SMALL TOWN, BIG INTERVENTION:

EXTRA TIME AND SUPPORT FOR ALL STUDENTS

by

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A DISSERTATION

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DISSERTATION ABSTRACT

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Students in rural Oregon, as well as nationwide, face many obstacles that impact academic success. The focus of this study was to provide all students with additional time and support to face this challenge and address the achievement gap. Two school-wide interventions were deployed: Response to Intervention (RtI) for screening students at risk and Professional Learning Community Process (PLC) to support them. By combining the principles of RtI with the PLC process, a small rural school in Central Oregon created and implemented targeted support by (a) identifying what standards students need to master and (b) measuring their levels of mastery. Students were placed in small groups to apply targeted support through interventions and extensions for 175 minutes per week. The intervention was labeled REACH, short for Reinforce, Extend, Achieve, Challenge and Help for All.

In this mixed methods case study, two sixth grade cohorts were observed from fall to spring with one group receiving the intervention (REACH) and the other group receiving only core instruction without additional targeted small group intervention. Quantitative data included the easyCBM Multiple Choice Reading Comprehension (MCRC) assessment Lexile scores collected in Fall (September) and Spring (May). Qualitative data were collected through observations of PLC meetings, the REACH

intervention and teacher perception of the PLC and REACH process. While this study identified positive student outcomes for the REACH intervention, as an aspect of the school wide instructional plan, it also exposed systematic and functional inefficiencies in the process. The results of this study can inform school officials about the impact of providing extra time and support for all students within the school day. Additionally, the results support providing staff with the time and resources to plan, implement, and evaluate best practices to ensure equitable academic access for all, especially students eligible for Special Education, English Language Learners, and those from minority backgrounds.

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CHAPTER I

INTRODUCTION

While students in urban, suburban and rural settings all face challenges, factors unique to rural settings can adversely impact outcomes for students (Irvin, Meece, Byun, Farmer, & Hutchins, 2011). Rural districts experience funding issues as well as challenges around staffing and limited resources, compounded by a high percentage of students from economically challenged households (Culbertson & Billig, 2016; Freeman & Randolph, 2013). Johnson (2006) found that Oregon rural schools suffer from achievement and economic gaps in comparison to more urban schools. Furthermore, districts facing more significant challenges receive the fewest resources while achieving poor academic results. Additionally, the isolation of rural schools limits access to supplemental resources for families and schools (Bright, 2018; Culbertson & Billig, 2016).

In Oregon, these challenges equate to substantial achievement gaps for English Language Learners, minority students, and economically disadvantaged students (Johnson, 2006) mirroring national trends (Freeman & Randolph, 2013; Irvin et al., 2011). State testing data on a rural middle school in Oregon, the site of the current study, documents low performance on math and language arts achievement compared to other schools in the state of Oregon. Additional challenges exist for rural students meeting or exceeding grade level standards, as college preparatory, Advanced Placement, or International Baccalaureate courses are often not available at the secondary level in these locations (Bright, 2018; Tieken & San Antonio, 2016).

Experiences for students outside of school provide additional challenges in rural locations, where districts typically have lower rates of adult educational attainment (Bright, 2018; Johnson, 2006). Rural areas have lower rates of high school graduates and higher levels of unemployment, causing more challenges for students (Johnson, 2006) as they are exposed to fewer enrichment experiences outside of school. For example, students in rural communities visit fewer museums, historical sites, aquariums, zoos, and libraries compared to urban students (Provasnik, KewalRamani, Coleman, Gilbertson, Herring, & Xie, 2007). Furthermore, Freeman and Randolph (2013) also note that expectations for higher learning and rural parent attitudes toward education are not, on average, as aspirational as in more urban areas. Additionally, impoverished and unemployed rural families tend to move often, influencing transition and stability of the school and peer experience. Frequent moves can increase exposure to mental, physical and emotional stress, further negatively impacting a student's chance for success (Bright, 2018).

Rural schools, however, can utilize best practices to close the educational gap. Culbertson and Billig (2016) encourage rural districts to identify other districts that have narrowed the gap and examine what practices they believe are making the difference. Stoehr, Banks, and Allen (2011) discuss the importance of using Professional Learning Communities (PLCs) to drive development of Differentiated Instruction (DI) within the Response to Intervention (RtI) model to address students who struggle. Additionally, Freeman and Randolph (2013) suggest focusing on a high-quality, culturally-relevant curriculum, and PLCs to support high levels of learning. Furthermore, Buffum, Mattos,

and Malone (2018) state that current research and evidence provide evidence that RtI is appropriate for supporting students who demonstrate a gap in learning outcomes.

Literature Search Overview

Priorities for my literature search focused on identifying the struggles of rural schools and the impact of RtI and PLC practices. With my proposed research being conducted at a small rural school, the goal was to look at schools and communities with the same diversity, socio-economic status and challenges. Although several examples of diverse schools were found, I was unable to find studies set in fully comparable schools. The district and focus school for the current study are equal thirds Native American (33%), Caucasian (33%) and Hispanic (33%), for which there are no close matches regionally at the middle school level.

Two primary data bases were used for literature research for this study: Education Resources Information Center (ERIC) provided the majority of works and Google scholar was used in a supplemental capacity. Year cutoff was 2007 with much of the literature published in the last seven years. Key words and search terms focused on middle school, rural, rural vs. urban, achievement gap, minority students, Oregon, free and reduced lunch/SES. Secondary terms and phrases targeted best practices for low achieving middle schools, RtI, PLC, additional time and support for students.

This search produced 191 papers after reductions focusing on grade level, frequency, time, demographics, and including RtI and middle school terms in the search. The domain was reduced to the papers described below by examining the use of PLC, interventions, extra time and support. Additional literature consisting of four articles and the books and readings from my D.Ed. coursework provided information that I cite in the

remainder on of this description on methods, instruments, data collection, and analytic approaches. The following sections describe and provide examples from the literature I reviewed about (a) theoretical frameworks, (b) best practices within RtI and PLC, and (c) key findings. Although 30 articles and book sections provided practices aligned with each system, none of the articles provided examples of a program similar to REACH or the demographics unique to the school of focus. It is possible to assume that both the intervention and demographics are unique enough that limited literature is available and thus, this study may assist other groups receiving only core instruction.

Implementation Frameworks of RtI and PLC Driving Research Questions

Assessing student academic performance is an essential component of RtI and PLC implementation. According to Buffum et al. (2018), RtI utilizes multi-tiered systems of support (MTSS) to identify student needs with a focus on academic and behavior interventions to improve outcomes. Philosophically, schools using an RtI framework should provide targeted and systematic interventions for all students as soon as they demonstrate the need (Mattos & Buffum, 2014). Within the RtI model, all students receive Tier 1 or core instructional programs while smaller portions receive Tier 2 instruction, which provides small-group targeted instructional support. Tier 3 provides specific supports for an even smaller portion of the student population through specific intensive interventions according to Jimerson, Burns, and VanDerHeyden (2016).

To enhance RtI, the PLC process provides systematic and functional procedures for staff to work collectively, analyze data, and determine what is needed for all student to learn at a high level (DuFour, DuFour, Eaker, Many, & Mattos, 2016). A foundational premise of PLC is that students come into schools with different levels of education,

learn at different speeds, and succeed or fail for different reasons (Buffum et al., 2018). When RtI and PLC work as a system, staff and students are able to focus on specific time and supports needed for students to achieve at high levels.

Tiers within the RtI model utilize a specific structure to address the level of intervention and intensity of instruction (Jimerson et al., 2016). Tier 1 interventions are general educational practices (Fuchs & Compton, 2010) that provide a guaranteed and viable curriculum, best practices around teaching and grouping of students, and offerings provided by the school (DuFour & Mattos, 2014). Schools plan Tier 1 as the overall framework with grade level curriculum and standards, schedules and staffing a focus for all students. Students identified for Tier 2 interventions receive more targeted supports in smaller group settings in addition to Tier 1 instruction. Implementation of Tier 2 focuses on increasing intensity using variables of time, frequency, staffing, rigor, and method of instruction to impact student learning (DuFour & Mattos, 2014; Jimerson et al., 2016). Tier 3 is the most targeted and intense level of intervention in the RtI system. In Tier 3, interventions are focused on clear and defined deficits in the student's learning. Furthermore, each Tier 3 intervention is specific to the individual and may include an Individualized Education Plan, 504 plan, and support classes in addition to regular core academic classes. Data collected from Tiers 1 and 2 are analyzed to determine the appropriate Tier 3 intervention (Fuchs & Compton, 2010; Jimerson et al., 2016).

To provide a staff with a complementary system to effectively implement RtI, Dufour and Mattos (2014) approach improving schools by focusing on Professional Learning Communities (PLCs). A PLC is defined as "a group of teachers who generate timely responses to student issues that are based on intervention rather than remediation,

and that generate action steps" (Mundschenk & Fuchs, 2016, p. 55). During the PLC process, analysis of student data informs school staff about what standards and skills a student has mastered as well as areas in which they struggle. Additionally, examining the data helps identify the specific areas that need more rigorous support through enrichments and extensions on the area of focus (Mundschenk & Fuchs, 2016).

