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Instructional Coaches in Maine

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Instructional Coaches in Maine Schools: Who Has Them, Why We Have Them, What is the Content Focus, and How They are Funded.

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Abstract

This paper explores the use of instructional coaches around the state of Maine. The research will connect how instructional coaches are used, how many there are, and how those positions are funded within tight school budgets. A review of the literature shows the need for and effectiveness of instructional coaches, specifically in literacy and mathematics.

The research study I will be conducting will explore how the coaching positions around the state of Maine came to be; how school districts afford those positions; and it will examine the sustainability of instructional coaching positions.

My research will explore different ways in which instructional coaching positions could be funded in those school districts that have the need for them but, their budgets do not have room for them.

Keywords: instructional coaching, mathematics coach, literacy coach, content focus

Introduction

Across the United States, schools are feeling the pressure of accountability brought on by the No Child Left Behind Act (NCLB). Gone are the days when students can be promoted year after year without demonstrating proficiency on the content standards. This puts a lot of pressure on districts, schools, and teachers to improve student achievement. As a way to help improve teaching and learning within schools, districts are looking for alternative forms of professional development for their teachers. One alternative method of professional development districts have been looking at is instructional coaches. In districts across the United States, content-focused instructional coaches have been employed to support the implementation and continued use of best practices in their content areas (Sailors & Shanklin, 2010). Instructional coaching is a form of professional development where teachers can learn best practices, use those practices, and receive on-going feedback and support. Instructional coaching, as a practice in itself, combines effective professional development with school-based and school-specific needs (Knight, 2006).

The demand for increased student proficiency continues to grow, but the funding for instructional coaches has become more limited (Ingersoll, 2007). It has become more apparent to district leaders that the quality of their teachers has a positive correlation on student achievement in their schools (Fullan, 2001). In using this knowledge, providing site-based, ongoing professional development and providing support on best practices in the form of instructional coaches could lead to greater student achievement.

Literature Review

History of Instructional Coaches

Instructional coaching started in the 1980's in the United States. The original reason for instructional coaches was to help with implementation of new curriculum, as well as new instructional strategies (Showers & Joyce, 1996). When coaching was first introduced, it was presented as a new form of professional development for teachers. The typical form for professional development at that time was teachers would attend a one-day workshop, with no follow up, and be expected to use what they learned in their everyday practice in their classrooms. In this typical form of professional development, it was found that less than 10 percent of teachers actually applied the new skills they had learned in their own classrooms (Garet, Porter, Desimone, Birman, & Yoon, 2001). "Bruce Joyce and Beverly Showers were among the first researchers to seriously explore the idea of coaching" (Neumerski, 2012, p.322). Joyce and Showers presented the idea of "peer coaching" where teachers would coach one another in mutual ways. During their (Joyce & Showers) research, it was found that peer coaching led to higher rates of implementation of the suggested instructional practices and created more collaboration among teachers (Polly, Mraz, & Algozzine, 2013)

Prior to instructional coaching, there were several models for teacher development. Between 1940 and 1960, professional development went through the industrial model. In this model, much like students were taught, teachers were trained as though they were in factories. The goal of the teachers was to be efficient, yield results, and maintain quality. When it came to feedback, it came only in the form of a formal evaluation (Doby-Holmes, 2011). After the industrial model came the clinical model of the 1960's. In this model came a pre-conference,

lesson observation, and post conference. The post conference was used as a way to provide feedback to the teacher (Goldhammer, Anderson & Krajewski, 1980). After the clinical model, the traditional form of professional development started. The traditional models consists of isolated workshops with little or no time to talk with peers, reflect on the learning, or get feedback, making this form of professional development ineffective (Garet, Porter, Desimone, Birman, & Yoon; Showers & Joyce, 1996). Instructional coaching in the United States started mainly in large school districts in places like New York City and Boston. From that point, the idea of coaching spread throughout the United States in urban areas (Russo, 2004). As the idea of instructional coaching was spreading, a new school reform model was created and started being used. America's Choice was used in roughly 600 schools spanning across 15 states. This new school reform model included a strong component focused on school-based coaching. "Teachers work with math and literacy coaches one-on-one and in small groups to develop instructional strategies and to build model classrooms for innovative language arts and mathematics programs" (Russo, 2004, p. 4).

Content Focused Instructional Coaches and Their Importance

The role of instructional coaches can look very different depending on the expectations established by the school district and if they are content focused. Content-focused coaches, which are primarily found in literacy and mathematics, are unique in their roles (Neumerski, 2012). The main focus of any instructional coach is to identify teachers who could use some extra support. Once those teachers are identified, coaches visit the classrooms, model lessons, gather data, and help teachers find resources that would help improve student learning (Knight, 2006). Instructional coaches focus specifically on pedagogy and content-specific curriculum,

which is why most instructional coaches have one content area that they focus on. Instructional coaching has become a tool for school districts to provide training to improve how instruction is delivered and ensure that best practices are being used (Black, Mosleed, & Sayler, 2003). Overall, instructional coaches are being used to improve the quality of teachers within school districts (Knight, 2006).

Literacy coaches play a key role when it comes to literacy reform at not only the federal level but state and school district level, as well (Marsh, Bertrand, Huguet, 2015). As defined by the International Reading Association (2004), literacy coaches provide support and guidance to teachers by providing professional development and offering support to help implement literacy instruction. Generally, they offer in-school, continual support for teachers based on teacher needs (Neumerski, 2012). They also help teachers look at literacy data to help inform their instruction (Bean, Draper, Hall, Vandermolen, & Zigmond, 2010). Literacy coaches have been around for some time, not only in elementary schools but middle and high schools, as well (Walkowiak, 2016); whereas, "the placement of mathematics coaches is a more recent phenomenon due to the call for their placement in schools to catalyze and sustain instructional improvements" (Association of Mathematics Teacher Educators, 2013; Walkowiak, 2016, p. 14).

Mathematics coaching is still relatively new, even though the idea of instructional coaching has been around since the 1980's (Showers & Joyce, 1996). "The work of a content area coach or teacher leader addresses dilemmas of education reform, pedagogical change, relational and collaborative work, and reflective practice" (Inside Mathematics). Mathematics coaches are seen as math experts and can be used to support teachers during instructional planning times or provide professional development workshops (Polly, Mraz, & Algozzine,

2013). They can also help guide teachers in examining test scores, student work samples, formative assessment data, and lesson plans. Mathematics coaches can work with teachers to prepare more engaging instructional strategies, as well as help adjust instruction based on student needs (Campbell & Malkus, 2011). "With all of the variations and differences, a common goal guides math coaches- to support the mathematics learning of all students by supporting teachers to improve their teaching of mathematics" (Felux & Snowdy, 2006, p.ix). During a study conducted by Samuel Obara and Margaret Sloan, their research brought to light that having a mathematics coach on site who was meeting with teachers, talking about math content and pedagogical challenges surrounding materials and curriculum, had a positive effect on those teachers (2009).

Literacy and Mathematics coaches are the norm when it comes to instructional coaches. According to Sailors and Shanklin (2010), "Schools, districts, and states have employed reading/literacy, mathematics, and science coaches" (Coaching in the Field and the Professional Development of Classroom Teachers, para. 1) to support teachers in improving their practice and implementing new practices. The authors mention science coaches, although there is little to no research on science instructional coaches. In fact, there is little to no research about any content-specific instructional coaches other than literacy and mathematics.

