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A Study of How Changes to Fifth-Grade Classroom Structures Affect Students and Teachers

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Abstract

Abstract: This quantitative study compared the impact of partnership departmentalization by content area of fifth-grade classrooms to traditional self-contained fifth grade classrooms. The direct impact of the structure shift on teacher morale and student achievement in the areas of mathematics and reading were examined. Findings indicated that for the majority of fifth-grade teachers, content specialization in a two-teacher partnership model appears to improve teacher morale. NWEA math scores showed an increase in students meeting projected growth, however overall achievement neither increased or decreased. Reading benchmark data from fall to winter was only available for students scoring below grade-level benchmark in the fall. Of those students there seems to be an upward trend of more students who scored below benchmark making bigger gains and fewer students falling further behind. A continuation of tracking this data over several years will lead to a more clear indication of improvement in student achievement in a two-teacher partnership content specialization model.

Keywords: classroom structure,

A Study of How Changes to Fifth-Grade Classroom Structures Affect Students and Teachers

Literature Review

Classroom organization at the elementary grades is often a self-contained compartmentalized model, one teacher, about twenty students, and all the major subjects: English Language Arts, Mathematics, Science, Social Studies. Middle school is typically organized into a departmentalized model with a group of about twenty students rotating between several teachers who teach only one subject. When the structure shift happens often depends on individual school districts. Middle school starts anywhere from four -6 grade. When is it best for students to break out of the one teacher model? When are students ready for more responsibility? When does the content become too deep and demanding for one teacher to be able to truly teach it well? Does a small structure change the year leading up to middle school better prepare students for a fully departmentalized model? A local elementary school has recently shifted the fifth grade to a two-teacher departmentalized partnership model, a hybrid version of a self-contained elementary setting and a fully departmentalized middle school model. The purpose of this literature review is to analyze current research findings on when a structural shift is developmentally appropriate, how structures affect teacher proficiency and morale, and what other research could be done.

Student Impact

The structure of a student's school day can greatly affect student performance and emotional wellbeing. The degree of departmentalization, student age, and the connection

between student age and the degree of departmentalization are considerations that most impact students (Chang, Muñoz, and Koshewa, 2008). Chang, Muñoz, and Koshewa found that a two-teacher model has the greatest positive connection between student success and feelings of connectedness. Partnership teaching with an emphasis on community built in has no significant differences between self-contained classrooms and feelings of connectedness. Age was found to have a significant impact, third graders had much lower ratings of classroom supportiveness and trust/respect for teachers than the fifth graders. Although Ray's (2017) statistical results from a study examining structure and high-stakes test results found no difference between traditional or departmentalized scores it did find that departmentalized structures are less beneficial at fourth grade and below. Students affected most by departmentalization are students who are learning English as a second language (ESL) as well as students who are bilingual. Students who are ESL learners perform better in math and science in self-contained classrooms while students who are bilingual perform better in departmentalized classrooms (Ponder, 2008). Overall, in Ponder's 2008 study of math and science achievement, all fourth-grade students in departmentalized classrooms were found to have significantly outperformed all students in self-contained classrooms. Fourth grade seems to be the year where departmentalization can have both positive and negative impacts on student performance. Departmentalizing in third grade has been found to be too young, while fifth-grade structures can be positive if the degree of departmentalization and community building are purposefully designed. Students that are in a departmentalized setting in fifth-grade benefit by learning more, mastering the content on a deeper level, and are more prepared for middle school transitions (Lane, 2017). All studies have concluded with the need for more research and that individual schools considering structure change need to consider

local challenges and other factors as well as seek teacher input and research before making changes.

Teacher Impact

Departmentalizing classrooms allow teachers to focus on fewer subjects and increases the rate of proficiency growth in "subject mastery" (Taylor-Buckner, 2014; Lane, 2017; Simmerman, 2018). Simmerman's findings from a 2018 study on instructional models and teacher burnout supported existing research on teacher burnout. Major contributing factors to teacher burnout are lack of planning time and desire to become subject experts compounded by the number of subjects taught. Teachers value time as a resource and aspire to be experts, a positive relationship between these two factors leads to higher levels of self-efficacy (Simmerman, 2018). Departmentalization alleviates these pressures illustrated by the lower rate of teacher burnout at upper elementary grades compared to lower elementary grades. Taylor-Buckner's 2014 study found that teachers with low proficiency scores better performed in departmentalized settings and had a higher rate of growth than their counterparts in compartmentalized settings. While Lane's 2017 study found that teacher level of certification impacted student achievement (Taylor-Buckner, 2014; Lane 2017). Lane found that the majority of teachers were optimistic and believed that departmentalized classrooms are the most beneficial for teachers and students. They believed that they were able to "master" their subject area and deliver better lessons.

