and stress of deadlines and time pressures. They are also least happy and excited even though they have the least interference from administrators. The general educators in the inclusion setting report that they are the most discouraged and annoyed. Perhaps this is because they have too many meetings. This group also reports a lot of positive results. They are most inspired, least frustrated, and work late the least often. Finally, the special educators in the science classrooms also experience stress because they are anxious, have too many meetings, too much responsibility, conflicting job demands and poor communication at school. The special educators, however, are least angry and more enthusiastic and energetic.

V. Implications

The scheduling process in a middle school can be quite challenging. It is imperative to meet the needs of all students, provide a rigorous curriculum that challenges all learners, and establish working relationships among staff who feel confident, are well-trained in their assigned positions, and supported throughout the work day. First, when administrators implement a new schedule that has inequalities, what supports do they provide for their staff to ensure all teachers are motivated and happy? For this school year, the motivation and happiness of staff members seemed to shift from the general education class to the inclusion classroom. As the co-teachers learned their students and developed classroom routines and discovered how to best work together, they settled comfortably into the school year. When the two teachers were able to work well together throughout the entire day, they not only had emotional support, but they also had someone else who could complete schoolwork. At the same time, the general education science specialists began feeling the wear and tear of the school year because they

felt the burden of having the sole responsibility for over one hundred students and saw the other science classroom in the grade level have the workload equally divided. In prior years, each teacher worked with at least one other teacher at least once during the day. This year, however, they were all alone and feelings of isolation grew along with fatigue and stress. Readington Middle School needs to make sure its staff are working together to support each other emotionally, reduce stress, and develop lessons and activities that can be shared across the grade level.

Readington Middle School also needs to provide professional development for our content specialists so that all students are getting a fair, balanced, and challenging education. Regular education students scheduled on the inclusion team were in classes with special education students all day. Did they get the most rigorous work to do? They did, however, have greater opportunities for one-on-one time because they were often in a classroom with two teachers. The students on the non-inclusion team might have had more challenging coursework, but teachers need to learn how to plan lessons to increase one-on-one or small group time with all students.

An easy and cheap method for providing teachers the opportunity to grow professional is to have staff observe each other, across the grade level and subject area. Just by observing the five other science classrooms, there were conversations among colleagues about classroom routine, behavioral norms, even methods to go over homework. If we can give teachers common experiences, they will be able to discuss and articulate best practices at faculty and department meetings. Teachers can also learn new activities or strategies to try if they observe it working well in their colleagues' classrooms. All in all, the staff at the school need to have time to collaborate, communicate regularly, support one another, and build a positive culture for themselves and their students.

VI. Limitations

There are two major limitations to this study: time and the sample size. For the majority of observations, I was only able to see the period 9 classes during my scheduled prep period. This means I saw the same group of personalities, abilities, classroom dynamics, and behaviors that are typical at the end of a school day. I had the potential to observe ten other inclusion settings and seven general education settings, so my observations are difficult to generalize. I was also unable to get into each classroom more than three times because of the district calendar. During the study, classes were shortened due to parent-teacher conferences, and I did not anticipate the lack of time to go into classrooms due to spring recess and state testing. My after school responsibilities also increased when the spring athletics season began, so I had less time available during the school day to complete observations because I had to complete certain tasks. Recognizing that I had a lack of time and diversity among the classrooms I observed, I requested a professional day to observe different classes at different times throughout the school day, but my principal denied the request. This was especially frustrating that I did not have the support from my principal, and I had increased feelings of isolation. The other time issue was that these observations all occurred during the second half of the school year. If I were observing at the beginning of the year, I might have observed more stress in the special education classrooms. Teachers were still learning the dynamics of each other and how to reach all students effectively. It seemed that, during the second half of the school year, the teachers had already accepted the situation and figured out how to make it work in their classrooms. That is, original frustrations that may have been observed early in the school year were resolved by the beginning of this study.