Funding for Instructional Coaches

One of the biggest struggles for school districts throughout the United States is having a need but not having the funding to meet that need. Instructional coaches can fall into this category. School districts may very well see the need for instructional coaches, but they do not

have the money in the budget to afford the position. Adding positions to an already tight budget can be very challenging but there are some solutions to help overcome this challenge.

According to Kiley Walsh Symonds, there are some key things within a school district that need to be looked at when it comes to funding instructional coaching positions. The first suggestion is to make instructional coaching a high-priority strategy. Another suggestion is to make sure that the superintendent, the school board, and the entire school community see the importance of instructional coaching and are willing make it a priority. The next suggestion is to change or eliminate other unneeded positions within the school district. As one person in Symonds article stated, "Throw money where you know it's going to make a difference. And the rest-you're going to have to find a way to make work" (Symonds, 2003, p. 55). The last suggestion is to take funding from other initiatives. This suggestion may mean that the district needs to look at how money in the district is being allocated (2003). As part of Symonds' research, she talked with leaders in three different school systems to see how they were able to fund literacy coaching positions. One school she spoke to was able to fund their literacy coaching positions through a combination of funds stemming from the district's general fund, a grant, and programs like Title I, Title II and a school improvement program. Another district Symonds spoke with did something very similar. They researched every funding source they had that could be applied to literacy coaching. As a result, each of their literacy coaches are funded a little bit differently. Some of the funds come from Title I and an English Language Acquisition Program. Other funds came from certain grade level funds, and that money was used to pay for literacy coaches that worked with those grade levels. This district was also able to use some grant money to help fund these positions, as well. The last district that Symonds talked to got the

majority of their literacy coach funding from Title I, the Economic Impact Aid program, Gifted and Talented, and the professional development fund. Some of their money also came from grants (Symonds, 2003).

All three of the districts that Symonds met with used Title I money in order to fund their literacy coaches. Title I money could also be used to fund mathematics coaches within school districts. According to LeTendre, Wurtzel and Bouckris (1999), Title I money can be used for professional development. Title I can help teachers improve their content knowledge and skills in mathematics through professional development experiences. These experiences could be taking courses or being trained to analyze student test data to help focus instruction. They also provide questions to make teachers and districts think about how Title I funds are being used to support quality math teaching and learning. When it comes to Title I providing funds for professional development the questions that are being asked are, " Is Title I used to support ongoing professional development in mathematics? Are follow-up activities available?" (LeTendre, Wurtzel & Bouckris, 1999, p.272). Based on the notion that instructional coaches, no matter what the content focus, are an on-site and continuous form of professional development, Title I funds should support a mathematics coach in terms of professional development. Another way that the Title I funds can be used are for supporting the use of mathematics specialists and master teachers. Math specialists and master teachers can be used in a peer-coaching model, and they can help teachers deepen their content knowledge and improve their instructional strategies. When it comes to providing Title I funds for mathematics specialists and master teachers, the following questions are being asked: In the school or district, does Title I support the mathematics specialist who works with teachers to develop their knowledge of mathematics?

Does Title I support the identification and appointment of master mathematics teachers? Do these master teachers assist other teachers in planning their lessons, developing instructional strategies, and responding to students with special needs? (LeTendre, Wurtzel & Bouckris, 1999, p. 272).

Mathematics coaches are a type of math specialist, so the funds from Title I for a school district would also be able to support that position. Schools that receive Title I support have two ways in which they are able to use those funds to pay for mathematics coaches within the district.

Maine's Accountability and Improvement System

In the state of Maine, the Department of Education has an Accountability and Improvement System. In 2013, Maine had applied for flexibility in the Elementary and Secondary Education Act (also known as No Child Left Behind Act and Every Student Succeeds Act). The United States Department of Education approved Maine's application, which allowed Maine's own Department of Education to implement its own statewide plan to improve educational outcomes for all students, close achievement gaps, and increase the quality of instruction. As a result, Maine will cut in half the percentage of non-proficient students at each school within six years. (Maine Department of Education, 2015).

Part of Maine's plan is to differentiate support for schools that receive Title I within the state. In order to make this happen, schools had to be categorized based on their needs. There are five categories: priority, focus, monitor, progressing and meeting. The plan that Maine created does not just look at schools based on the proficiency of its students, but also the progress that has been made. With these five categories, Maine is able to focus its support on schools that

show they need it most, while still providing resources to all public schools. As part of this plan, the state will also recognize high achieving schools.

Schools that are considered priority or focus and show progress on their targets for three consecutive years will still receive support and monitoring by the state, but those supports will be limited until they exit their current category status. Priority and focus schools that do not show growth in the first two years of support will have more interventions and supports. One of the interventions is the school would have to put aside 20 percent of their district Title I allocation to support the school improvement plan. The proposed plan for spending the funds need to be sent to the Maine Department of Education for approval. After this process if there are no improvements between the third and fourth year, with the help and approval of the Department of Education, the district must identify and fund

> at least one certified specialist - whose primary responsibility will be to provide ongoing classroom-based professional development and support around the implementation of best practices for instruction. The area of expertise of this classroom-based professional and their work in the school must directly align with the identified needs that result from the externally conducted school assessment. Districts may use funds from the required 20 percent set-aside to meet this requirement. (Maine Department of Education, 2015, para. 3)

If schools in Maine reach the point of being a priority or focus school and have not seen improvement between the third and fourth year of implementation, the district will have no choice but to hire an instructional coach or coaches. Depending on the content area of need, this could be either a literacy coach, math coach, or both.

Maine Mathematics Coaching Project

In July of 2015, the University of Maine at Farmington began a pilot program called the Maine Mathematics Coaching Project. With low math scores throughout the state of Maine, school districts are searching for ways to improve teaching and learning of mathematics. One of those ways to help support teachers in mathematics is to hire a math coach. The project was designed to help teachers transition from being classroom teachers to the new role of elementary mathematics coach (University of Maine at Farmington). As schools are looking to hire mathematics coaches or have expert teachers move into those roles, those teachers or coaches need to learn how to make that transition and what makes an effective mathematics coach. The program is specifically designed to support school districts in creating high quality teaching and learning in mathematics. The goals of the program are:

- Prepare Maine students to meet career and college mathematics demands;
- Provide teachers in the state of Maine with high quality mathematics professional development; and
- Increase interest, engagement, and self-efficacy in mathematics for students and teachers. (University of Maine at Farmington)

The program is going to be starting its third cohort in the summer of 2017. The cost of the program is substantial. School districts that want to have a candidate in the program have to pay $6,000 for the first year, $5,000 for the second year, provide a membership to the National Council of Supervisors of Mathematics each year of the program, cover lodging and transportation costs and have to provide either a laptop or tablet with the MLTI image (University of Maine at Farmington).

Research Design

Purpose of the Research

The purpose of this research is to investigate the use of instructional coaches around the state of Maine. Instructional coaches have been around several years but in recent years seem to be more common around the state. Literacy coaches have been in the forefront of instructional coaches, leading the way for mathematics coaches which are now on the rise. There have been graduate programs focused on literacy for several years, but now, within the state, there are more programs being created to focus on mathematical leadership and coaching. Recent research is focused more on literacy coaching, but there is still very little research on mathematics coaching. This research study will add to the body of research by attempting to collect data around the use of literacy, math and other content specific instructional coaches around the State of Maine and how those positions are being supported. This research should identify the reasons why instructional coaches are so important within the state and their roles in among school districts. The research should also identify how districts are able to fund these valuable coaching positions which would give ideas to other districts on how to fund the positions if they do not currently have them due to budget constraints.