Literature Review Summary

A meticulous review of the literature found that the degree of departmentalization, the student age, community building, and student language profile are contributing factors to the

measure of success in considering classroom structures. Older students in a two-teacher partnership model with a focus on community building and supports for students learning English as a second language are the best predictors for successful departmentalized learning. Losing focus on community and introducing more than two teachers to the model decreases positive outcomes (Chang et al., 2008; Ponder, 2008; Ray 2017). Considering the level of teacher certification and taking into account factors in teacher burnout rates a departmentalized setting can further boost student success and the teacher desire to become subject masters. Allowing for time and focus on fewer subjects increases the rate of teacher proficiency growth (Taylor-Buckner, 2014; Lane 2017). Future studies should seek to include primary participants and include schools that have recently made structure shifts, asking how and why the change was made and look for early indicators of success (Ray 2017; Taylor-Buckner, 2014). Current research supports departmentalization with special considerations made as mentioned above. However, seeking to expand current research by studying factors and variables specific to districts will help leadership teams make better-informed decisions for structural shifts.

Literature Review Conclusion

The intent of the literature review was to analyze current research findings on when a structural shift is developmentally appropriate, how structures affect teacher proficiency and morale, and what other research could be done. The reviewed literature suggests that departmentalization can have positive impacts on students who are preparing for middle school and for students. Current research supports departmentalized settings for fifth grade students, as discussed above; however, past researchers have pointed out a limitation in the existing literature, and made recommendations about how to address it through continuation of current

research with local and recent structure changes will help justify shifts in pre-middle school grades schedules and content departmentalization settings.

Existing literature supports correlations between teacher burnout and factors of lack of planning time, desire to become subject experts and the amount of subjects taught (Simmerman, 2018). Research has found that departmentalizing classrooms allow teachers to focus on fewer subjects and that teachers are optimistic regarding the benefits of departmentalizing (Taylor-Buckner, 2014; Lane, 2017; Simmerman, 2018). In the area of teacher morale, research does not exist to draw a connection between job satisfaction and content departmentalization.

Research Purpose

I intend to expand current existing research by analyzing the impacts of a structure change of fifth grade classes at a local elementary school. The purpose of this study is to determine if the structure change at a local elementary school has an impact on student achievement in math and reading scores, as well as if teacher morale is impacted by structure. I seek to answer two research questions:

1. Does fifth grade elementary content specialization in a two-teacher partnership model improve student achievement in math and reading scores as measured by the Northwest Evaluation Association (NWEA) Measure of Academic Progress (MAP) in mathematics and Fountas and Pinnell Text Level Gradient scores for reading?

2. Does fifth grade elementary content specialization in a two-teacher partnership model improve teacher morale? (Morale as defined by the Oxford English dictionary - confidence, enthusiasm, and discipline of a person or group at a particular time.)

Research Methods

This study was quantitative and was used to compare the effect of compartmentalization by content of fifth grade classrooms to traditional self-contained fifth grade classrooms.

This research will add to and support the existing literature by examining the direct impact on teacher morale and student achievement. Specifically, I reviewed growth of student math and reading scores from the current cohort of students who are in the hybrid of a compartmentalized setting to the growth of last year's fifth-grade students who were in a self-contained setting with the same teachers. For outcome measures, reviewed Math NWEA scores from Winter of fourth grade to Winter of fifth Grade for each of the cohorts. I also reviewed Fountas and Pinnell Reading Benchmark scores from the same time frames for both cohorts. I conducted an anonymous survey on teacher morale, asking teachers to reflect on their rates of confidence, enthusiasm, and self-discipline over the course of the structure change from last year to this.

This study intends to benefit the district which is the focus of the study by providing data into the effectiveness of the classroom structure change. Based on the existing research and the amount of outside variables that influence students, this study will find that students who were part of the content specialization in a two-teacher partnership model this year will have higher achievement scores than students who were in traditional self-contained fifth grade classrooms last year. Teachers will have higher morale scores after transitioning to a two-teacher partnership model this year as compared to last year in a traditional self-contained teaching model.

Subjects

The entire population of fifth grade teachers participated in a survey asking them to reflect on their morale before and after and in connection with the changes to their day's structure. All participants read and signed an informed consent form (see Appendix) that indicated what they will be asked to do, how long the survey will take, how the data will be kept confidential, and how the data will be analyzed and used. The survey will be kept confidential. Due to the small number of participants for the survey I was not present when the survey was conducted. Identifying information of the teachers was not solicited. The survey was conducted through Google Forms. The settings on the survey was open to anyone with the link so no login information was required, it was not time stamped nor did it ask questions identifying the content area of any teacher. Student data was aggregated by cohorts not broken down by individual classrooms. Potential risks to the participants included the time and inconvenience needed to take the survey and some questions that may have made subjects feel uncomfortable.

In a traditional setting the school day (and was so prior to the 2019-2020 school year) was set up as one teacher with about twenty students. All students would gather on the playground as they arrived at school between 7:30 and 8:00 am, at 8:00 students would enter the building and walk to their classroom to be greeted by their teacher and settle in for the day. In this class students would work through the day in all major subject areas, math, reading, writing, word work, science, social studies, intervention, they would leave the room for Unified Arts (UA) (art, PE, music, library, STEM), lunch and recess, as well as if students were receiving supports outside of the classroom such as literacy or math interventions, special education, counseling, extended academics, or ELL services. Classroom teachers were responsible for

teaching lessons in all the major content areas, transitions to and from the various out-of-class activities. Teachers have forty minute duty-free prep time (which occured when students were in UA), as well as twenty minutes every day for lunch and 2-3 twenty minute recess periods free of duty during the week.