Implementation of RtI and PLC

For RTI to function as intended, schools need methods for collecting student data in a systematic and timely fashion to address learning. Then, the PLC process starts with a goal of defining what students are to learn based on standards and how assessment of the standards will be conducted. Teachers prepare unit plans with summative and common formative assessments, scope and sequence of materials, and best practices of instruction as a framework. Additionally, each unit plan has interventions and accommodations for students who struggle with the concepts as well as enrichments and enhancements for students who demonstrate grasp of the concepts (Stoehr et al., 2011). To determine if a student has or has not met a standard, Buffum et al. (2018) caution PLC groups about relying heavily on large-scale or summative test scores and suggest multiple formative assessments to determine what concepts and aspects of the unit plan have been met. Mundschenk and Fuchs (2016) state that for the two programs to work efficiently together, the PLC process should focus on evidence from student work to determine what level a student has grasped. Additionally, for RtI and PLC programs to reach fruition, school staff must have time, procedures, and support (DuFour & Mattos, 2014)

Addressing Academic Outcomes for Rural Students Through RtI and PLC

Even with the limited resources available to rural districts, use of the RtI and PLC processes can provide teachers with a system to support learning for all students (Buffum et al., 2018). Differentiating the resources of rural and urban schools extends beyond the school walls in many cases. Schools in rural communities are isolated geographically and socially (Parson, Hunter, & Kallio, 2016) placing the school with more responsibilities for supporting students. Furthermore, some students live significant distances from the school, making it difficult for them to attend school on days where they may miss the bus, lack a ride, or experience inclement weather. This isolation often means lower enrollment data for the schools, compounding struggles to generate resources, necessary to hire math, language arts, and special education teachers (Harmon, 2001). Additionally, rural schools and communities are becoming more diverse, with growing numbers of minority students (Irvin et al., 2011) that are more impoverished compared to white rural students (Harmon, 2001). With equity at the forefront of rural education, schools are working with educational service districts to leverage resources and increase the capacity of school offerings (Harmon, 2001). Consequently, rural schools must figure out how to improve their services with what is available to them, leading many administrators and teachers to become more efficient and build stronger staffs (Parson et al., 2016).

Need for RtI and PLC

Additional time and support are the key components of improving achievement in an RtI approach, regardless of the school attended. For schools in rural settings becoming efficient at identifying students who struggle before they fail and addressing their needs is a high-leverage strategy (DuFour & Mattos, 2014). Proven systems of RtI and PLC are

essential components to providing students with a guaranteed and viable curriculum and the interventions and enrichments to improve academic outcomes for all students (Buffum et. al, 2018; DuFour & Mattos, 2014). According to Mattos and Buffum (2014), each student has a right to learn the same curriculum no matter what teacher they have and the time and resources required to learn it. To foster success, a school must provide students with access to effective teachers who teach the requisite content, knowledge, and skills. Students must then have the time and resources to learn, process, and apply the material (Buffum et al., 2018). For students who struggle with Tier 1 instruction, additional time and support is imperative. Additionally, schools must consider students who have mastered academic standards and provide enrichments and enhancements to increase rigor (Balu & Malbin, 2017). A fundamental premise of RtI is that the school should offer three Tiers of support: Tier I for all students in School-wide programs, Tier 2 with more targeted and individualized programs and Tier 3, the most intensive and targeted interventions (Mitchell, Stormont, & Gage, 2011).

RtI is premised on implementing three tiers of intervention based on need. As summarized earlier, Tier 1 implementation is focused on access to all essential grade-level standards (Buffum et al., 2018; DuFour & Mattos, 2014; Jimerson et al., 2016). According to Bartholomew and De Jong (2017) if more than 20% of students are not making adequate progress, schools need to focus on core instruction before moving students to Tier 2 interventions. Tier 1 instruction involves screening and progress monitoring of all students based on grade-level standards (Bouck & Cosby, 2017; DuFour & Mattos, 2014; Sanger, Friedli, Brunken, Snow, & Ritzman, 2012). Tier 2 identifies and places students in smaller groupings, with focused academic and behavioral

outcomes, when students perform below expectations, need additional support, or are identified as at risk based on Tier 1 standards. (Buffum, et al., 2018; DuFour & Mattos, 2014; Sanger et al., 2012). Consequently, Tier 2 traditionally focuses on skill development in core instruction and behavior self-regulation (Buffum, et al., 2018; DuFour & Mattos, 2014; Mattos & Buffum, 2014). To determine and implement interventions, responsibilities are balanced at Tier 2 between school-wide and teacher teams using data to determine the needs and intensity for each student (Balu & Malbin, 2017; Bartholomew & De Jong, 2017; Buffum et al., 2018). Then, teachers using RtI with the PLC model can provide accommodations and enrichments in addition to Tier 1 instruction to support diverse learners (Mattos & Buffum, 2014). When RtI and PLC systems collectively address the needs of each student, high levels of learning can be achieved for all (Dufour & Mattos, 2014).

Focus on School-wide Intervention Through PLCs. In schools where PLCs have been adopted as a mechanism for implementing RtI, determination of RtI supports and interventions is shared by two teams using multiple data points. School-wide teams are comprised of administration, counselors, specialists, and teachers. Teacher teams are comprised of specific grade level and content teams. Teachers who are the only teacher in their content area are placed in the team that is the best fit based on the students they serve (Buffum et al., 2018). Typically, each content area had a PLC team where all members of a subject area are the PLC team. In instances that the teacher or specialist is the only staff member in that content area they are their own PLC team, known as singletons. PLC singletons work with other singletons or connect with other district staff in their content area. Within schools and districts are trained PLC facilitators that

facilitate individual PLC content teams and singletons. The facilitator roles are designed to provide each PLC with an expert to support the work being done to improve student outcomes based on high leverage components of professional learning (DuFour & Mattos, 2013; Mattos & Buffum, 2014). Teacher teams in the RtI and PLC systems bring student data to meetings to determine the classification and level of deficit that the student exhibits (Buffum et al., 2018; DuFour & Mattos, 2013; Mattos & Buffum, 2014). Although looking at academic measures is the primary focus of these meetings, additional factors are considered to determine whether the student has a "skill or will" concern (Buffum et al., 2018). *Skill* concerns focus on gaps in learning that may impact the ability to learn the standard. *Will* concerns focus on behavior choices that impact a student's mastery or effort in completing the work. Data points include grades, progress monitoring scores, other test scores, attendance, disciplinary referrals, and observations from teachers and educational professionals.

PLC teams focus on using summative and formative assessments to determine academic supports for students. Participants meet in content or grade-level teams and utilize student data to narrow down specific deficits (Buffum et al., 2018; DuFour & Mattos, 2014; Mundschenk & Fuchs, 2016). Student assessments are examined to find specific areas of concern that are impacting level of performance. In addition to individual student performance, the PLC group also evaluates teaching strategies, test format, and alignment of curriculum to determine if outcomes are not based on student factors. Observations from the PLC as well as academic measures are taken into consideration for the team to determine if the student has the skill needed to be successful

(Stoehr et al., 2011). These data are passed on to the teacher and school-wide team, providing them with the information needed to start the RtI process.

The RtI process uses PLC data, in addition to other indicators collected by the various teams and is specific to each individual student, using multiple data points to determine support. The RtI system relies on indicators or flags to decide if a student has a skill or will concern and are classified by different of risk (Balu & Malbin, 2017). Intensities are different than Tiers, as a student could need Tier 2 interventions but only have one flag, known as a strategic student in Tier 2. Additionally, a student could have multiple flags labeling them intensive while demonstrating academic success. (DuFour & Mattos, 2014; Mattos & Buffum, 2014; Mitchell et al., 2011). Students who have a will concern typically fail to turn in assignments, have possible attendance issues or lack motivation or the effort needed to complete assignments that meet standards (Stoehr et al., 2011). The importance of placing the student in the Tier 2 intervention that can improve performance is balanced between school-wide and teacher teams. Parameters of time and support are the keys to Tier 2. Within Tier 2, small group instruction is designed to improve areas that may include, but are not limited to, behavior, math, literacy, or organization (Mattos & Buffum, 2014; Mitchell et al., 2011).

Content Specific Tier 2 to Tier 3 Within PLCs. Providing early intervention in mathematics and literacy is a focus of Tier 2 intervention and is the basis for developing Tier 3 interventions. Within Tier 2, progress monitoring occurs and allows schools to make informed decisions on targeted, specific supports and services that are offered (Bouck & Cosby, 2017; Mitchell et al., 2011). Additionally, students who receive Tier 2 supports in math, language arts, or reading still participate in Tier 1 (Buffum et al., 2018).

Tier 2 supports offer additional time and support to students, often provided in a support class or school-based study hall. Support is provided in small groups with additional staffing in the form of a specific teacher, specialist, or educational assistant who has expertise in the area of concern or in some cases, has a relationship with the student. With specific classes, strategies discussed and implemented in the Tier 2 intervention can also be reinforced in core classes as well. Additionally, variables around instructional methods and programs are implemented within the parameters of time and support to find the most impactful intervention (Faggella-Luby & Wardwell, 2011; Mitchell et al., 2011). Tier 2 support is designed to allow to student to have access to the Tier 1 material in addition to Tier 2 (Bouck & Crosby; 2017). Students who show improvement in Tier 1 standards may be removed from the Tier 2 intervention if the teams determine the intervention is no longer needed (Buffum et al., 2018; DuFour & Mattos, 2013). In cases where Tier 2 is not improving student outcomes, the time and support are adjusted, and in some cases, students are referred to Special Education or 504 services. If they qualify for Special Education or 504 services, students are still given access and participate in Tier 1 and Tier 2 instruction, in combination with Tier 3 supports (Balu & Malbin, 2017).

Research Questions

The frameworks of RtI and PLC are established as promising practices to support academic outcomes. Implementation of REACH focuses on key components of each with the goal of providing all students with support to improve academic outcomes. In the study, I compare reading outcomes through Lexile scores for two cohorts—one cohort is from a period prior to the implementation of REACH on-site and the other from a period with the REACH program. The following research questions were addressed in the study.

Research Question 1 (RQ1): Does participation in a school wide intervention (REACH) show a relationship with reading outcomes for sixth grade students? I hypothesize that students who participate in REACH (treatment) will show higher Lexile scores compared to the comparison group (business as usual). Additionally, students from traditionally low-performing sub-groups who participate in REACH (treatment) will show higher Lexile scores than similar sub-groups in the comparison condition.

Research Question 2 (RQ2): How do PLC groups with a PLC facilitator compare in PLC planning and implementation compared to PLC groups without a facilitator*?* I hypothesize that PLC groups working with PLC facilitators will have greater fidelity on identified goals for PLC/REACH planning to support students.