Research Question

This action research study will be designed to collect data about the use of content focused instructional coaches in school districts around the state of Maine. This research is important to learn about the successfulness of instructional coaches around the state of Maine. If as a result, there is a high correlation between school with instructional coaches and increasing student proficiency, this could drive a need for more coaches around the state. If the need is

there, these coaches will need to be trained, and graduate programs will need to be expanded or more need to be created to meet the demand. Currently, there is a lot of research around literacy coaches and very little research about mathematics coaches or other content area coaches. Most of the current research is specific to coaching in urban environments and not in rural areas such as Maine. The research questions for this study are:

1. Are school districts around Maine taking advantage of the successfulness of instructional coaches? How many school districts around the state of Maine have instructional coaches? How are those coaches paid and what is their purpose?
2. Why are there more literacy coaches than mathematics coaches around the state of Maine and are mathematics coaches on the rise? Why not other content area coaches? Are these positions sustainable for our state?

Central Concepts

The central concepts related to this investigation are improving teaching practices with the use of instructional coaches which would then increase student scores and performances around the state. There is a lot of research that supports the idea of content-focused instructional coaches providing ongoing professional development for teachers to help improve their teaching practices. Instructional coaches are being used to improve the quality of teachers within school districts (Knight, 2006).

Although the research supports the use of instructional coaches, Maine school districts have budget constraints that may inhibit them from being able to have those positions. With instructional coaches, school districts have in-house professional development providers and ongoing professional feedback cycles to help improve the teacher quality, overall instruction, and

increase student learning within all district classrooms. Previous research focused specifically on literacy coaching has been able to provide ways in which they were able to fund literacy coaches within their school districts. A participant in Symonds article (2003) said to "throw money where you know it's going to make a difference. And the rest-you're going to have to find a way to make work" (Symonds, 2003, para. 7). This suggestion may mean that the district needs to look at how money in the district is being allocated. Other ways districts in urban areas found money for the coaching positions was through Title I funds and other local grants. Maine may not have the same grant options on where to get money from to fund the position. The idea of using Title I funds within Maine school districts would be realistic and doable, as many schools receive these funds through the state.

General Approach

In order to investigate this research, topic data will be collected through the use of mixed-methods surveys given to all superintendents around the state, literacy and mathematics specialists at the Maine Department of Education, and mathematics coaching candidates in the Maine Mathematics Coaching Project. This study intends to generate data from the participants on how many content focused instructional coaches there are around the state, why the districts have them, how they are funded, why there are more literacy coaches than mathematics coaches, and the sustainability of these positions within the state of Maine.

Most of the recent research has collected data on instructional coaching through surveys and interviews. Those studies were done on a smaller scale so it was realistic to conduct interviews will all of the participants. This study will be done strictly through surveys that will be sent out electronically. The research will be on a much larger scale, so electronic surveys will

be the most logical and efficient way to administer them and collect data. One weakness in this approach will be actually getting enough responses to make the research valid. The problem with electronic surveys and sending them through email is potential participants not even bothering to read the email since they do not know the researcher. The email could go to junk mail, or the participant has good intentions and plans to take the survey, but then they get busy, forget about it and never end up completing the form. In order to compensate for this weakness, there will be several follow up emails to try and ensure a high number of participants in the study. The other weakness with this is the researcher cannot target certain individuals that have not completed the survey because there is no way to know who has completed it and who has not. The reminder emails will have to be sent to all potential participants, even if they have already completed the survey.

Methods of Inquiry

A mixed-methods study will be used in this research. The focus of this study will be on the feedback of superintendents around the state of Maine, the two literacy specialists and two math specialists at the Maine Department of Education and all of the coaching candidates in the Maine Mathematics Coaching Project. All participants will be emailed a survey. The surveys will be a mix between a questionnaire and an interview survey. According to Creswell (2011), a questionnaire is a survey in which participants choose answers to questions and then sent the survey back to the researcher. An interview survey on the other hand is “a form on which the researcher records answers supplied by the participants in the study” (Creswell, 2011, p. 385). The surveys in this study will be a mix between those two with some questions in which

participants will choose answers from a list of predetermined answer, and in other questions, they will provide answers on their own.

Although the majority of the study is quantitative in nature, the open-ended questions give participants an opportunity to share their thoughts and feelings about instructional coaches and provides the researcher qualitative data without trying to travel the entire state to collect data through interviews. Overall, the advantage of a mixed-methods approach will allow the researcher to collect quantitative data but still collect the perceptions that go along with that data.

Research Methods

Setting

I will be conducting my research electronically to include participants from all over the state of Maine. Maine is a rural state in the northeastern part of the United States. There are different parts of Maine, some of which are extremely rural and others that are fairly urban. Due to the broad range of community types, conducting research statewide would collect the most unbiased data.

Sampling/Participants

The participants consist of school superintendents, specialists from the Department of Education and math coaching candidates. All of the school superintendents from around the state will be invited to participate in the study. It is important to invite all of the superintendents around the state because no two school districts are the same, just as no two geographical areas in Maine are the same. Northern Maine is very different from the southern part of the state which is also very different from the central part of the state. It will be important to collect data from all parts of the state.

I will also be inviting the two literacy and two math specialists from the Maine Department of Education to participate in the study. These specialists are statewide specialists, so will have a good idea of what instructional coaching looks like statewide. The math specialists in particular also have connections with the Maine Mathematics Coaching Project which is training teachers to become math coaches for the state.

The last participant group included are the math coaching candidates from the Maine Mathematics Coaching Project. The candidates are from schools all over the state and have first hand knowledge of what math coaching currently looks like within their school districts. These coaching candidates are currently being trained to become mathematics coaches and their enrollment in the program is being funded in a variety of ways.

Methodology

I will be using a mixed-methods approach for this research. Mixed-Methods allows me to have numerical data to support my research questions. This is easier to visualize through the use of tables and graphs. The open-ended pieces of my survey will be allow me to understand the thoughts of participants when they are able to elaborate more on their perceptions of instructional coaches. This data will provide more information to support the numerical data from the quantitative part of the study. The drawback to this method is the inability to ask follow up questions that may arise as responses are collected during the survey process.

Operational Measures

The goal of this study is to identify how many instructional coaches are used in the state of Maine and in what content areas they focus. The goal is also to identify how those instructional coach positions came to be, as well as how they are funded year after year. The

overarching question is whether or not instructional coaching positions are sustainable in the State of Maine. Data will be collected using three separate instruments. The first instrument is a superintendents' survey. This survey acts as an information collecting tool about the use of instructional coaches in their school district. This will help gather data from an administrator perspective and someone who has some input on school boards and can push the idea of instructional coaches for the district. The second instrument is a survey for the mathematics and literacy specialists at the Maine Department of Education. This survey acts as an information collecting tool about the use of instructional coaches around the state. The instructional coaches work statewide with teachers and districts, so would have information about the entire state's mathematics and literacy education. The last instrument is a survey for the math coaching candidates in the Maine Mathematics Coaching Project. This survey acts as an information collecting tool about the use of mathematics coaches around the state, and the push for school districts to not only have instructional coaches, but also ones that are well trained. The data that will be collected will be reliable because the instruments that are being used have several multiple choice options; also, in the event that the available choices did not fit the participant's circumstances, an option to fill in their own choice was provided. There are also open-ended questions in which participants can freely share what instructional coaching is and looks like in their environment.