In the partnership departmentalization model the school day now looks similar, same start time, same daily forty minute UA, except now every teacher is responsible for about twenty students in his or her homeroom as well as a partner teacher's twenty students or so. The fifth-grade teachers were partnered and collectively decided which subject each person would be responsible for. Each partnership has a teacher responsible for math, science, and social studies, and a teacher responsible for reading, writing, and word work. Each teacher is responsible for providing intervention to the students in his or her own homeroom whether it be a literacy or math intervention. As the students join their homerooms at 8:00am they now eat breakfast, gather materials for the first half of their day, and by 8:15 switch to their partner class, they rejoin their homeroom teacher for his or her lessons after lunch.

Students were not directly part of this study, only student data was used. There were two cohorts of students used for this study. The current sixth grade students who experienced fourth and fifth grade at the subject school in traditional self-contained settings, henceforth labeled as **Cohort A** in this paper. And the "experiment" group of students, the current fifth grade students who experienced fourth grade at the subject school in a traditional self-contained setting, and experienced their fifth-grade year in the partnership departmentalized model. This group of students will henceforth be labeled as **Cohort B** in this paper.

Procedure

This study began in January of 2020. In February 2020 teacher participants were sent an email explaining the details of the study proposal and to expect a survey in mid-March. All fifth grade teachers participated in the survey, an email was sent to thank the participants. In the month of January Math NWEA assessments were administered as well as Reading Fountas & Pinnell Benchmark assessments. The data was collected and analyzed in February, and math and reading data retrieved from the fall of 2020 and previous school year's data. The data was received de-identified. There are about 250 students per cohort and ten fifth grade teachers. In Table one Cohort data is broken down by both availability and school year timelines.

Table 1

Classroom Structure by Cohort With Available Math and Reading Data Sources

	Cohort A		Cohort B	
School Year	4th 2017-2018	5th 2018-2019	4th 2018-2019	5th 2019-2020
Classroom Structure	Traditional 4th Grade	Traditional 5th Grade	Traditional 4th Grade	Departmentalized 5th
Math Assessment Data	NWEA winter 17-18' Growth and Achievement Fall-Fall Fall-Winter	NWEA winter 18-19' Growth and Achievement Fall-Winter	NWEA winter 18-19' Growth and Achievement Fall-Fall Fall-Winter	NWEA winter 19-20' Growth and Achievement Fall-Winter
Reading Benchmark Data	Fall/Winter Benchmark Only for students scoring below grade level	Fall/Winter Benchmark Only for students scoring below grade level	Fall/Winter Benchmark Only for students scoring below grade level	Fall/Winter Benchmark Available for all students. For comparative purposes using data only for students scoring below grade level

Instruments and Data Analysis

Math data was obtained through NWEA Administrators (Measure of Academic Progress) MAP Suite. This assessment is given three times a year (Fall, Winter, Spring) and it is a computer adaptive test that adjusts to each student's level. For each grade level there are normed bands that can be used to determine student achievement including a raw score called a RIT, a Rasch UnIT which measures exactly the level where students are ready to learn new information. Students are expected to continue growth regardless of where his or her RIT score lands, growth is measured two ways. After completing at least one NWEA assessment students are given a trajectory and a growth target, assuming that if a student continues on with the same level of support he or she should meet that growth target, however a conditional growth score is also given which measures growth relative to peers scoring in the same RIT range which is often a score more useful for teachers due to the personalized aspect of this data point. There are five RIT ranges; Low, LowAverage (LowAvg), Average (Avg), HiAverage (HiAvg), and High (Hi). They are color coded with red for Low and following the rainbow to blue for High. From here the next important piece of information from a student's score is the Conditional Growth Percentile, which again compares a student against peers scoring in the same RIT range but this time ranks growth on an index scale. A Conditional Growth Percentile Index score of 0.0 would show a student in the fiftieth percentile of matching peers, negative scores indicate below fiftieth percentile growth and positive scores indicate above fiftieth percentile growth. To analyze cohort data Projected Growth is a better indicator than Conditional Growth due to the wide range of RIT scores across a cohort. Conditional Growth and the pairing Percentile are more useful on a student by student analysis, therefore large cohort data is more accurately presented using

Projected Growth. RIT ranges are also helpful for analyzing large cohort data, visually it can be possible to see movement out of the low end ranges and into higher ranges. This can show the impact of interventions, targeted action, or curriculum changes. Tables two and three show the norms per grade level and mean student growth level. They are both tables from NWEA MAP suite.