Research Question 3a (RQ3a): What is the perception of teachers of the effectiveness of the PLC and REACH intervention*?*

Research Question 3b (RQ3b): What aspects of REACH do teachers perceive as having a positive impact on student success and what aspects do they perceive as counterproductive to the process? I hypothesize that teachers working with effective teams have greater impact on student success. I expect that teachers have recommendations for the PLC and REACH process for the upcoming school year around time, days, student placement and the number of open and closed sessions.

CHAPTER II

METHODS

In this chapter, I describe the design, treatment, data collection instruments and procedures, settings and participants used in my research. Additionally, reliability of measures, variables of analysis and quantitative and qualitative data analysis are described. EasyCBM was administered to comparison and treatment groups in the fall and spring, providing Lexile scores (RQ1). This addresses the impact of the REACH program on students. Data tracking surveys and staff surveys provided data and perceptions of the PLC and REACH process, identifying themes and patterns of the work being done to improve student outcomes for RQ2 and R3. The leadership team, made of Principals and PLC facilitators, led the design, evaluation and implementation of REACH. Aspects of PLC and REACH components were evaluated with the results from RQ2 and RQ3 providing themes and observations for future implications on school wide intervention programing.

Design

To analyze the relationship of the school-wide intervention, the REACH program, with achievement for sixth grade students, I used a mixed methods case study. For RQ1, I examined two sixth grade classes from Coastal Middle School (CMS) with the treatment group (A) exposed to the REACH program (see Appendix A) and the comparison group (B) not exposed to the intervention. This non-equivalent, pretest and posttest, comparison group design selected participants without random assignment with the cohort class of 2025 serving as the comparison group and the class of 2026 serving as the treatment group (Creswell & Creswell, 2017). Pretest and posttest comparisons were made using

Lexile scores from the fall and spring easyCBM Multiple Choice Reading Comprehension (MCRC) assessments. Student demographic data included ethnicity, and special education (SPED) and English Language Learner (ELL) designation. For RQ2 and RQ3 qualitative evaluation of the PLC process and REACH process focused on identifying themes and patterns that impacted fidelity and effectiveness through data tracking and feedback from staff.

Treatment and Data Collection

The two cohorts of sixth grade students served as the unit of analysis (Babbie, 2013): providing a treatment and comparison group. In addition to the whole-cohort comparisons, I compared performance for the following sub-groups: special education (SPED), English Language Learners (ELL) and Minority students. Students with SPED designation were any who had an Individual Education Plan (IEP). ELL students were those with a primary language other than English. The school site where the study was set has a diverse population with students identified as minorities making up the majority of the student body.

Lexile scores (converted from a scale score) were calculated from student performance on the easyCBM MCRC assessments administered in the fall and winter in school years 2018-2019 (Treatment Group) or 2017-2018 (Comparison Group). Fall MCRC data were collected in early September with spring MCRC data collected in May, coinciding with the end of the school year. Each semester is 18 school weeks, and the time between pre and posttest measures was 32 school weeks.

In addressing RQ2 and RQ3, I collected school data from PLC observations that are a normal component of the PLC process. RQ2 looks specifically at the role of the

trained PLC facilitator in leading the work. At the site, five PLC facilitators are trained and move from one of the 13 meetings throughout the meeting time. Each facilitator spends between 15 and 60 minutes with each group supporting each group on high leverage aspects of PLC and collaboration. Over the course of the school year PLC teams should have frameworks in place (unit plans, learning targets, designing instruction) and move to collection of student data and next steps to support students. The PLC facilitator offers guidance on what the team should be focusing on to improve student outcomes.

As the school looks at the impact of the facilitator, RQ2 examined how the meetings are organized, run, and what the focus is. School administrators were trained at the PLC conference on how to complete the tracker with follow-up trainings at the district level. PLC data used for this dissertation were collected over three cycles of three weeks, with eight PLC meetings conducted, yielding a total of 104 observations. One weekly meeting was missed for an observed holiday with no school taking place.

Data specific to RQ3 were collected in meetings between PLC facilitators (representing their teams) and the building administration. Data for RQ3 were compiled and presented each month, with specific data for this study collected from October of 2019 to February of 2020.

Settings and Participants

I used CMS sixth grade students from two consecutive classes for my research. CMS is a school serving students in grades 6-8 in a small agricultural community with an attendance area of over 500 miles. In school year 2018-2019, 452 students attended. With a population of Native American, Hispanic, and Caucasian students making up 98% of the school, over 76% of students identified as minorities, and 40% were classified as

English Language Learners (ELL). Additionally, CMS is identified as a Title I school, with over 95% of students living in poverty. Staff consists of 27 certified teachers, two administrators, and 19 classified workers. CMS has a history of low performance on the Oregon State Assessment (see Table 1) in addition to low graduation rates.

My research was conducted in the building where I work as an assistant principal in charge of operations. Students in the 2017-2018 sixth grade class, the comparison group, were not part of any modification or intervention. The 2018-2019 sixth grade class, the treatment group, participated in the school wide intervention, REACH.

Table 1

Percent of Students Meeting Oregon Grade Level Standards 2017-2018

	CMS Students Meeting	Oregon Students Meeting
English Language Arts	37%	56%
Math	18%	41%
Science	30%	61%

Note. CMS = Coastal Middle School Students

Due to longstanding low performance, the Coastal School District was awarded both ODE Student Improvement Grants (SIG) and ODE Transformation Grants. Resources from the grants led to implementation of RtI and Professional Learning Community (PLC) over the last six years. Through combination of these programs, REACH was developed and was implemented at the site of the study at the start of the second semester during the 2018-2019 school year. The CMS class of 2025 is the first class to participate in REACH. The class of 2025 was in the sixth grade during the 2018-2019 school year and serves as the treatment group. The class of 2024 did not participate in REACH or any school-wide intervention during their sixth-grade year. CMS draws

students from four elementary schools with students having some choice between which of two middle schools to attend. Data and demographic information for the class of 2024 and 2025 is shown in Table 2. The study used convenience, non-probability sampling: Students were readily available as I work in the school and picked the school and cohorts based on their interventions.

Table 2

Counts of Students by Demographic by Group for REACH Study

Demographics	Minority	ELL	SPED
Comparison (*n* = 170)	108 (64%)	26 (15%)	15 (8%)
Treatment (*n* = 146)	84 (57%)	16 (11%)	16 (11%)

Instruments and Data Collection Procedures

The longitudinal non-equivalent, pretest and posttest, comparison group design (Creswell & Creswell, 2017) used Lexile scores from fall and spring administrations of the easyCBM MCRC assessment to address research question one. The MCRC focuses on reading comprehension, reading fluency and vocabulary with a score range of 0-20 converted to a Lexile measure (Anderson et al., 2014). Lexile is a measurement of the difficulty of a text as well as the reading level of a reader (Scholastic, 2006). The Lexile conversion and range for sixth grade MCRC is 0 = 20L to 20 = 1405L. Table 3 presents a count of students classified by the level of risk the district uses to organize students for instruction based on the easyCBM fall test for the comparison and treatment group. Students at low risk are those who perform at grade level. Students at some risk perform one grade level below expectations, and students at high risk perform two or more grade levels below expectations.

Table 3

Counts of Risk Level Based on MCRC Fall Lexiles by Group

	Low (grade level)	Some (strategic)	High (intensive)
Comparison (*n* = 170)	73 (43%)	28 (16%)	69 (41%)
Treatment (*n* = 146)	94 (64%)	15 (10%)	37 (25%)

Anderson et al. (2014) state "evidence gathered since the measures release indicate that the easyCBM MCRC measures have a moderate degree of validity for measuring students' comprehension skills within a response to intention framework" (p. 100). The easyCBM MCRC assessment was given to sixth grade students in the second and third week of school in English Language Development (ELD) classes for ELL students, support classes for SPED students, and English Language Arts (ELA) classes for all others. The test was administered during 47-minute classes using laptops.

Students in the comparison group had 28-30 weeks of ELA instruction, with SPED students receiving additional time in support classes. ELL students had additional ELD classes with a small number of students having all three designations. Students in the treatment group had the same access to ELA, ELD and SPED classes with an additional 140 minutes of targeted small group interventions and enrichments each week. Over the 28-30 weeks' time between pretest and posttest, the treatment group had access to over 3,600 minutes of additional instruction reallocated from their general studies to specific REACH intervention. Pre and posttest Lexile data were collected from easyCBM. Data for the easyCBM MCRC assessments are available through the Jefferson County School District website with multiple reports available.

RQ2 focused on categorical data collected in observations by administrative teams in the school using a district-developed tracking form. Observations were categorized by the presence of the PLC lead compared to groups without a lead. The PLC tracking form (see Appendix B) was utilized each Monday that PLCs met. Each Monday is a late start with 75 minutes dedicated to PLC with the school having 13 teams ranging from singletons (electives) to three members (specific content areas). Five trained PLC leads move between teams in support. Administration used a tracker developed by the PLC district team under the guidance of Solution Tree staff at the summer institute to monitor what was happening in each PLC. The building principal collected data using the tracker for each team. Data are presented using descriptive analysis of the PLC meetings, organized by those with a PLC trained facilitator and those lacking a PLC trained facilitator. Data are presented in table format to identify themes and focus of the team.

The last component of data, addressing RQ3, focused on staff themes and group perceptions on the PLC and REACH process. During each month the building PLC collected evidence from each team in the form of team feedback. Perceptions were categorized on integration of PLC work in REACH, themes emerging from teams, perceptions of individual staff and items for refinement of the intervention as a whole.

Reliability of Measures

The consistency and repeatability of an instrument, known as reliability, focuses on the degree in which the instrument measures the same way, given the same set of circumstances. Anderson et al., (2014) provide data on split half and top bottom reliability studies for MCRC. In addressing split half reliability Anderson et al. (2014) reported coefficients for the sixth grade level that show “moderate internal consistency.”

Furthermore, in assessing top-bottom reliability it was determined that for lower percentage groups, correct responses ranged from .09 to .81, while all in the higher group "correctly responded to 2-8 items, while the remaining items ranged from .10 to .98 (Anderson et al., 2014, p. 104). Additionally, Anderson et al., share that several studies "provide predictive and concurrent validity evidence" (p. 105). They report, "MCRC measures have a moderate degree of validity from measuring students' comprehension skills within the RtI framework, and they are particularly relevant for students who oral reading fluency skill and vocabulary knowledge are at or near grade level" (p. 100). According to Mesmer (2008), the Lexile framework has "excellent psychometric properties" (p. 52), including consistent reliability.