Data Collection

Data will be collected via three different surveys from three different participant groups. The first thing the researcher will need to do is recreate all three of the surveys on Google Forms so they can be completed electronically. The researcher will then have to collect the email

addresses from all of the potential participants. Surveys will be sent to potential participants through a personal email, not in a group email form. Each email will consist of the consent form and a link that will take the participant to the survey. The first thing that participants will need to do is read the consent email and not click the link unless they are agreeing to take the survey. Once they have consented, they need to complete the survey electronically through the link provided.

Data Analysis

The data will be analyzed using mixed methods. Most of the questions posed to participants are quantitative in nature since they have a set amount of choices to chose from. The responses from those questions will be compiled and analyzed on a question-by-question basis. A qualitative analysis will be completed with the open-ended questions on the same surveys. During that data collection, I will be using thematic analysis to determine what the majority of participants feel about the role of instructional coaches.

Expected Findings

Based on prior research, I am expecting to find that most of the instructional coaches in the state of Maine will have a literacy content focus. I would also expect that superintendents throughout the state would find the role of any instructional coaches to be beneficial to their school districts. Although they feel the coaches would be beneficial, a lot of the school districts they are in charge of will not have coaching positions due to budget constraints. When collecting data from the coaching candidates, I expect to find that majority of the candidates from the second cohort had their program fees covered by priority school money in the state of Maine that needed to be used to help improve student performance in mathematics. My findings will support

the field of study by showing superintendents who feel instructional coaches are not possible for their school districts that it may be possible by providing findings from those districts that do have them. There is prior research on the effectiveness of mathematics coaches, although there is not much. Through the research, I will gather information that supports the effectiveness of mathematics coaches in the state based on general student performance in those school districts that have them.

Potential Issues & Weakness

Getting good survey response rates could pose a significant barrier to the completion of this research. There is no real benefit to the participants in exchange for completing the survey. I have to hope that the superintendents, Department of Education Specialists, and math coaching candidates are willing to take the time to complete the survey. Everyone in education is extremely busy and may not have 15 minutes of time to participate in a survey.

Another potential weakness is that the surveys will be going out electronically to reach all the potential participants in a time and effective manner. There is no way for me to know who has completed the survey and who has not, so sending out follow up or reminder emails would have to go out to all potential participants even if they have already completed the survey.

Lastly, I could end up with a huge amount of data and not as much time as I would need to analyze it. There are 181 superintendents in the state, four mathematics and literacy specialists at the Department of Education, and 29 math coaching candidates in the Maine Mathematics Coaching Project. If every potential participant completes their respective surveys, that is a lot of data to have to sift through and analyze.

Research Narrative

I chose this research topic because I am currently taking classes to become a mathematics coach. In the Maine Mathematics Coaching Project, I started to have more and more questions about math coaching as a sustainable career. It was mentioned several times throughout the classes that there are more literacy coaches than there are math coaches and that they have been around for longer. It made me start to question why and what does instructional coaching around the state look like.

The research method I chose was mixed-methods. I knew if I wanted to gather information from around the state, I would need to do it in the form of a survey. It would not have been physically possible to go to each school district in the state to gather the information. Sending out a survey to the mathematics coaching candidates in the MMCP also seemed like a logical decision since they are also spread around the state. The last group I wanted to gather data from was the literacy and math specialists at the Department of Education. I would have loved to been able to do an interview with each of them; however, their time is so limited that I decided to send an interview form or survey for them to fill out. All of their questions were open ended where they were able to elaborate on their thoughts and providing me with some qualitative data.

Starting at the beginning of January, I sent out the surveys to all three of the participant groups. The collection portion presented its own challenges with each group. When it came to the superintendents around the state, I had to figure out who they were and what their email addresses were. I also wanted to make sure I sent to every district in the state, so I compiled a list of the districts, as well. It seemed like a fairly simple process; however, when districts combined

years ago to make new regional school unions, it made this a lot messier. I used three different maine.gov websites to form the list and cross reference the lists. Some old school districts are still their own but also combined with other to make new school unions with one superintendent, making it very difficult to figure out if I was actually sending to everyone I anticipated. After I had done cross referencing, there were some districts listed that I could not find a contact for because they pay tuition for their students to go to other schools, but they are technically still a district. I also struggled with this because I had not anticipated one person being the superintendent of multiple school districts. Living in rural Maine, this seems to be a common practice. I had not realized this ahead of time, so when I was sending out the emails to the superintendents, I had to add a note that if they were superintendent to more than one district that they would need to fill out the survey once per district. I ended up sending the survey to 148 different superintendents. The next struggle was actually getting responses. When I sent the survey out initially, I sent them individually and ended up receiving 25 responses. I sent out again 2 weeks later and got 5 more responses. I sent out the survey two more times and ended up collecting 45 responses.

Sending out to the Department of Education math and literacy specialists was fairly simple. It was very easy to find their contact email addresses on the maine.gov website. The struggle here was actually getting responses. I sent out the surveys to 5 specialists the beginning of January and got no responses. I sent out the survey again 2 weeks later, and still no responses. I ended up having a working session with the two mathematics specialists at the Department of Education on February 3rd, so I mentioned it to them. They had been working on a big project and had not had time to do it but asked me to send it again the next week when they would have

some more time. They also said they would talk to the literacy specialists and have them do it, as well. I sent the email on February 6th and got 3 responses; then I sent again on the 19th and received one more responses.

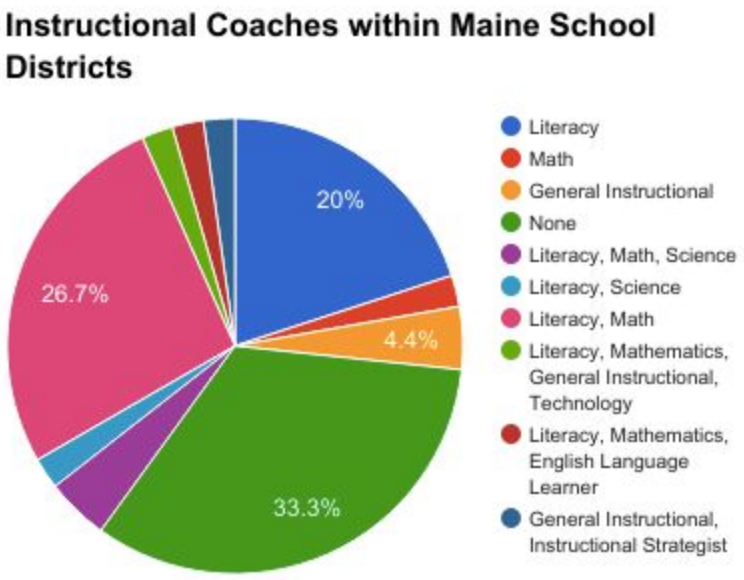
The last group that I sent surveys to was the Maine Mathematics Coaching Project Candidates. With this group, I felt one step ahead because during our fall class, the professor told everyone in both cohorts to be on the lookout for a survey from me after Christmas and why I was sending it. Having the little plug I feel helped collect more responses. I emailed one of the head professors of the program and asked for an email list so I could send it out. I had not realized that she could not give me the emails, but she could email it out for me. When she sent the initial email, I only got 4 responses. My worry was that we were not currently having a math coaching class during the spring semester so how many people would actually check their school emails. I ended up copying the email and survey and posting it to our math coaching Facebook group to see if I could get more responses. After posting to the Facebook group an initial time, then a couple more times after that as a reminder, I collected 14 more responses. I did end up having it sent out out one more time via email to try and reach those coaches who were not part of the Facebook group and received eight more responses for a total of 26 responses out of the 29 coaching candidates.