Table 2

2015 NWEA Mathematics Student Status (RIT) Norms

2015 MATHEMATICS Student Status Norms						
	Begin-Year		Mid-Year		End-Year	
Grade	Mean	SD	Mean	SD	Mean	SD
K	140.0	15.06	151.5	13.95	159.1	13.69
1	162.4	12.87	173.8	12.96	180.8	13.63
2	176.9	13.22	186.4	13.11	192.1	13.54
3	190.4	13.10	198.2	13.29	203.4	13.81
4	201.9	13.76	208.7	14.27	213.5	14.97
5	211.4	14.68	217.2	15.33	221.4	16.18
6	217.6	15.53	222.1	16.00	225.3	16.71
7	222.6	16.59	226.1	17.07	228.6	17.72
8	226.3	17.85	229.1	18.31	230.9	19.11
9	230.3	18.13	232.2	18.62	233.4	19.52
10	230.1	19.60	231.5	20.01	232.4	20.96
11	233.3	19.95	234.4	20.18	235.0	21.30

Note. Table *2015 MATHEMATICS Student Status Norms*, retrieved from NWEA (https://files.eric.ed.gov/fulltext/ED568352.pdf). In the public domain.

Table 3

2015 NWEA Mathematics Student Growth Norms

2015 MATHEMATICS Student Growth Norms						
	Begin-to-Mid Year		Mid-to-End Year		Begin-to-End Year	
Grade	Mean	SD	Mean	SD	Mean	SD
K	11.4	5.56	7.67	5.03	19.1	7.59
1	11.4	5.50	6.97	4.99	18.4	7.45
2	9.5	5.35	5.72	4.90	15.2	7.11
3	7.8	5.08	5.19	4.73	13.0	6.47
4	6.8	5.05	4.78	4.72	11.6	6.41
5	5.8	5.22	4.13	4.82	9.9	6.80
6	4.4	5.20	3.26	4.80	7.7	6.75
7	3.5	5.11	2.47	4.75	6.0	6.55
8	2.9	5.59	1.78	5.05	4.6	7.66
9	2.0	5.81	1.17	5.19	3.1	8.15
10	1.5	6.18	0.85	5.42	2.3	8.92

Note. Table *2015 MATHEMATICS Student Growth Norms*, retrieved from NWEA (https://files.eric.ed.gov/fulltext/ED568352.pdf). In the public domain.

Reading data was obtained through the Fountas and Pinnell Benchmark Assessment System (F&P Benchmark). As with math NWEA data, reading data from benchmark systems measure students where they are and set predictable ranges per grade level. The F&P Benchmark is a continuous letter scale starting at level A in Kindergarten through Z in middle school. Typically, this assessment is given three times a year to all students. (At the focus school, previous to this year it was given twice to all students and only administered in the winter to students who scored in the Approaching or Below Grade Level Benchmark in the Fall.) This assessment is administered 1:1, students read short “books” or passages and are asked comprehension questions verbally or written depending on the level. Students first read a portion of the assessment aloud, and after about 100 words students are able to read independently and

then answer comprehension questions. The teacher then looks at the accuracy of words read and score of comprehension. Students need to be above 97% accuracy and 7/9 for a comprehension score. If they meet both criteria then they are deemed independent at that letter level marked by a letter score. Letter scores are continuous but also designated per grade level band. Like the NWEA the grade level bands are color coded, Below is marked red and follows the rainbow through blue marking the Exceeding level. Curriculum and daily reading activities are designed to progress students through the levels. Students far below or above grade level often receive special education services. Students below and approaching grade level need some type of intervention to improve. This study measured only students Below and Approaching grade level due to the availability of data. The rate of growth per cohort was analyzed and compared as well as growth per benchmark level.

Table 4

5th Grade Fountas & Pinnell Reading Benchmark Levels

	Fall Benchmark Levels	Winter Benchmark Levels	Spring Benchmark Levels
Below	P & Below	R & Below	S & Below
Approaching	Q/R	S	T
Meets	S	T	U
High Meets	T	U	V
Exceeds	U & Above	V & Above	W & Above

Note. Table retrieved from subject school literacy department.

The Teacher Moral Survey was designed for this study based on information regarding teacher burnout rates and teacher effectiveness obtained from the Literature Review. The Survey asked teachers to reflect on their first year of departmentalization. It was a 23 Item survey targeting factors that lead to teacher burnout and indicators of morale. The full survey can be found in the Appendix. The first section of the survey asked teachers about their involvement with the decision and planning process for the structure shift. These questions were designed to give the research a sense of how satisfied teachers were at the onset of the restructuring. The second section asked teachers to rate the importance of different aspects of their job, then to compare their feelings to last year. The third and final section asked questions about moving forward and what adjustments were needed. Moral is defined by three factors; confidence, enthusiasm, and discipline. To measure these factors, questions were compared and analyzed that targeted the same factor. For example, the third and seventeenth questions can be compared to each other because they both elicit responses concerning confidence. Most of the questions in the second section focus on enthusiasm and a few on discipline, which are two morale factors that also contribute to teacher burnout.