The other major limitation was that I sampled such a small group of teachers that divide into even smaller sub-groups. Some of the results of the stress survey might be a factor of the personalities, experiences, and perspectives of each individual. Therefore, it would be beneficial to observe all general education and inclusion classrooms in order to reliably generalize results, but a greater time period would be necessary to complete a valid and reliable study. The last limitation, in addition to the small sample size, is that teachers self-reported data for the survey. Depending upon the teacher's fatigue or feelings when they completed the survey, they might have answered more positively or negatively, which would have severely impacted the results.

VII. Emerging Questions

After investigating the stress levels of my colleagues in the science department at Readington Middle School, there are questions that have emerged for further investigation:

- What is the philosophy of special education at Readington Middle School?
- Do administrators consider the needs of the regular education students and their need to be challenged?
- How can we be sure that all students are being intellectually challenged when scheduled on the team with a variety of learning disabilities?
- How can administrators provide support and time for staff members to collaborate?
- How can administrators improve collegial support at Readington Middle School and encourage each staff member to help others.
- How can teachers at RMS meet together more often during the school day?
- How can administrators reduce the overwhelming stress of time and/or workload?

VIII. Conclusion

With the implementation of the newly tracked science program schedule with special education students grouped entirely on one of two academic teams in each grade level, and one science specialist per grade taught all of the inclusion classes, I predicted that the general educators teaching the special education population would be more stressed. The inequitable schedule seemed to force one science specialist into attending more meetings, communicating with parents more often, and completing more paperwork. I further predicted that they would spend more class time reteaching content, teaching study habits, and preventing or reacting to behavior. Based on the research, I expected that the science specialist teaching in the inclusion setting would feel isolated and harbor negative attitudes.

The teachers who taught in the inclusion setting had plenty of time to collaborate to write lesson plans, develop activities, communicate with parents, and teach their science classes. Although the special education students require the completion of more paperwork, they were able to share the workload, whereas the general educators felt overwhelmed by paperwork. Special educators also spent more time in meetings, but no class time was lost because the other teacher in the classroom ran the class normally. The general educators had to leave activities that a substitute could facilitate and write plans when they were out of the classroom.

The teachers in the inclusion setting did spend a great deal of class time reteaching, connecting new content to prior knowledge, and teaching study habits, unlike their colleagues in the general education science classrooms. Although class time was spent differently between the two types of classrooms, these teachers did not feel isolated. They always had another adult in the classroom to complete their duties. The educators in the non-inclusion setting reported that they had too much responsibility, too many deadlines and time pressures, and too much work. They also reported the

most fatigue, frustration, anger, and felt the work they do is not appreciated. Ultimately, if the schedule remains, administrators and staff need to encourage all teachers to work together to reduce feelings of isolation and fatigue that lead the stress and ensure a positive learning environment for all students.

IX. References

- Buell, M. J., Hallam, R., Gamel-Mccormick, M., & Scheer, S. (1999). A Survey of General and Special Education Teachers' Perceptions and Inservice Needs Concerning Inclusion. *International Journal of Disability, Development and Education*, 46(2), 143-156.
- Braddock, J.H., II, & Dawkins, M.P. (1993). Ability grouping, aspirations, and attainment: Evidence from The National Educational Longitudinal Study of 1988. *Journal of Negro Education*, 62, 324-336.
- Cook, B. G., Semmel, M. I., & Gerber, M. M. (1999). Attitudes of Principals and Special Education Teachers Toward the Inclusion of Students with Mild Disabilities: Critical Differences of Opinion. *Remedial & Special Education*, 20(4), 199-207, 256.
- Fore, C., Martin, C., & Bender, W. N. (2002). Teacher Burnout in Special Education: The Causes and The Recommended Solutions. *The High School Journal*, 86(1), 36-44.
- Hallinan, Maureen T., & W. Kubitschek. 1999. "Curriculum differentiation and high school achievement." *Social Psychology of Education*, 3, 41-62.
- Rubin, B. C. (2006). Tracking and Detracking: Debates, Evidence, and Best Practices for a Heterogeneous World. *Theory Into Practice*, 45(1), 4-14.
- Vannest, K. J., Hagan-Burke, S., Parker, R. I., & Soares, D. A. (2011). Special Education Teacher Time Use in Four Types of Programs. *The Journal of Educational Research*, 104(4), 219-230.