Data Analysis and Interpretation of Findings

General Overview of Instructional Coaches

There are two main question sets for this research study. First, are school districts around Maine taking advantage of the successfulness of instructional coaches? How many school districts around the state of Maine have instructional coaches? How are those coaches paid and

what is their purpose? Second, why are there more literacy coaches than mathematics coaches around the state of Maine, and are mathematics coaches on the rise? Why not other content area coaches? Are these positions sustainable for our state? Some themes that emerged through data collection are that school districts would like to have instructional coaches but funding is an issue, and that there are multiple ways instructional coaches can be funded and the sustainability of keeping this embedded professional development alive in districts is still unknown. The graph to the right shows the different combinations of instructional coaches school districts in Maine have. While one third of the school districts that responded do not have any type of instructional coach in their district, the remaining two-thirds have some type of instructional coach or coaches. When collecting data on why districts have instructional coaches, or the reason for why they were created to begin with, the data was able to be broken into 3 main themes: teacher centered, student centered, and opportunity.



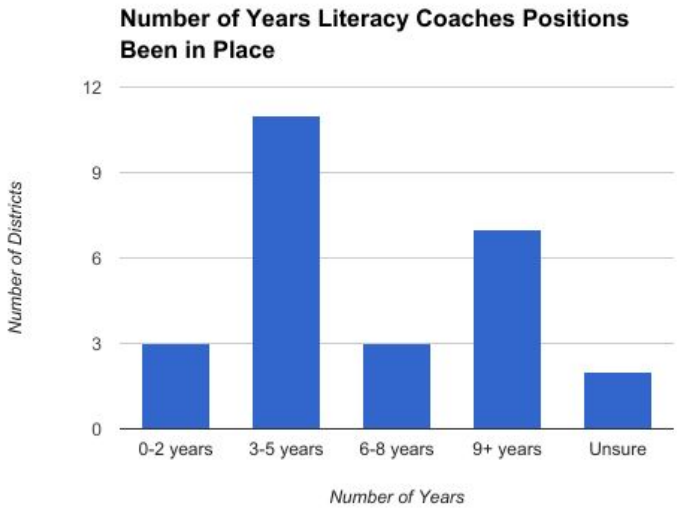
	Teacher Centered	Student Centered	Opportunity
Literacy Coaches	65.6%	25%	9.37%
Mathematics Coaches	57.69%	34.6%	7.69%
Other Instructional Coaches	87.5%	12.5%	N/A
Average	**70.26%**	**24.03%**	**5.68%**

The majority of the instructional coaches (70.25%) in school districts were created for teachers. These coaches are used to promote best instructional practices in classrooms, be a curriculum leader, provide embedded professional development, build teacher capacity, improve and support instruction, support proficiency based learning, support response to intervention and support new teachers. As one Maine superintendent stated, "The school department is focused on developing the professional/human capital of its employee through a job-embedded professional development model." This superintendent happens to be a trained literacy coach with an extensive background to support and advocate for this coaching model. Some of the instructional coaches (24.03%) are in place as a way to improve student scores. These coaches work to improve student achievement on testing, support student learning and improve student skills in math and literacy. The remaining 5.68% of instructional coaches are in place by opportunity. Some Maine school districts are in a collaborative with the University of Maine through the Maine Partnerships in Comprehensive Literacy, in collaboration with the University of Maine at Farmington through the Maine Mathematics Coaching Project, and other districts have received grants due to low student scores and are using grant money to participate in these partnerships.

Teacher Centered	Student Centered	Opportunity
Promote Best Instructional Practices Provide Curriculum Leadership Embedded Professional Development Build Teacher Capacity Improve Instruction Support Instruction Support RTI Support New Teachers Support PBE	Improve Achievement Support Student Learning Improve Student Skills	UMO Collaborative SIG Grant to Improve Scores UMF Collaborative

Literacy Coaches

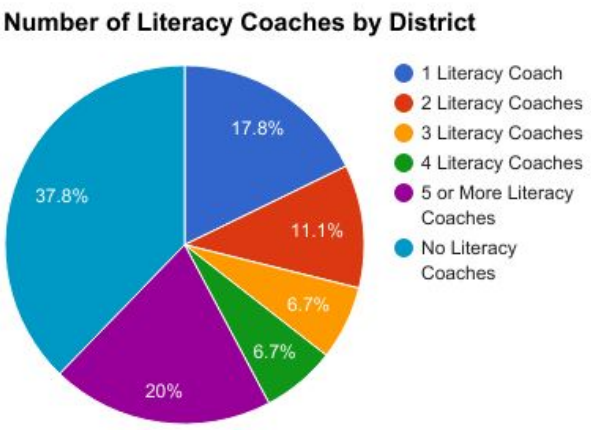
In surveys to the superintendents and to the Department of Education Specialists, there were questions specifically asked about literacy coaches. One of the first pieces of data collected was about the length of time the literacy coaches had been in place in the school district. Of those school districts with literacy coaches, 11.5% have only had literacy coaches for 0-2 years, 42.3% have had their literacy coaches for 3-5 years, 11.5% have had theirs for 6-8 years, 26.9% have had their literacy coaches for 9 or more years. The remaining 7.69% were not sure of how long their districts have had literacy coaches. When asking the Maine Department of Education Specialists how long they believe literacy coaches have been around in Maine, one specialist said:



> To the best of my knowledge, literacy coaches began to appear when the University of Maine formed a training program for coaches in the late 1990's. The University had joined the Literacy Collaborative through Lesley College. Overtime, the University's affiliation has changed from being tied to Lesley to having a relationship with the University of Arkansas, but the literacy coach training has remained.

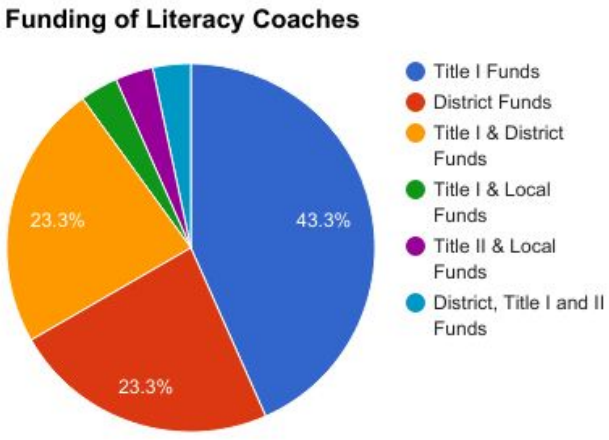
According to the specialist, the literacy coach training program started in the late 1990's, roughly 20 years ago. The data collected from the superintendents shows a discrepancy. The longest reported position was 15 years so even though the training program was formed 20 year ago, the actual literacy coaching positions did not start existing in school districts until roughly 5 years later based on the data collected.