Results

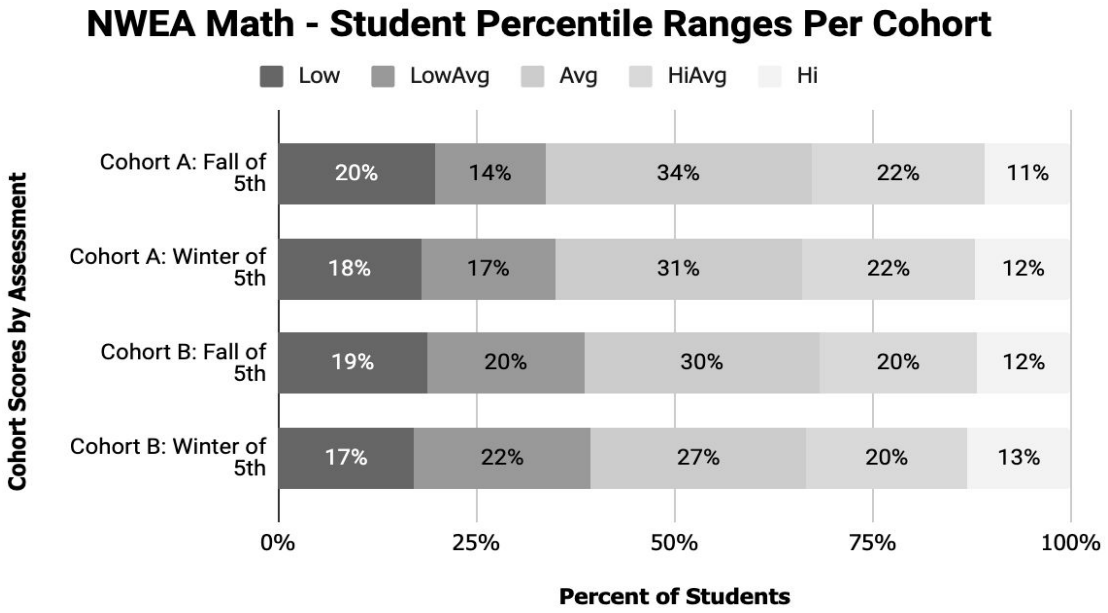
Math Results

Math results indicate that the structure shift from a traditional fifth grade elementary setting to a content specialization with a two-teacher partnership model could be making a positive impact on student achievement. In both cohorts, data indicates that students scoring in the proficient ranges may have moved within the range, but it is unclear as to how many students

move in and out of specific range. Table one illustrates the small shifts in student percentile ranges for each cohort from Fall of Fifth Grade to Winter of Fifth Grade.

Figure 1

5th Grade NWEA Student Percentile Ranges Per Cohort



For both cohorts there is a slight shift out of the Low red zone and an ultimate increase in the Avg/HiAvg/Hi ranges. Cohort A had 213 students test in the Fall and 206 students test in the Winter. Cohort A had 34% of students in the Low and LowAvg ranges in the Fall increasing to 35% of the students in the same ranges in the Winter, indicating some (about 1%) students in the Avg range slipping down to LowAvg. 33% of the students for Cohort A were in the HiAvg and Hi ranges which increased to 34% in the Winter, indicating some students (about 1%) in the Avg range improving to the HiAvg range. Cohort B had 183 students test in the Fall and 181 in the

Winter. Cohort B had overall similar movement. In the Fall 39% of students were in the Low and LowAvg ranges holding at 39% in the Winter, however students in the Low range decreased while the LowAvg range increased. For the HiAvg and Hi ranges Cohort B increased by 1% for a total of 33% of the students in the Winter.

Projected growth is set from one assessment period to the next. Cohort A had 53% of the students meet projected growth from Fall to Winter while Cohort B had 56% of students meet projected growth. Overall math achievement on NWEA testing neither increased nor decreased. The Norm RIT for fifth grade students in the Fall is 211 and 217 for the Winter. Both cohorts had a mean RIT of 210 in the fall and both raised their mean RITs to 217, thus meeting the Norm RIT for winter testing in fifth-grade.

Reading Results

Reading benchmark data for both Fall and Winter assessment periods was only available for students scoring in the Approaching and Below Benchmark ranges. In the Fall for Cohort A, there were 71 students scoring in these ranges, representing 33% of the total population of the cohort. Of the 71 students 40 (56%) were in the Approaching range and 31 (43%) were in the Below range. In the Winter 29 students stayed in the Below range,twoimproved to Approaching, and 0 improved to Meeting. Students in the Approaching range had 12 students drop to the Below range, 18 maintained in the Approaching range, and 10 students improved to Meeting Benchmark range. Of the 31 students in the Below Benchmark range only two students improved enough to meet the next benchmark range while 12 students from the Approaching range dropped down to the Below Benchmark range, increasing the total number of students in the Below Benchmark range by 10. The 40 students in the Approaching range decreased by half with a quarter improving to Meeting

Benchmark. In order for a student to maintain scores in the Approaching Benchmark range a student must increase reading levels by one. The average mean number of reading levels students in Cohort A improved was 1.5 reading levels.

Table five illustrates the breakdown of data per cohort.

Table 5

5th Grade Reading Data Disaggregated by Benchmark Range

Cohort A						Cohort B					
Students Below Benchmark in Fall			Students Approaching Benchmark in Fall			Students Below Benchmark in Fall			Students Approaching Benchmark in Fall		
31			40			24			43		
Stayed Below	Improved to Approaching	Improved to Meeting	Dropped to Below	Maintained Approaching	Improved to Meeting	Stayed Below	Improved to Approaching	Improved to Meeting	Dropped to Below	Maintained Approaching	Improved to Meeting
29	2	0	12	18	10	19	4	1	6	25	12
Students Below Benchmark in Winter			Students Approaching Benchmark in Winter			Students Below Benchmark in Winter			Students Approaching Benchmark in Winter		
41			20			25			29		

Note. Table five compares Cohort A's to Cohort B's shift from Fall Benchmark scores to Winter Benchmark Scores.