Variables for Analysis

For RQ1, I analyzed easyCBM Lexile score data from students in the comparison and treatment groups at CMS. The dependent variable (DV) for the study is Lexile scores, a continuous variable with a range from BR300L to over 2000L with 200L being the cutoff BR; students above 1200L are considered college and career ready, and 1700L or above, they are considered advanced readers. According to Scholastic (2006), the Lexile range for sixth grade is 855L to 1165L.

The independent variable, participation, was dichotomized, with "yes" indicating participation in the treatment and "no" indicating participation in the comparison. Risk factors identified by Lexile and RtI were reported as ordinal values of *at grade level* (low risk), *strategic* (some risk) and *intensive* (high risk). Additional categorical IV's include demographics with a yes or no categorical code for SPED and ELL. Ethnicity was reported as a categorical variable having five possible options, with no specific order.

Data Analysis

Quantitative data were used to address RQ1 and qualitative data were used to address RQ2 and RQ3. For RQ1, I used a three-way mixed ANOVA to compare mean scores on the easyCBM MCRC measures to analyze differences between the treatment and comparison groups' performance on the measures. Primary comparisons for 'between group' and 'time' were analyzed. Additionally, I ran pairwise comparisons between SPED, ELL and Minority students. For RQ2 and RQ3, I used descriptive analysis of observational data from PLC meetings to identify patterns and themes emerging from the PLC and REACH process.

Quantitative Analysis

IBM SPSS was used to run the statistical analysis for research question one. First, a two-way mixed Analysis of Variance (ANOVA) was conducted focusing on the effects of time and treatment. Assumptions of ANOVA are that randomness, normalcy and sphericity are present (Field, 2013). Then, a series of three-way mixed ANOVAs was used to determine if multiple independent variables predicted the dependent variable or interacted with the treatment. The main null hypothesis was that there were no differences between the comparison and treatment Lexile means. Additionally, estimated marginal means were interpreted for significant results.

Qualitative Analysis

I used descriptive analysis for RQ2 and RQ3. A deductive approach was used to determine similarities and differences in the data. Patterns from concepts and insight were used as prescriptive data to inform next steps of the PLC and REACH process with theories, themes and characteristics providing credible and trustworthy interpretations.

CHAPTER III

RESULTS

The purpose of this research was to examine, through three lenses, the impact of a school-wide intervention: (a) student academic outcomes, (b) PLC planning and staff fidelity of the process as it is currently designed, and (c) perceptions of teachers around the design and effectiveness of the REACH intervention program.

Research Question 1 (RQ1)

To address RQ1, does participation in a school wide intervention (REACH) show a relationship with reading outcomes for sixth grade students, I use descriptive statistics with pairwise comparisons to describe and compare academic outcomes. Table 4 displays the overall placement of all students in the groups from pretest (fall) to posttest (spring) based on individual students' risk level ratings. Table 5 displays student outcomes for comparison and treatment group students using pretest and posttest Lexile scores. Tables 6, 7, and 8 display student outcomes for SPED, nonSPED, ELL, nonELL and ethnicity subgroup classifications, once again comparing students' pretest and posttest Lexile mean scores. Within group scores analyze each individual group, comparison or treatment, across factors within the group with a focus on SPED, ELL and ethnicity. Additionally, between subject factors compare the results between students in the comparison and treatment groups to each other across the same factors, examining whether or not statistically significant differences are present.

Table 4

Counts of Risk Level for Students at Pretest and Posttest by Group

Group	Low (grade level)	Some (strategic)	High (intensive)
Comparison-Pre (n = 170)	73 (43%)	28 (16%)	69 (41%)
Comparison-Post (n = 170)	78 (46%)	24 (14%)	68 (40%)
Treatment-Pre (n = 146)	94 (64%)	15 (10%)	37 (25%)
Treatment-Post (n = 146)	80 (55%)	39 (27%)	27 (18%)

Table 5 and Figure 1 illustrate change between pretest and posttest for each group. The comparison group showed little movement from low, some and high-risk levels. Students in the high-risk group only change by one student while five students move from some risk to low risk. In the treatment group, 14 fewer students are in the low to some risk. Additionally, the high-risk students 10 fewer students are in the strategic group, improving their scores. While movement between groups is a concern, RQ1 addresses whether students in the treatment group perform statistically different than students in the comparison group. A significant interaction effect exists between time and sample F (1, 314) = 8.20, p = .004. In looking at posttest data in Table 5, students in all areas of the treatment have higher Lexile scores. However, as can be seen in Figure 1, students in the comparison have means scores 94L below that of the treatment cohort on fall pretest Lexile, but 169L below by the spring posttest. The significant interaction indicates that the difference between comparison and treatment is even larger for spring

posttest than for pretest. The comparison group actually is lower by 24L while students in the treatment group is higher by 51L, when looking at mean scores.

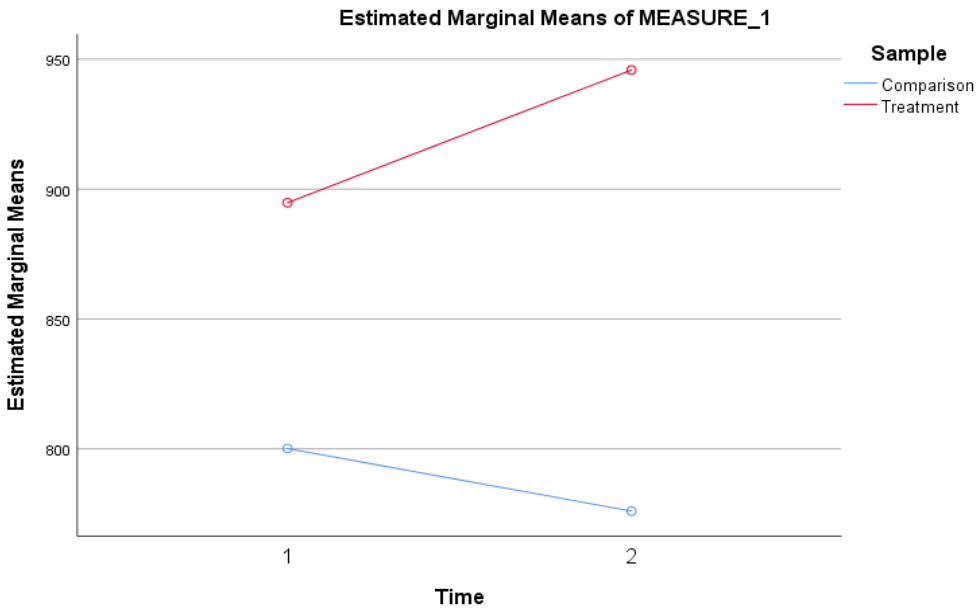


Figure 1. Mean Lexile scores by season and group.

Table 5

Mean Lexile Scores by Season and Group (n = 316)

Season	Group	*Min*	*Max*	*Mean*	*SD*	*n*
Fall Lexile	Comparison	90L	1335L	800L	248	170
	Treatment	20L	1335L	894L	281	146
	Total	20L	1335L	843L	268	316
Spring Lexile	Comparison	160L	1265L	776L	234	170
	Treatment	160L	1405L	945L	247	146
	Total	160L	1405L	854L	245	316

Tables 6, 7 and 8 provide the results of the analysis specifically for subgroups. Within-group scores are reported for subgroups defined by whether students received SPED services (Table 6), whether students received ELL services (Table 7), and racial and ethnic subgroups (Table 8) for both comparison and treatment groups. Table 6 reports within groups descriptive statistics for students in and not in SPED. The three-way mixed ANOVA of time, sample and SPED did not have a significant three-way interaction, F (1, 312) = 0.47, p = .496, suggesting that students benefited equally in both groups, as reported in Figure 2. The two-way interaction between SPED and time indicated that SPED students showed significant gains over time, whereas students not in SPED did not show such gains, F (1, 312) = 4.80, p = .029.

Table 6

Descriptive Statistics for Pretest and Posttest Lexiles by Group and SPED Status

Group	*n*	Fall Lexile				Spring Lexile				Gain
		Min	*Max*	*M*	*SD*	*Min*	*Max*	*M*	*SD*	
SPED C	16	435	1265	714	221	225	1200	798	283	84
SPED T	19	225	1200	789	263	435	1200	896	226	107
Non-SPED C	154	225	1335	809	251	295	1265	773	230	-36
Non-SPED T	127	20	1335	910	282	160	1405	953	251	43

Note. C = Comparison. T = Treatment.

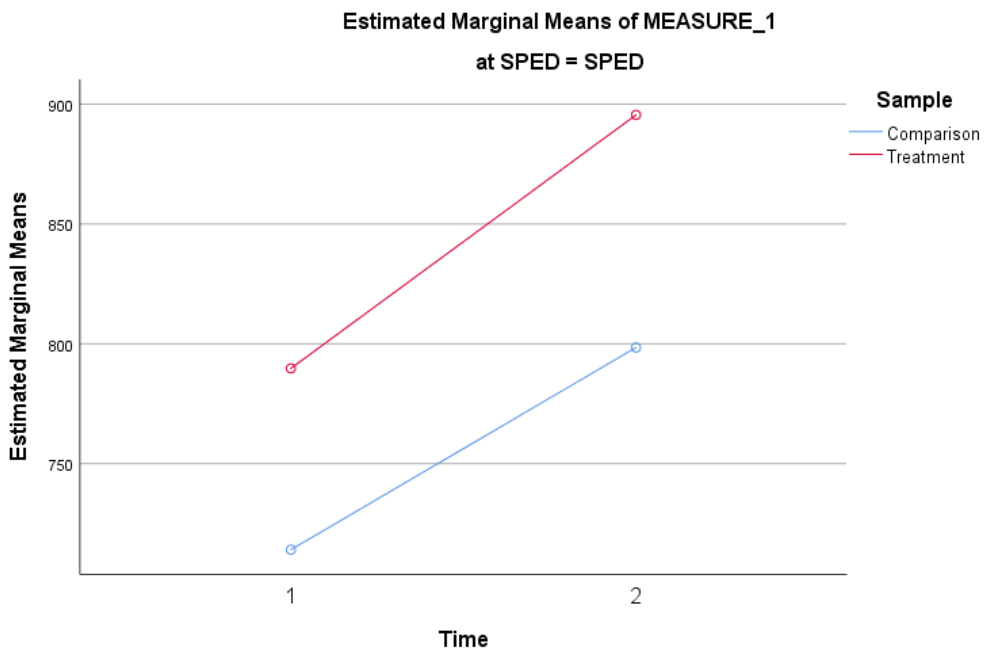


Figure 2. Mean Lexile by group and SPED status.