Not only was gathering information about how long literacy coach positions have been in place important, but it is also important to know how many literacy coaches there are in each school district. The most important percentage collected is that of the superintendents who responded; 62.2% reported having a literacy coaching position, whereas only 37.8% said they did not have a literacy coaching position in their school district. The next highest percentage was 20% representing districts that have 5 or more literacy coaches, which is less than 3% higher than the 17.8% of districts that have only one literacy coach. In 11.1% of the districts, there are 2 literacy coaches and there are 3 or 4 literacy coaches in 6.7% of the districts. A similar question was asked to the DOE specialists to see how many literacy coaches they feel there are around the state, and one responded by saying, "I do not know the exact



answer to this question, but I would guess that 25-40% of Maine elementary schools have either a literacy coach or an academic coach." Based on the data collected during this research study, this guess is actually low, although the study only received responses from 30% of the superintendents in the state. If more responses had been returned, the percentages could actually be inaccurate.

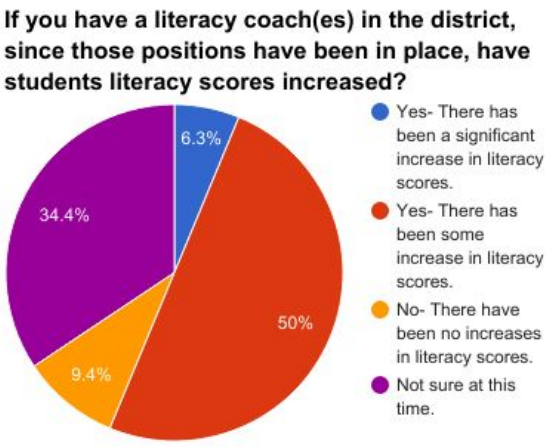
The final key piece of information needed about literacy coaches around the state of Maine is how the positions are funded. Around Maine, there are budget shortfalls and hard negotiations every year, so it is important to see how districts are able to pay to have these positions. In the survey, superintendents were given four options to choose from: District Funds, Title I, Not Applicable or Other. If superintendents chose other, they had to fill in their choice. When looking at those with literacy coaching positions, 43.3% of the districts pay for their literacy coaches through Title I funds. Only 23.3% of school districts use district funds to pay for their literacy coaches. The remaining literacy coaches are funded through a combination of



funds. In 23.3% of school districts, the literacy coaches are funded through a combination or Title I and district funds. In 3.3% of school districts, the literacy coaches are

funded through a combination of either Title I and local funds, Title II and local funds or a combination of district, Title I and Title II funds. This provides six different options that school districts are using the fund literacy coaches throughout the state of Maine. According to two Maine Department of Education specialists, they felt that most of the literacy coaching positions around the state are funded through grants, Title I and district funds, although they were not certain on that even though it is in correlation with what the district superintendents reported.

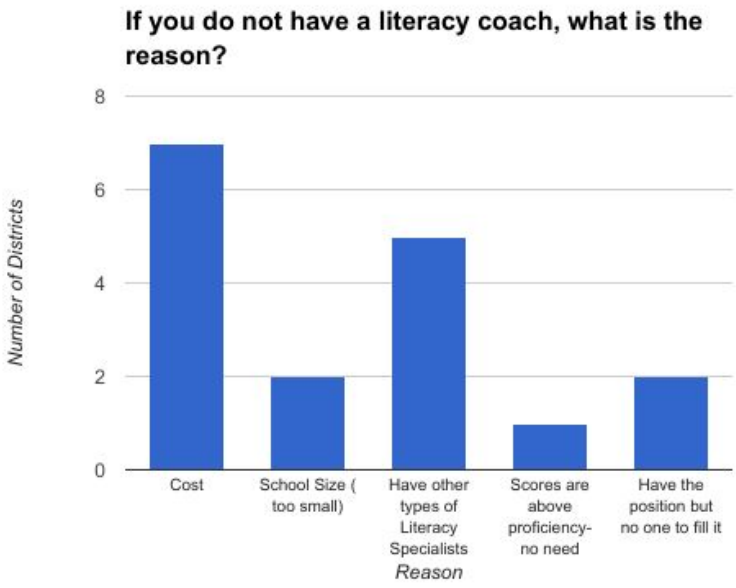
Superintendents were also asked, "If you have a literacy coach(es) in the district, since those positions have been in place, have students literacy scores increased?" There were five option to choose from: Yes, there has been a significant increase in literacy scores, Yes, there has been some increase in literacy scores, No, there have been no increases in literacy scores, No, there have been decreases in literacy scores, or they are not sure at this time. Of the responses,



50% answered that yes there has been some increase in literacy scores since the coaches have been in place, 34.4% were not sure at the time of the survey, 9.4% had not seen any increases, 6.3% have seen significant increases in their literacy scores since the math coaching position has been in place. With more than half of the reporting districts seeing increases in literacy scores

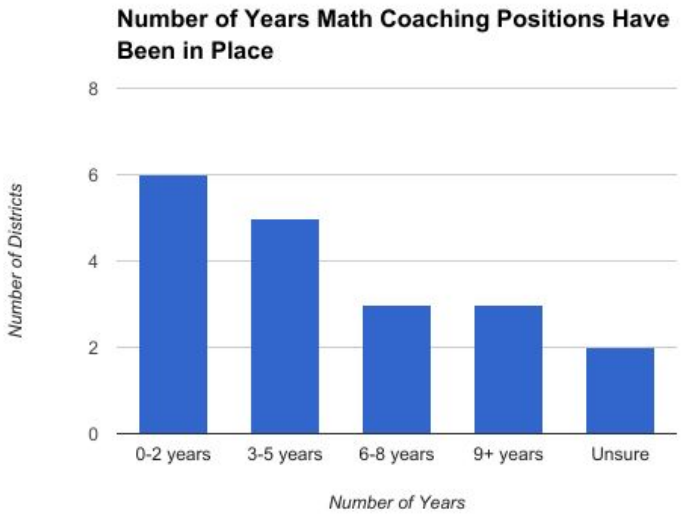
with literacy coaches in place, why don't more school districts have literacy coaches to start increasing scores?

Although 62.2% of districts reported having literacy coaches, 37.8% reported not having literacy coaches. For those superintendents who reported not having literacy coaches, they were asked why they did not have those positions in their school districts. This data was collected to determine whether or not districts that do not have literacy coaches are doing so buy choice, or is there something keeping them from being able to have a literacy coaching position. The biggest reason (41.17%) for not having a literacy coach was due to the cost. The next reason (29.4%) is because the school districts already have other types of literacy specialists. Some districts (11.7%) reported that either their school is too small for a literacy coach, or they do actually have the position but have not found a qualified candidate to fill it. The least common reason (5.8%) for not having a literacy coach is that students are scoring above proficiency on testing, so they do not need a literacy coach.