In the Fall for Cohort B there were 67 students scoring in the Below and Approaching Benchmark ranges, representing 36% of the total population of the cohort. Of the 67 students 43 (64%) were in the Approaching range and 24 (35%) were in the Below range. In the Winter 19 students stayed in the Below range, while four improved to Approaching, and one improved to

Meeting. Students in the Approaching range had six students drop to the Below range, 25 maintained in the Approaching range, and 12 students improved to Meeting Benchmark range. The total number of students in the Below range in the winter increased by one, with five improving and six students dropping to Below. 19% of students from Cohort B improved enough to Meet the benchmark while the same was true for 13% of the 71 students from Cohort A. The average mean number of reading levels students in Cohort B improved was 1.8 reading levels.

Teacher Morale Results

The second research question was: Does fifth grade elementary content specialization in a two-teacher partnership model improve teacher morale? (Morale as defined by the Oxford English dictionary - confidence, enthusiasm, and discipline of a person or group at a particular time.) The first section of the survey asked teachers about their involvement with the decision making process for the structure change 80% of the teachers responded “Not Sure” or “No”, the 20% who responded “Yes” reported that they had little to no influence in the decision making process. However, despite low involvement with the decision making process 70% of the teachers responded that they were pleased with the structure change.

Part two of the survey asked teachers to reflect on and rate the most important parts of their jobs then to compare them to the previous year indicating those factors as “Better or More than last school year”, “same as last year”, or “Worse or Less than last school year”. Seven out of the eight questions had more than 50% of the teachers respond positively. Notably all of the teachers rated each of the morale indicators with high importance to their job satisfaction and reported feelings of success in the corresponding category. 60% of the teachers reported growing as a teacher more than last year and 50% feel more successful as a teacher this year, with 10% feeling equally successful

while the remaining 40% feel less successful. 70% of the teachers feel that the structure change has lessened or not changed the amount of school work that needs to be completed at home. Negativley 80% of the teachers reported that they had less time to meet and plan with their co-teacher and when given the opportunity to elaborate five out of the seven responses directly mentioned the need for more or different common planning time.

Part three of the survey was about forward thinking in terms of planning adjustments to the structure. Question three (At the beginning of the school year how pleased were you with the structure change?) and 17 (Now that you are teaching in a new structure, how pleased are you that the change occurred?) asked for an initial and final reflection of satisfaction of the structure change. Overall seven teachers maintained their original rating,two teachers changed their rating to a higher satisfaction level, and one teacher decreased their rating. One of the two teachers changed from "not satisfied" to "satisfied", and the other changed from "satisfied" to "very satisfied". The one teacher who decreased their rating changed from "very satisfied" to "satisfied". Moving forward to next year 90% of the teachers want to continue in a departmentalized structure, 80% noted with "slight changes" and 10% with "major changes". All of the teachers reported that they were "satisfied" and "very satisfied" with their current co-teacher and 80% reporting that they would be hesitant to work with another teacher. Although, 70% said they would be happy in the same co-teaching structure if they moved to a new school. One teacher stated "If I changed schools, I might enjoy the co-teaching structure because of being a new teacher". Finally, when given the opportunity to further explain or comment one teacher wrote:

> "Some aspects of this year's changes have worked very well. The opportunity to work closely with just a couple of subjects, as opposed to all subjects has allowed me to dig deeper into those content areas and plan in a more effective way. However, getting to know my students (especially those who are pulled out for different services) has been much more

> challenging. I feel that as a teacher I have less flexibility this year because I'm working to balance two classrooms of students, and time constraints have felt more constrictive than in the past".

Another teacher reflected "In my opinion, with co-teaching, the ability to foster a good working team takes time and energy, and in turn the students will benefit more." Several teachers noted that working on fewer subjects allowed them to be more focused on students' needs, specifically one teacher said, "I feel that I am a better teacher in my content areas, and that I am better able to help my students improve in those areas, because I can focus on that."

Discussion

This model of teaching appears to be good for teacher morale if certain scheduling considerations are made. Notably all of the teachers rated each of the morale indicators with high importance to their job satisfaction. Teachers appreciate the focus on fewer subject areas and are learning the best ways to work around scheduling demands and honoring the time it takes to develop strong teams. One teacher reflected "In my opinion, with co-teaching, the ability to foster a good working team takes time and energy, and in turn the students will benefit more." and another teacher noted "I feel that I am a better teacher in my content areas, and that I am better able to help my students improve in those areas, because I can focus on that." It is notable to mention that although the majority of the feedback from the survey was positive there did seem to be a few teachers less enthusiastic about the structure change and the new dynamics it brought to their school. Those teachers who were feeling "Same or Less" successful and feeling unfulfilled in making connections with students are at the greatest risk for low morale and

according to Taylor-Buckner, 2015 at risk for teacher burnout (Taylor-Buckner, 2015). Lane, 2017 found in the area of teacher morale there was no existing research to draw a connection between job satisfaction and content departmentalization (Lane, 2017). This research sought to fill in the need and discovered that departmentalization has improved morale by giving teachers more job satisfaction and time to focus on fewer subjects. More time is needed to solve scheduling issues, develop relationships with students, and team building between co-teachers.