Table 7 displays data based on student classification as ELLs. There was not a statistically significant three-way interaction between time, sample, and ELL status, F (1, 312) = 0.68, p = .41. Figure 3 displays the statistically significant interaction between time and ELL status, F (1, 312) = 10.23, p = .002. ELL students in both comparison and treatment groups significantly improved over time, but the same was not true for non-ELL students. In addition, there was a statistically significant between-subject effect of ELL status, F (1, 312) = 33.66, p < .001, indicating that ELL students scored significantly lower than non-ELL students.

Table 7

Descriptive Statistics for Pretest and Posttest Lexiles by Group and English Proficiency Status

Group	*n*	Fall Lexile				Spring Lexile				Gain
		Min	*Max*	*M*	*SD*	*Min*	*Max*	*Mean*	*SD*	
ELL C	15	90	1060	609	236	160	1170	663	255	54
ELL T	16	225	1200	608	290	295	1200	799	304	191
N-ELL C	155	225	1335	834	236	225	1265	796	225	-38
N-ELL T	130	20	1335	930	251	160	1405	963	235	33

Note. C = Comparison. T = Treatment.

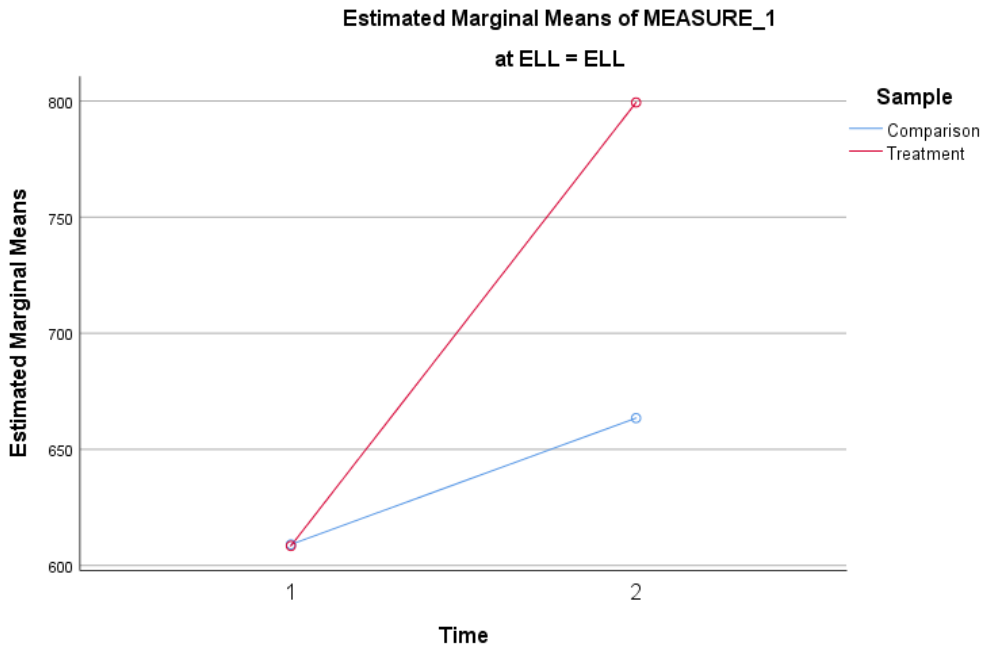


Figure 3. Mean Lexile by group and English proficiency status.

Mean scores by race and ethnicity, displayed in Table 8, yielded no significant results for three-way and two-way interactions. The three-way interaction of time, sample and ethnicity was not significant, F (4, 306) = 0.83, p = .508. Additionally, two-way interaction of time and ethnicity was not significant, F (4, 306) = 0.82, p = .511.

Table 8

Descriptive Statistics for Pretest and Posttest Lexiles by Group and Ethnicity

Group	*n*	Fall Lexile				Spring Lexile				Gain
		Min	*Max*	*M*	*SD*	*Min*	*Max*	*M*	*SD*	
White C	62	435	1335	890	233	365	1265	856	202	-34
White T	62	20	1335	954	248	435	1335	986	218	32
Black C	2	435	860	547	301	505	1050	777	385	130
Black T	1	920	920	920	0	780	780	780	0	-140
Hispanic C	80	225	1200	756	230	225	1335	728	225	-28
Hispanic T	67	20	1265	861	288	295	1405	924	265	63
Asian/Pac Islander C	3	645	1130	898	243	505	1130	875	328	-23
Asian/Pac Islander T	1	1265	1265	1265	0	990	990	990	0	-275
Native Am C	23	90	1265	707	289	160	1200	712	281	5
Native Am T	15	20	1335	768	340	160	1265	778	286	10

Note. C = Comparison. T = Treatment.

An examination of the statistics for the three bigger race and ethnic subgroups reported in Table 8 and Figures 4, 5 and 6 indicates some evidence that subgroups changed differently from the treatment based on pretest to posttest changes in scores. Comparison group White students decreased 34L, whereas treatment group White students increased 32L. Similarly, comparison group Hispanic students decreased 28L, but treatment group Hispanic students increased 63L. In contrast, Native American students increased slightly in both cohorts, by 5L in the comparison and 10L in the treatment group. The differences between race and ethnic groups were not statistically significant, but power to detect these differences was only .26.

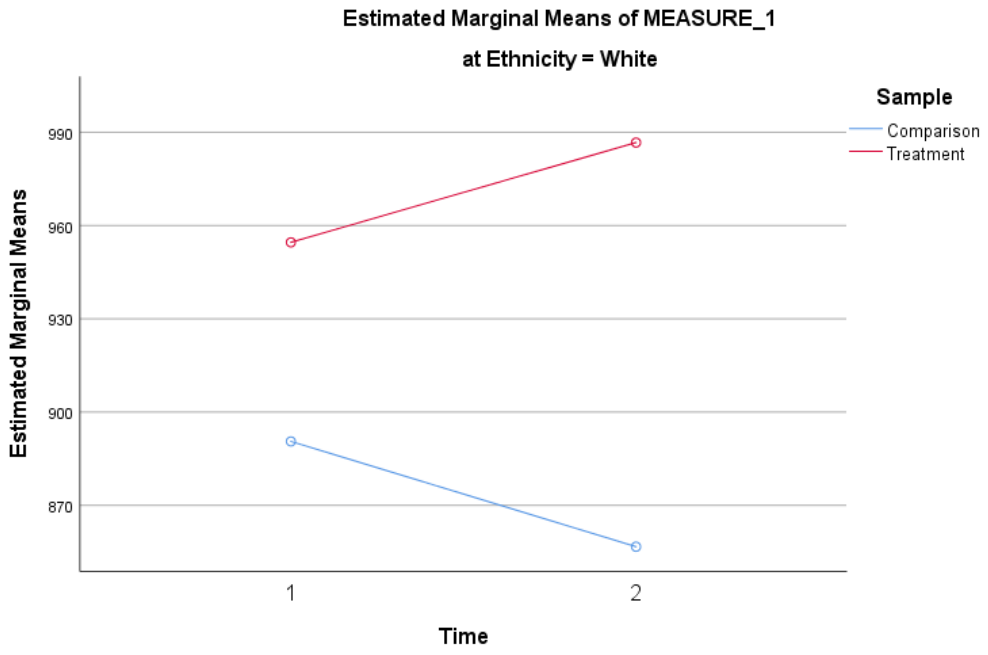


Figure 4. Mean Lexile by group for White students.

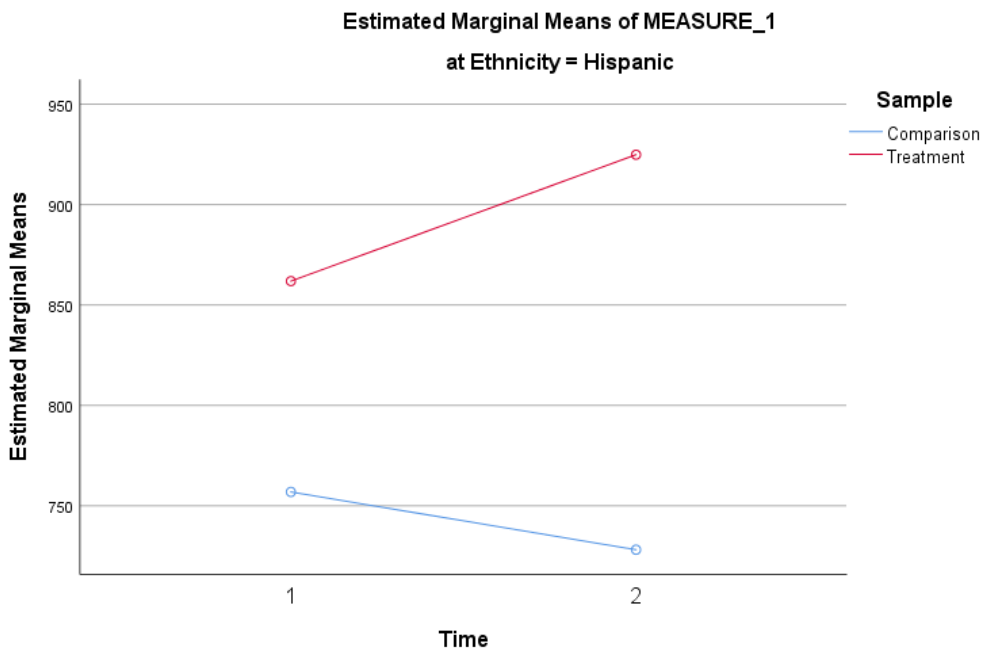


Figure 5. Mean Lexile by group for Hispanic students.