Mathematics Coaches

In surveys to the superintendents and to the Department of Education Specialists, there were questions specifically asked about mathematics coaches. One of the first pieces of data collected was about the length of time the mathematics coaches had been in place in the school district. The largest percentage (31.6%) reported that their math coaching positions have only been in place for 0-2 years. Follow with 26.3% were districts that have had their math coaches in place for 3-5 years. At 15.8% were districts that reported having math coaching positions for 6 to 8 years, as well as nine or more years. The last 10.5% were unsure of how long their district has had a math coaching position. More than half of the districts with math coaches have only had them within the past five years.

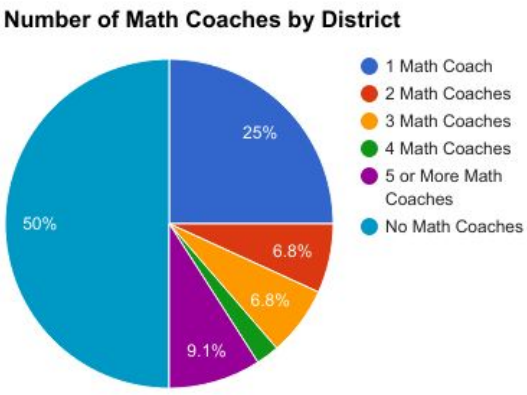


Observations from Maine Department of Education Specialist also support this data, one said:

> I began to notice math coaches being added to schools about 10 years ago. I do think this may have been in response to math data that demonstrated the need as well as the impetus of literacy coaches already working to support educators. Many elementary educators have very little mathematics training prior to entering the classroom.

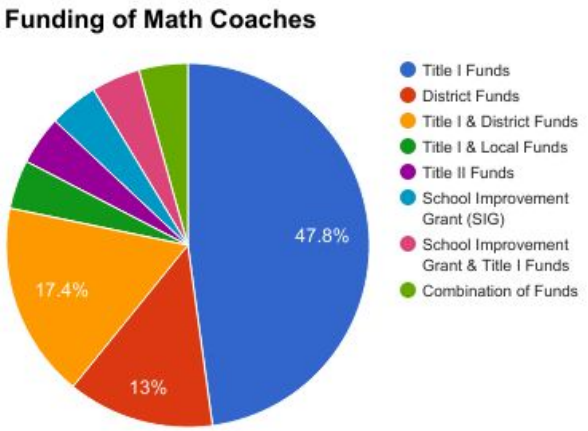
Based on this information, because literacy coaches had already lead the way, creating a foundation for instructional coaching, math started to follow. Another specialist supported this claim as well: “Math coaches appeared within the past 5-10 years… Many were literacy coaches that were shifted to math coaches, based upon state assessment data and being identified as a focus/priority school for mathematics.” With this information, it shows that math coaches would have started later on if some literacy coaches shifted into math coaches due to district needs.

Another important piece of information collected about math coaches around Maine is how many there are in each school district. Of those superintendents that completed the survey, 50% reported not having any math coaches. There was 1 math coach reported in 25% of the school districts, 2 math coaches in 6.8% of the school districts, 3 math coaches in 6.8% of the school districts, 4 math coaches in 2.27% of the school districts and there are 5 or more math coaches in 9.1% of the school districts in Maine. The specialists at the Maine Department of Education were not sure as to how many math coaches there could potentially be around the state, as this is not data that they have collected.



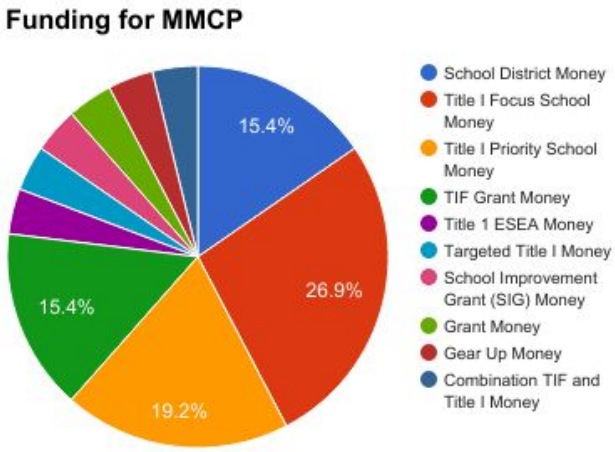
Another important piece of information collected about math coaching around the state is how those positions are funded. Most (47.8%) of the school districts with math coaches use Title

I funds to pay for the position. Only 13% of school districts use their own funds to pay for their math coaching positions. In 17.4% of the school districts, they use a combination of Title I and district funds. In 4.3% of

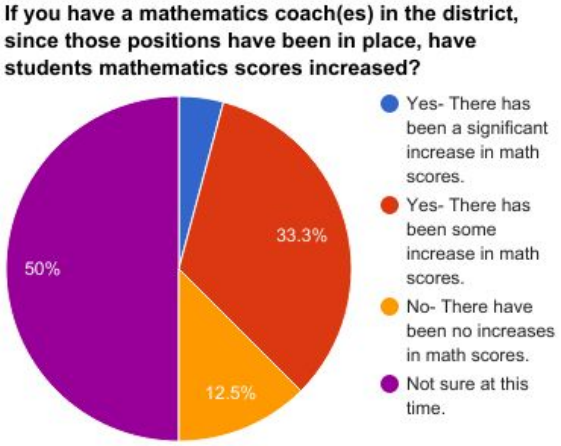


the school districts, they fund their math coaches through Title I and local funds, Title II funds, School Improvement Grant, School Improvement Grant and Title I funds or a combination of funds. This data is also supported by information collected from the Maine Department of Education specialists. Two specialists said they thought math coaching positions were funded through Title I and district funds. A third specialist thought they were funded through Title I and Title II funds. All of which were reported by district superintendents. A third group of participant data was also collected when it come to mathematics coaching funding during the research. The Maine Mathematics Coaching Project Candidates were asked how their participation in the program was funded. This is an $11,000 program over 2 years. School districts are able to send coaching candidates to be trained in math coaching and work with University of Maine at Farmington trainers that do school visits. Since this is directly tied to math coaching positions, how the program is funded by district is important. For 15.4% of the coaching candidates, their program funding comes from school district funds, 26.9% of candidate participation is funded

through Title I Focus School Money, 19.2% are funded through Title I Priority School money, 15.4% are funded through TIF Grant money, 3.8% are funded through Title I ESEA money, 3.8% through Targeted Title I money, 3.8% through School Improvement Grant money, 3.8% through grant money, 3.8% through GEAR UP money and the last 3.8% through a combination of TIF and Title I money. The Maine Department of Education Specialists were also asked about how they thought MMCP was being funded by school districts and two of them mentioned Title I school improvement funds which is exactly what the coaching candidates reported.