While having only data for students scoring below benchmark in reading was a limitation of the study, it appears that it was an important subsection of data to study. Not having a parallel subsection for math data became a limitation of the study and opened the opportunity for future research. A continuation of tracking this data over more years will lead to a more clear indication of improvement in student achievement in a two-teacher partnership content specialization model. Schools looking to make a shift from traditional classroom structures for fifth-grade students should consider having schedules and structures in place to support students time for community building with each of their teachers, transition time from one class to the next, and time for teams of teachers to plan with both their team of like subjects and with their co-teacher. Collaboration time is especially important for departmentalized models since student's wellbeing and academic growth is dependent upon shared teachers rather than just one. Schools contemplating shifting can now use this research to show departmentalized structures seem to have a positive impact on students reading below benchmark. Students in the departmentalized setting improved an average rate of 1.8 reading levels in half a school year (compared to 1.5) and fewer students regressed. While math data didn't show a large shift in underachieving students overall scores showed an increase in students meeting projected growth and the average RIT

scores matched the norms. A school seriously considering making the structure changes should also consider setting up a way to track data to measure if the change has made any academic impacts. Data is more beneficial when there is more than one data point per subject, standardardized tests and universal screeners are useful and important parts of a complete profile. Formative data tracked over time through end of module assessments and pre- and post-assessments help fill in to make a rich picture of student achievement. The subject school should continue to make adjustments to the schedule and purposefully build in reflection time periodically throughout the year to ensure high morale. The subject school might also consider finding a way to collect formative data from year to year so that a richer data picture can be built. This research can easily be continued by the subject school or duplicated by schools considering structure changes. Schools that have recently adjusted traditional structures can copy this model of research. This research was new to the field in that teacher morale was connected to teaching structures, duplicating this piece will widen the existing research in understanding the human connection to modern school structures.

Limitations

The first limitation is the timeline in which the study takes place. This research project worked on deadlines that match the school year, thus was unable to wait until the first year in the new departmentalized structure had completed. This is a major limitation for a few reasons, the academic data was only available from Fall to Winter for Cohort B, and teachers were asked to reflect in a survey given in March, only two thirds of the school year. Any findings from this research can only be the beginning, the data found from this research is useful with the lense of a pilot year, meaningful data will have to come when the structure has had at least three school

years to complete. Another limitation of this research is that only single data points for math and reading were able to be obtained. NWEA and Reading Benchmarks are very useful and important pieces of student achievement data, but they do not tell the whole story. Pre and Post assessments, End-of-Module assessments, and project work would help in tracking growth of the whole student and the whole cohorts. The teacher survey had limitations as well, there could have been more questions and been mixed with both qualitative and quantitative questions. It was assumed that teachers were answering honestly and perceived questions in the same way they were written. In addition to limitations, bias should be recognized. The researcher and participants are optimistic that departmentalizing fifth grade will have a positive impact on both student achievement and teacher morale.

Conclusions

While limited in depth and longevity, the data from this study in regards to math and reading achievement in a departmentalized setting indicate a positive trajectory towards improving scores. A total of 19% of the 67 students from Cohort B improved enough to Meet the benchmark while the same was true for only 13% of the 71 students from Cohort A. The average mean number of reading levels students in Cohort B improved was 1.8 reading levels compared to 1.5 in half a school year, indicating growth at a faster rate with a teacher better able to focus on that subject area. There was a three percentage point increase in students meeting projected growth on Math NWEA assessments and the average RIT score matching the norms possibly indicating that math in a departmentalized setting with a specialized teacher will lead to greater personal growth for students.

The teacher morale survey explored job satisfaction, strong connections to students, and professional growth, overall the two-teacher partnership model appears to have improved job satisfaction and professional growth. The ability to develop strong connections to students remained the same for 60% of the teachers, worsened for 30%, and improved for only 10%. All of the teachers rated this component of the profession with the highest importance, moving forward with some schedule adjustments, giving more time for community building should help improve the teacher's ability to develop strong connections with all of their students in the new departmentalized model. It is the responsibility of the fifth-grade teachers and their administrators to closely examine practices and align them with structures best suited for strong teacher morale and developing effective math and literacy teachers for the purpose of continually growing student achievement. Purposeful and meaningful planning, taking time to evaluate current student data, and periodic reflections on teacher morale will ensure that the impact of partnership departmentalization by the content area of fifth-grade classrooms will make a positive change for both students and teachers.