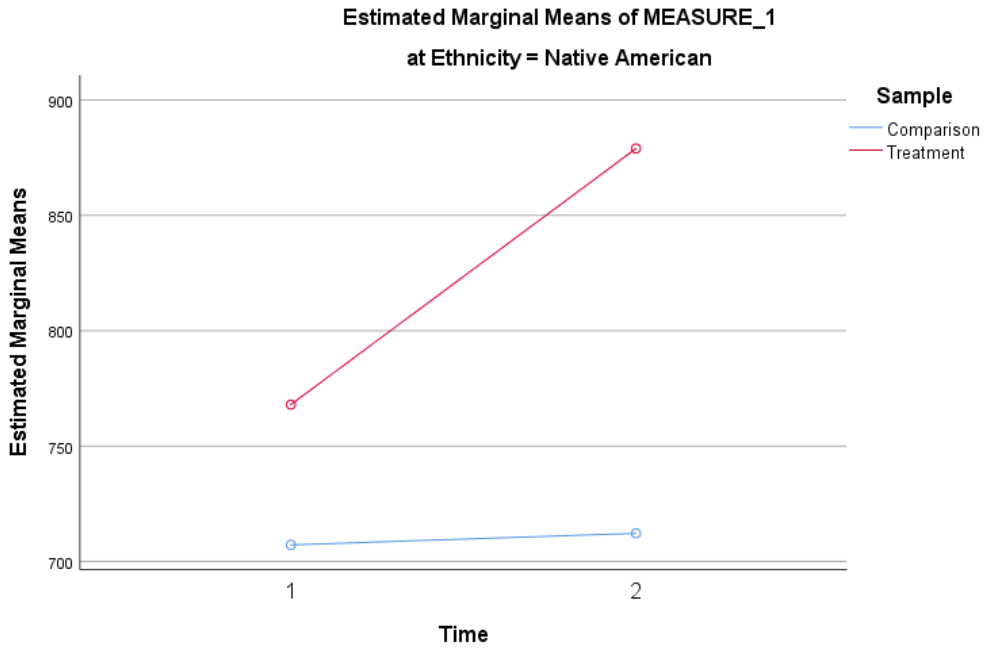


Figure 6. Mean Lexile by group for Native American students.

To address RQ2, how do PLC groups with a PLC facilitator compare in planning and implementation compared to PLC groups without a facilitator, I calculated descriptive statistics to describe and evaluate how PLC meetings were conducted. The building observed has five trained PLC facilitators who rotate from group to group each Monday morning with a focus on one of the four essential questions of the PLC. Specifically, the PLC facilitator guides teams through the process in planning the REACH intervention. Table 9 reports the number of meetings focused on each essential question. During the observation, questions one and two—what do we expect students to learn and how will we know if they learned it—accounted for 76% of the meetings. Consequently, only 26 observations focused on essential questions three and four.

Table 9

Count and Percent of Essential Questions During PLC Meetings (*n* = 104)

Focus of Meeting	Count of Meetings	% of Meetings
What do we expect students to learn?	50	49%
How will we know if they learn?	28	27%
How do we respond if students experience difficulty?	16	15%
How do we respond when students do learn?	10	9%

Table 10 provides information on the same essential questions as Table 9 but in this case, only looking at what the focus was when the PLC facilitator was present. Mirroring the overall observations, in the presence of a PLC facilitator, meetings continued to focus on essential questions one and two. However, as is shown in Tables 11 and 12, there was better balance to the work being done when the facilitator was present. Specifically, more time was spent evaluating data to drive planning the next step to

support students in the REACH program. When the facilitator was not present, more time was dedicated to completing unit plans and placing students in interventions or enrichments with less time spent evaluating student work and assessment data.

Table 10

Count and Percent of Essential Question the Team Focused on with PLC Facilitator Running Meeting (n = 74)

Essential Questions	Count of Meetings	% of Meetings
What do we expect students to learn?	32	43%
How will we know if they learn?	21	28%
How do we respond if students experience difficulty?	14	19%
How do we respond when students do learn?	8	10%

Table 11

Focus of Team with Facilitator Leading PLC (n = 74)

Focus of Meeting	Count of Meetings
Unit Plans	35
Learning Targets	30
Designing instruction	31
Planning Enrichments	12
Planning Interventions	21
Student Data	17
Creating CFA	12
Analyzing Assessments	13
Completing TACA Form	9

Table 12

Team Focus on Seven Stages of Professional Learning with Facilitator Present and Not Present in PLC (n = 104)

Team Focus	Present (*n* = 74)	Not Present (*n* = 30)
Filling Time	4	1
Sharing Practices	16	4
Planning Instruction	47	20
Developing CFA	12	6
Analyzing Student Work	45	6
Adapting Instruction	34	6
Reflecting on Teaching	28	2

Table 13 shows the focus on planning time during PLC meetings and what was being addressed when the PLC facilitator was present compared to when a facilitator was not present. During the observed PLC meetings, a facilitator was present 67% of the time. Tracking was conducted on nine possible areas of focus on which the team was working. With multiple areas of focus in some meetings more than one area was addressed, while in others only one focus area was evident. With or without a facilitator, unit planning was a focus more than any other area. Completing the TACA form was done the least in both scenarios. Overall, greater balance was achieved when a facilitator was present.

Table 13

Count for Planning Time Focus via Observation of PLC (n =104)

Planning Time Focus	Present (*n* = 74)	Not present (*n* = 30)
Unit Plans	35	18
Learning Targets	30	14
Designing Instruction	31	9
Planning Enrichments	12	2
Planning Interventions	21	3
Student Data	17	9
Creating CFA	12	1
Analyzing Assessments	13	1
Completing TACA Form	9	0

Research Question 3 (RQ3)

To address RQ3a, what is the perception of teachers on the effectiveness of the PLC and REACH intervention and 3b, what aspects of REACH are being having positive impact on student success and what aspects are counterproductive to the process, I categorized input from teachers. Teacher input on the PLC and REACH programs was used to analyze the effectiveness of the current systems and determine what was working well and what needed to be adjusted moving forward. Table 14 displays the aspects of the PLC and REACH process on improving student outcomes. Results suggest enrichments and open student hall are not having the impact that they are designed to accomplish. PLC teams favor the ongoing PLC and REACH interventions and areas needing to be addressed for the following year.

Table 14

Counts of Perception of Effectiveness of PLC and REACH by Teachers and PLC Teams (n =13)

Perception of Effectiveness	PLC PD	PLC Meetings	Inter-ventions	Enrich-ments	P30	Study Hall
Improving Outcomes	13	13	13	5	11	3
Not an Impact on Outcomes	0	0	0	8	2	10

In Table 15, PLC themes and concerns expressed by teachers are classified as systematic or functional issues. PLC groups' perceptions around addressing critical factors of REACH are key to evolving the intervention to address the needs of students. Systematically, each aspect of schedule, planners, accountability, P30, interventions and enrichments, in addition to trainings and meetings, were topics that staff felt needed to be addressed. Guidelines for managing a REACH session is an area that staff felt is strong but could be improved with staff fidelity of those guidelines. Functionally, only P30 and balance of offerings were not major concerns, as both would be addressed if the system were improved. Staff provided input on the need for systematic adjustments focusing around structure, routines, and policies around REACH and the concepts needed to support staff function. Functional themes were interpreted as needs of the personnel implementing each area. Overall, themes reflect adjustments to some structural components that would impact the ability of the staff to operate the REACH program with greater fidelity and efficiency.

Table 15

Count of Systematic and Functional Changes Needing Addressed for Next School Year (n =13)

Changes Needing to be Addressed	Systematic	Functional
Schedule	13	13
Checking of Student Planners	13	13
Student Accountability	13	13
P30	13	3
Balance of Interventions/Enrichments	11	6
Guidelines for REACH	4	13
Trainings/Meetings	13	13

CHAPTER IV

DISCUSSION

In this chapter, I present a summary of my findings and discuss their contribution to the PLC process and school-wide intervention. In addition, I discuss the study's limitations. Finally, I address future policy implications at the state, district and school levels and then conclude with my plan for dissemination of the findings from this study. This study was designed to examine the effects of a school-wide intervention on improving student academic outcomes at a rural middle school in Central Oregon. In this section I have addressed each research question by discussing the findings that impact the school wide intervention, REACH.

Research Question 1 (RQ1)

RQ1 examined differences between sixth grade students' Lexile scores for a treatment and comparison group studied in successive cohorts. Additionally, specific subgroups were examined to determine if the school-wide intervention supported all students while still prioritizing underserved student groups. As stated by Mattos and Buffum (2014), we must get in-depth information on students and their skills in relation to desired standards and academic outcomes. The purpose at CMS was to determine if a school-wide intervention focusing on specific student needs could improve academic outcomes for all students. Results of the current study indicated that some student groups benefited from instructional programs and practices at the school of focus. However, because of the use of a non-experimental design, these changes cannot be definitely attributed to the treatment. Rather, the treatment may have been associated with a number of other, related variables.

Interpretation of results supports that programs and practices, including REACH, may have an impact on student outcomes. With the treatment group demonstrating larger gains when compared to the comparison group, the implementation of a school wide intervention as a component of the instructional plan implemented is encouraging and highlights the need to better identify active ingredients of the REACH program. The implementation of this plan, in addition to staff improving capacity in the RtI and PLC processes, students from some sub groups may benefit, relative to white, non-SPED and non-ELL students. Clearly further research and development is needed to investigate components of RtI, PLC, and school wide interventions. The three-way interactions were not significant, suggesting that students in subgroups benefitted as much as those not in the subgroups of SPED, ELL, and racial and ethnic subgroups. Hispanic, SPED and ELL students at CMS have traditionally performed more poorly compared to their peers. Although the current results do not 'close these gaps', they do indicate that target subgroups benefitted at least as much as their peers.