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Appendix

Research Instrument - Survey

Teacher Survey

You are invited to participate in an anonymous and voluntary survey on teachers' reflections and feelings of confidence, enthusiasm, and discipline in regards to the fifth-grade classroom structure change from last year to this. The purpose of this study is to find out if the recent structure change has an impact on student achievement in math and reading scores, as well as if teacher confidence and enthusiasm are impacted by structure. The goal of this research is to determine the effectiveness of the structure change.
STUDY DETAILS: You are being asked to complete a survey (24 questions and approximately 10 minutes total) that prompts you to give responses about your current rate of job satisfaction, confidence, and enthusiasm.
This survey is ANONYMOUS and VOLUNTARY. Your responses will only be viewed by the researcher and WILL BE DELETED upon completion of the study. The researcher will not seek to match survey responses with participants. You may stop at any time and you may skip any questions you do not wish to answer. If the results of the research are shared, your school name will also not be included.
RISKS: Potential risks include the time and inconvenience needed to complete the survey. You may feel uncomfortable when answering some questions.
BENEFITS: Participants in this study may find that reflection is a therapeutic process. This study will benefit the district which is the focus of the study by providing data into the effectiveness of the classroom structure change. The study also has the potential to add to the literature base in the area of classroom structures of pre-middle school grades.
If you have any questions about this research you may contact AnnMarie Hann, candidate for Masters of Science in Education Leadership (annmarie.hann@maine.edu)
If you have any questions about your rights as a research participant, please contact Karol Maybury, IRB Chair, (karol.maybury@maine.edu or 778-7067)
By responding to all or part of this survey you are indicating that you understand the information provided above and agree to participate.

Part 1: Making the Structure Shift

Classroom organization at the elementary grades is often a self-contained compartmentalized model, one teacher, about twenty students, and all the major subjects: English Language Arts, Mathematics, Science, Social Studies. Middle school is typically organized into a departmentalized model with a group of about twenty students rotating between several teachers who teach only one subject. Your fifth-grade team of teachers recently shifted the fifth grade classes to a two-teacher departmentalized partnership model, a hybrid version of a self-contained elementary setting and a fully departmentalized middle school model.
This survey section will ask you questions about your involvement with the above described fifth-grade structure change.

1. **Were you part of the decision making process to change the fifth-grade classroom structures?** (Checkboxes - Yes/No/Not Sure)

2. **To what degree were you able to influence decisions to change the fifth-grade classroom Structures?**
   (1-4 Scale - Not at all/Very Much)

3. **At the beginning of the school year how pleased were you with the structure change?**
   (1-4 Scale - Not at all/Very Much)

Part II: Comparing Structures

This survey section will ask you to rate the importance of different aspects of your job, then to compare your feelings to last year.

4. **Developing relationships with students is one of the most important parts of my job.**
   (1-4 Scale - Strongly Agree/Disagree)

5. **I have made strong relationships with my students this year.**
   (Checkbox - Better/More, Same, Worse/Less than last year)

6. **It is important to me that I enjoy what I do and am satisfied with my work.**
   (1-4 Scale - Strongly Agree/Disagree)

7. **I am satisfied with my job this year.**
   (Checkbox - Better/More, Same, Worse/Less than last year)

8. **I aspire to be an expert teacher.**
   (1-4 Scale - Strongly Agree/Disagree)

9. **I have grown as a teacher this year.**
   (Checkbox - Better/More, Same, Worse/Less than last year)

10. **Planning and prep time on a daily basis is essential to me meeting my goals.**
    (1-4 Scale - Strongly Agree/Disagree)

11. **I have time on a daily basis to plan and prep.**
    (Checkbox - Better/More, Same, Worse/Less than last year)

12. **I have time to meet and plan with my team/co-teacher.**
    (Checkbox - Better/More, Same, Worse/Less than last year)

13. **It is important to me that I feel successful as a teacher.**
    (1-4 Scale - Strongly Agree/Disagree)

14. **I feel successful as a teacher this year.**
    (Checkbox - Better/More, Same, Worse/Less than last year)

15. **It is important to me that I have time to spend at home that doesn't involve schoolwork.**
    (1-4 Scale - Strongly Agree/Disagree)

16. **I have time at home that doesn't involve schoolwork.**
    (Checkbox - Better/More, Same, Worse/Less than last year)

Part III: Forward Thinking

This survey section will ask you questions about current structures and moving forward.

17. **Now that you are teaching in a new structure, how pleased are you that the change occurred?**
    (1-4 Scale - Strongly Agree/Disagree)

18. **Do you want to teach in the same structure next year?**
    (Checkbox - Yes, with no changes / Yes, with slight changes / Yes, with major changes / No, I want to go
    back to a self-contained model)

19. **If you indicated slight or major changes, what changes would you like to see made?**

20. **I work well with my current co-teacher.**
    (1-4 Scale - Strongly Agree/Disagree)

21. **I could work well with any teacher.**
    (1-4 Scale - Strongly Agree/Disagree)

22. **I would be hesitant to work with another teacher.**
    (1-4 Scale - Strongly Agree/Disagree)

23. **If I moved school, I would be happy in the same co-teaching structure.**
    (1-4 Scale - Strongly Agree/Disagree)

24. **Is there anything you would like to further explain or elaborate? Please do not use names or indicators of specific events.**

Thank You for Participating

If you are satisfied with your answers you may now submit the form. Thank you for participating in this study.