Research around the PLC model suggests that supporting students by identifying deficits and addressing the specific standard or needed skill may be important in improving outcomes (Buffum et al., 2018; DuFour & Mattos, 2014; Mundschenk & Fuchs, 2016). Examining Lexile scores for the groups at the school of focus and the subgroups that have traditionally struggled to make gains provides evidence in support of PLC driven, school-wide intervention for all students. The REACH program prioritizes literacy to improve student outcomes, as previous reading comprehension scores had fallen well below the state average at all three grade levels.

Research Question 2 (RQ2)

RQ2 examined specific items in PLC and REACH planning to determine the impact of the PLC facilitators. Facilitators help lead and focus the group on doing the right work needed for the team to address student needs. The facilitator, often a teacher, guided the team through unit plans, formative and summative assessment, student data and teaching practices, all designed to get students what they need (DuFour & Mattos, 2013; Mattos & Buffum, 2014).

I found evidence of specific impact on developing unit plans and assessments with progress being made in identifying specific student needs for placement in the correct REACH intervention. Literature demonstrates the need for teachers to determine, through planning and practice, ways to identify specific skills or standards that can be addressed when a student does or doesn't master them in order to move the student forward academically (Mattos & Buffum, 2014; Mitchell et al., 2011). Facilitators can help keep the focus on making decisions based on student data and finding the correct next step to provide targeted support. A carefully planned and skillfully facilitated meeting may result in greater productivity and efficiency (Buffum et al., 2018). When the facilitator was present, more balance was evident within all areas identified to impact student outcomes. When not present, PLC teams narrowed their focus, spending more time on the structure of classes, unit planning, and student data with less time devoted to planning instruction, assessments, interventions and enrichment or completing the Teacher Analysis of Common Assessment (TACA).

Research Question 3 (RQ3)

RQ3 examined specific perceptions and themes identified though PLC meetings and follow-up facilitator meetings evaluating the current PLC and REACH programs and identifying adjustments for the program. Data, categorized into systematic and functional focus, were collected and analyzed to determine what was working and what needs to be addressed as the program evolves. A school-wide intervention that is planned in the school day may represent a significant change to traditional schedules and practice (Mattos & Buffum, 2014). Systematic components focused on schedules, staffing, P30 and sessions offered within the REACH program, while functional components centered around operations, implementation and evaluation.

I found that P30 is a point of concern and likely needs addressed before the next school year. P30, a session where students are sent when not meeting expectations of REACH, is designed to address students who lack motivation, personal accountability or the will to complete work. Students at risk typically fail to turn in assignments, have possible attendance issues, or lack motivation or the effort needed to complete assignments that meet standards despite having the academic skills to do so (Stoehr et al., 2011). P30 was staffed by one staff member and became a detention-like learning environment where students often stayed for multiple days missing out on instruction, intervention, and/or enrichments. The goal of getting these students to be successful and into the sessions where they need support is a priority for the next school year.

Student and staff accountability were identified as additional areas needing adjustment for the next school year. While structure and expectations were developed and agreed upon by staff, fidelity of implementation for these areas were lacking around rigor

for standards-based interventions and enrichments. In some instances, where students had no stamps, students were allowed to socialize and participate in games not focused on identified standards. For a school-wide intervention to be successful it must be implemented for all students and avoid becoming a punitive piece for some groups of students, ensuring that all students are participating regardless of their academic standing (DuFour & Mattos, 2013; Mattos & Buffum, 2014). I found that students who were passing classes and meeting standards were not attending enrichments. Additionally, many of the enrichment classrooms had only three to four students attending, or in some cases, no students attending. Without students attending these offerings, increased numbers were found in study halls and open sessions, causing issues with management.

As Mundschenk and Fuchs (2016) argue, using data to identify student needs and acting on that need is essential to improving outcomes. Data from my study suggest that balancing the number of interventions and enrichments to meet current need is a priority, as is making sure students are getting the academic support they need in a timely manner. Furthermore, students not having the correct stamps or changing planners was a concern for the majority of staff, as some students are not attending offerings that are specifically designed to support their learning needs. Additionally, many students were getting checked out by parents before or during REACH, leading to a discussion around offering the program during a different part of the day. My data suggest reducing the number of days from five to four, while adding a Monday advisory session to support teacher and student accountability, might impact structure and function in a positive way.

Limitations

Although the purpose of this study was to determine the impact of the PLC process and REACH school-wide intervention program, there were limitations with the mixed methods case study. Most importantly, the treatment group students began with much higher overall Lexile scores compared to students in the comparison group. Furthermore, the comparison group was taught during their sixth grade year by a new teacher, and although all students in the treatment group had this same teacher, a year of experience and improved practice could have impacted the results. The comparison group also had a testing environment that was mobile and a longer time period for testing, as the building did not have the technology to support 1 to 1 student computers whereas the treatment group did have this access. Finally, the small sample sizes for several of the sub-categories limits the conclusions. Thus, though my findings cannot be used to make claims about the effectiveness of REACH in causing improvement of student performance, they can be used to highlight the critical components of REACH and provide evaluation strategies that maintains a focus on learning.

Internal Validity

The degree to which results are attributable to the independent variable and not another explanation is known as internal validity (Babbie, 2013). The main threats to internal validity in this study are history, attrition, and instrumentation. Basically, the design of the study included a number of confounding variables that may have been as responsible for the outcomes as the use of the REACH program, limiting any capacity to make causal statements.

With the study being conducted over several months, history, events external to the study impacting the outcome (Creswell & Creswell, 2017), is a concern. Some of the concerns for history include students not attending school due to inclement weather as during the treatment year, several school days were lost to snow and made up at the end of the school year after easyCBM testing. Additionally, many students had poor attendance on days when the weather was inclement but school was in session, as many families do not have transportation or live in areas not maintained by the county.

With any cohort group, the mortality or attrition of subjects is a concern if the population of the study is highly mobile. Assessment data from easyCBM was collected twice for my study, the first time in early September and the second in May. CMS has a large population of students who go to Mexico from Thanksgiving break to after the winter break. This migration pattern may have resulted not only in missing data from easyCBM but also impacted the amount of instruction during the school year.

Instrumentation is another concern as the testing of easyCBM is done on laptops and the district only moved to a 1-to-1 student to computer ratio for the treatment group year, impacting students' familiarity with the device. Testing can cause stress on students, and the testing environment and method could cause some students to not provide a true representation of their ability. Increased laptop numbers and increased use of laptops in classes prior to assessing students with easyCBM could reduce this risk. During the comparison group year, the school had around 200 computers available, stretching testing out over several weeks. More computers were bought and usage for the treatment group was more efficient, as the school moved to a 1-to-1 technology ratio, reducing testing time to a few weeks.

Finally, sample size for some subgroups was below an acceptable range. Some samples only had one or two students. This small size can impact the ability to find statistical group differences even if they meaningfully exist (Creswell & Creswell, 2017). Expanding the range of students and adding more grade levels would have improved the likelihood of finding statistically significant results due to sufficient power.

External Validity

External validity refers to the extent in which the findings of the study are generalizable (Babbie, 2013). Creswell and Creswell (2017) describe three types of threats to external validity as interactions between (a) selection and treatment, (b) setting and treatment, and (c) history and treatment. In my study, the interaction between treatment and both selection and history are threats to external validly. The threat due to the interaction between selection and treatment is related to the narrow characteristics of participants. For this study, two sixth grade classes at Coastal Middle School participated. The two classes were quite similar to each other in terms of demographics and background. CMS has one of the highest free and reduced lunch populations in the state and is identified as a Title 1 school. Furthermore, Jefferson Country has a student population that is fairly unusual, as 76% of students identify as being of minority backgrounds, with Hispanic and Native American students the largest minority groups. The ethnic composition of the sample limits generalizability because this particular demographic balance is not found anywhere else in the state. For my study, the non-random selection of students further limited generalizability.

The interaction between treatment and history is a threat. The two groups differed in the amount of time between pretest and posttest. CMS had different length windows

for easyCBM testing in the two years from which data were gathered due to limited technology. A larger concern is the amount of snow days the treatment group missed, as they had over a week of instruction canceled that was made up after spring easyCBM testing. And, as previously mentioned, the teacher was in her first year on the job during the comparison group year, so it is likely that her instructional effectiveness would differ from one group to the next.

The REACH school wide intervention is a key component adding to current work being conducted in the CSD to improve student outcomes. Driving the work is an energetic and focused leadership team working together for all students. A critical component of the leadership team, that aids overall district success, is the change in principals at all four elementary schools in the district in addition to a new superintendent. This leadership has put a focus on a K-12 educational plan designed to increase student outcomes through improved instructional practice. As a district, a focus on improving outcomes through RtI and PLC frameworks are the driving forces with REACH a component at CMS. Work in the district around increasing capacity of teachers, specialists, support staff and administration through professional practice further supports student success for all.

Dissemination of Study Findings

The findings from this research project need shared with different audiences. First, I can share with my school district, by writing up key points and takeaways from the study which would be helpful in assisting district personnel complete observations of the REACH program implementation. Second, the findings can also be shared with

Solution Tree for the summer institute, a focal point of the PLC process. Third, the results can be disseminated by submitting a manuscript in the published literature.

Implications for Future Research

In this study, I examined the impact of a school-wide intervention on reading comprehension Lexile scores. Although the study documented implementation of RtI and PLC, further investigation is needed identify the components of the REACH program and more carefully document its impact. This study provides a foundation for evaluating the academic impact of building interventions during the school day for all students, combining practices of RtI and PLC to address student needs. Expanding the study to include impact on student learning in other subjects, additional measures, and a larger sample in scope and size may offer more insight into school-wide interventions. Additional grade levels or schools participating in REACH can increase the statistical power and the ability to reach conclusions. Although results are limited to my study, findings lead to more questions about the intervention and measures to evaluate.

Implications for Policy and Practice

Results from this study revealed gaps in the reading comprehension levels, as measured by Lexile scores, for different student groups in the school, both in the comparison year, prior to the introduction of the REACH intervention, and in the treatment year. Though students in the comparison group, overall, had improved scores, some groups actually showed no gain or in some cases, regressed. The REACH intervention did, however, show promising components, suggesting the needs for additional time and support built into the school day, especially in communities where students have limited options for additional support outside of the school.

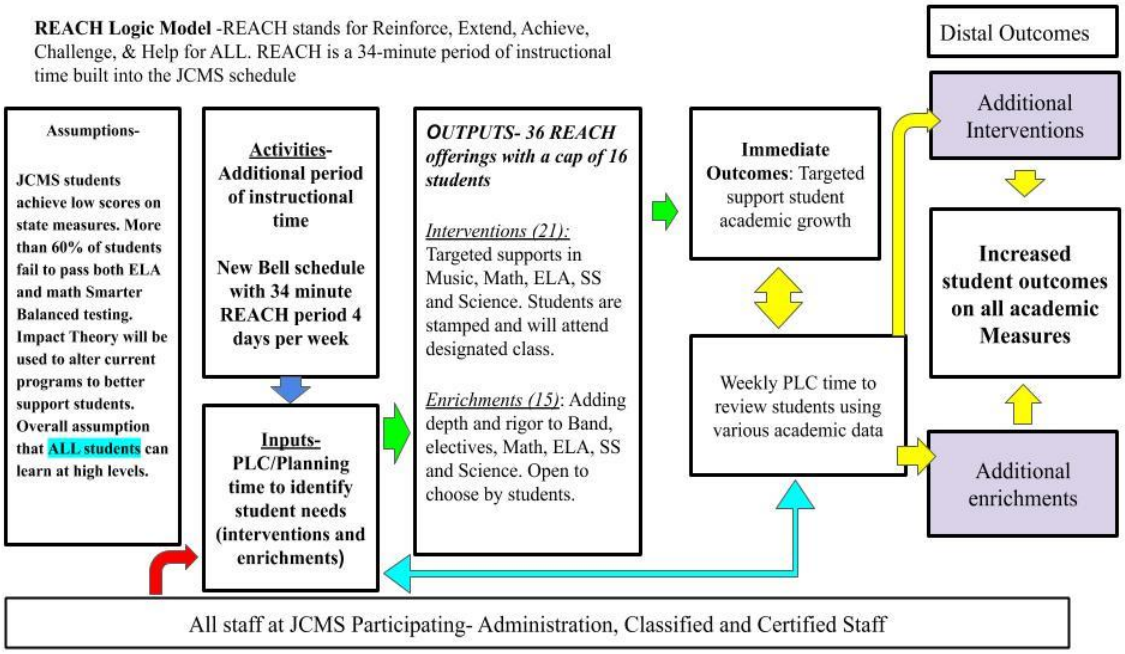
Based on the results, administrators in the Coastal School District have an opportunity to examine school-based interventions and the implications of embracing the PLC process. Improving student performance requires systematic changes in the school day in conjunction with providing teachers and staff time and resources to do the right work. For example, many districts around the state have already moved to late start or early release schedule, which in turn allows schools to conduct professional planning and staff development. This study highlights the need to evaluate these additional interventions, extra time and support, for students within the school day.

Conclusion

This mixed methods case study examined the impact of a school wide intervention and the systematic and functional aspects of REACH. Though a small study conducted at one site, results were encouraging in highlighting components of RtI and PLC as important in improving practices that impact student outcomes. Teachers and PLC leads are analyzing student data, identifying gaps, and supporting students through interventions and enrichments designed to address each student's individual needs. This process targets specific gaps and needs for each student, rather than simply looking at low grades or having the student redo an entire unit, assignment, or test. Instead, the RtI and PLC process may be useful in identifying the specific item or step that is holding the student back from mastering a concept or sequential problem. Although adjustments need made, REACH is a promising aspect of the CMS instructional plan. Through further research, planning, and implementation, a brighter future for ALL students is possible.

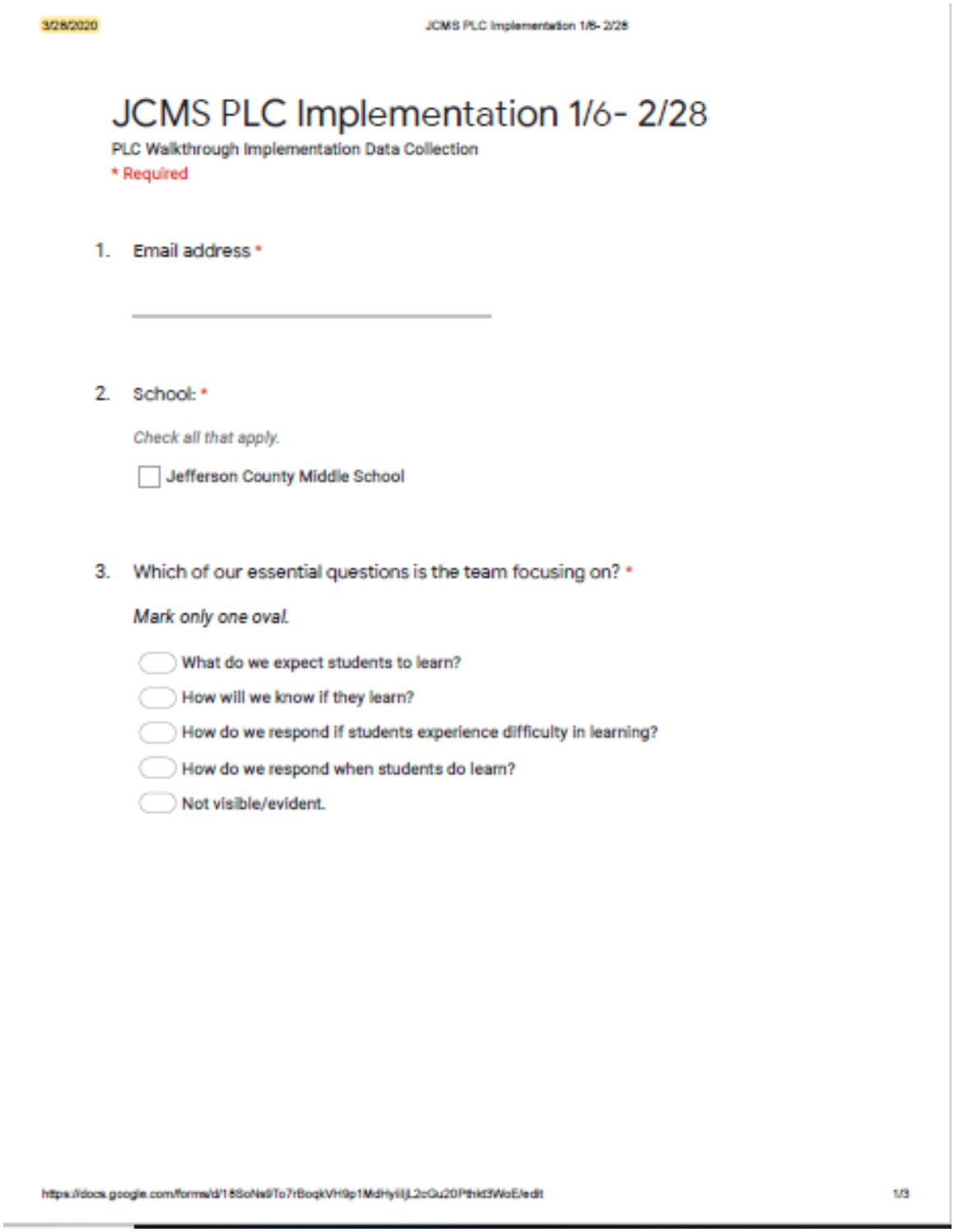
APPENDIX A

REACH MODEL



APPENDIX B

PLC TRACKER



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JCMS PLC Implementation 1/6- 2/28

PLC Walkthrough Implementation Data Collection

* Required

1. Email address *

2. School: *

Check all that apply.

- [ ] Jefferson County Middle School

3. Which of our essential questions is the team focusing on? *

Mark only one oval.

- ◯ What do we expect students to learn?
- ◯ How will we know if they learn?
- ◯ How do we respond if students experience difficulty in learning?
- ◯ How do we respond when students do learn?
- ◯ Not visible/evident.

https://docs.google.com/forms/d/18SoNs9To7rBoqkVH9p1MdHyiIjL2cQu20Pthkt3WoE/edit 1/3

4. What is the team working on? (Check all that apply.) *

Check all that apply.

- [ ] Unit Plans
- [ ] Writing learning targets and checks for understanding.
- [ ] Designing instruction with engagement strategies.
- [ ] Planning enrichment.
- [ ] Planning interventions.
- [ ] Looking at data and student work.
- [ ] Creating common formative assessments.
- [ ] Analyzing end of unit common summative assessments.
- [ ] Completing the TACA form
- Other: [ ] _____

5. Is the PLC facilitator present? *

Mark only one oval.

- ( ) Yes
- ( ) No
- ( ) PLC facilitator is not present, but there is a leader guiding the work.

6. What is the PLC facilitator doing? *

Check all that apply.

- [ ] Following an Agenda
- [ ] Facilitating Conversations
- [ ] Completing the Meeting Planner
- [ ] Filling in the TACA
- [ ] Leading the Team in Analyzing and Improving Student Learning Data
- [ ] Identifying Professional Development Needs of Team
- [ ] Utilizing Team Norms
- Other: [ ] _____

7. Which of the seven stages of professional learning do you feel this team is at? (based on what you see today) *

Check all that apply.

- [ ] Filling the Time
- [ ] Sharing Personal Practice
- [ ] Planning Together
- [ ] Developing Common Assessments
- [ ] Analyzing Student Learning
- [ ] Adapting Instruction to Student Needs
- [ ] Reflecting on Instruction

8. Other Observations:

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