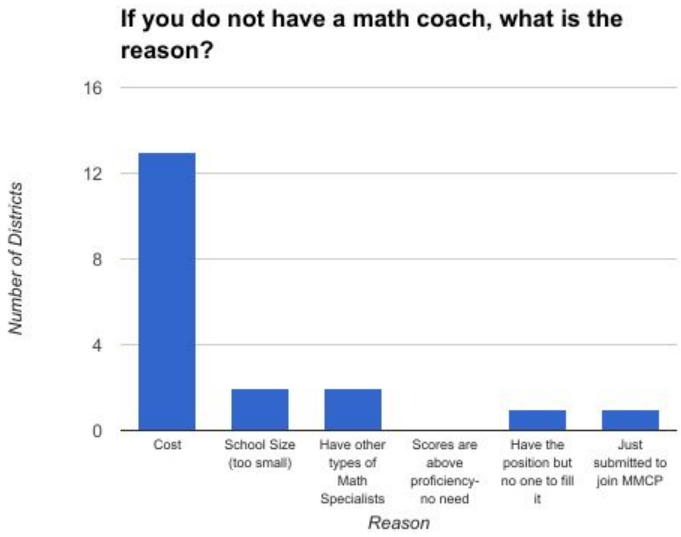


With the increase of mathematics coaches around the state of Maine, it was important to ask the superintendents if there have been any improvements in student scores since the positions have been in place. “If you have a mathematics coach(es) in the district, since those positions have been in place, have



students literacy scores increased?" There were five option to choose from: Yes, there has been a significant increase in literacy scores, Yes, there has been some increase in literacy scores, No, there have been no increases in literacy scores, No, there have been decreases in literacy scores, or they are not sure at this time. Of the responses, 50% reported they were not sure if there have been any increases at this time, 33.3% reported there have been some increases in math scores, 12.5% reported no increases at this time, and 4.1% reported significant increases in math scores. At this point, mathematics coaches are still relatively new, so improvements may not be known at this point, or they may not have been in place long enough yet to make a difference in student scores.

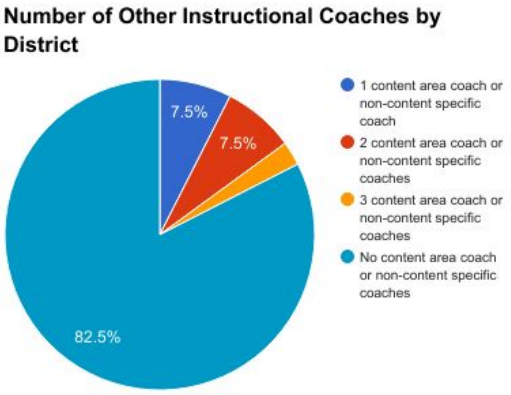
Since during the data collection process, it was discovered only 50% of the responding school districts have mathematics coaches. Because of this, it is important to analyze the reasons why there are no math coaches in the districts that do not have them. The biggest reason (68.4%) for not having mathematics coaches in school districts is cost. The next reasons (10.5%) were the schools are too small, or they have other types of math specialists. The last and least reported (5.2%) reasons were having a position but could not find someone qualified to fill it, and another district just submitted to join

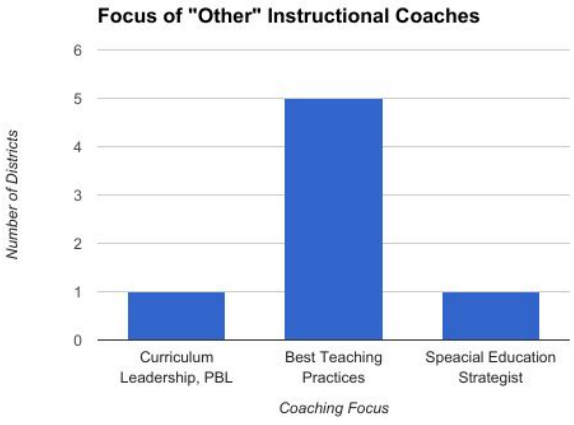


the Maine Mathematics Coaching Project. Again, the need and want for mathematics coaches is there, but it comes do to being able to fund the position.

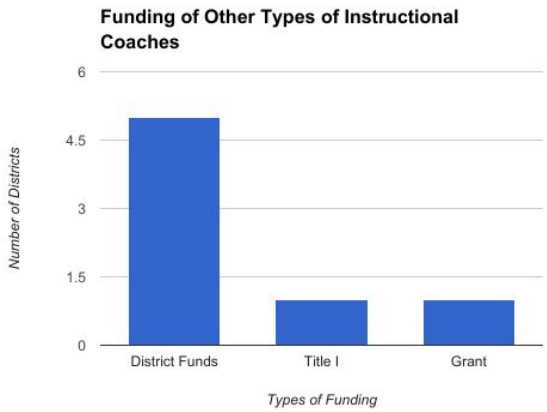
Other Coaches

In surveys to the superintendents, there were questions specifically asked about other content coaches or non-content specific coaches. One of the first questions asked was if they had any other type of instructional coaches. The majority of school districts, 82.5%, did not report having any other type of instructional coaches, 7.5% of school districts reported having 1 other type of coach, 7.5% reported having 2 other types of coaches, and 2.5% have 3 other types of coaches. Knowing that there are other types of instructional coaches in Maine school districts, it is important to understand what types of coaches these other school districts do have. Of the school districts that have other types of instructional coaches, 71.4% of those coaches are in place to focus on best teaching practices in general and not content specific. In another school district, (14.2%) their coaches focus on curriculum leadership and proficiency based learning. The last school district





(14.2%), their coaches are special education strategists and help general education teachers meet the IEP's of special education students in general education classes. When it comes to these other types of instructional coaches, the majority (71.4%) are funded through district funds. Another 14.2% is funded through Title I, and the remaining 14.2% is funded through a grant.



Discussion

Conclusion

In conclusion, the majority of Maine school districts are taking advantage of the successfulness of instructional coaches. Of the school districts that responded, 77.94% have some sort of instructional coach or coaches within their districts. Instructional coaching has become a tool for school districts to provide training to improve how instruction is delivered and ensure that best practices are being used (Black, Mosleed, & Sayler, 2003). Several school district have multiple instructional coaches even within one content area. As part of the research, a question that should have been asked and was overlooked was about the location of the school district. If the school district is larger, it could explain why they are able to have so many instructional coaches compared to school districts that only have one or even none. This is information that is missing in the data. The most interesting thing is how different types of instructional coaches are being paid. Most of the instructional coaches around the state are

funded through Title I, Title II or other types of grants. The money is not coming directly from school district funds for the majority of coaches. This has a direct correlation to why school districts have instructional coaches to begin with. Coaches are being used to improve teaching and improve student achievement. Due to low achievement, Maine school districts can be awarded extra funds through Title I, Title II, and other grants to help make improvements where they are needed. This is how school districts are able to use those funds to pay for instructional coaches to help make improvements in teaching and learning.

Literacy and Math are the two areas that students are tested on most, and their achievement in those two areas seem to matter the most. As a result, most of the instructional coaches in Maine are either literacy or math coaches. These are the high stakes areas for school districts that they need to see improvements. One question posed during this research was why are there more literacy coaches than math coaches when both are high stake test contents? There are more math coaches than initially expected, so the gap is not as large as anticipated. Based on information collected from the superintendents and Department of Education specialists, there are more literacy coaches solely based on the fact that they have been around longer in the state than math coaches. Why did the push for literacy coaches start earlier than the push for math coaches? That is still unclear. One reason could be “The impetus for adding literacy coach's stemmed from the focus on early literacy that the Reading Recovery network and national level research (such as Preventing Reading Difficulties and the National Reading Panel report) brought about during the 1990's and early 2000's,” according to one Maine Department of Education specialist. This could have been the push that start coaching in the state with a focus in literacy because during the same time frame is when the University of Maine started their

training program. The math coaches started to follow within the last ten years. “I do think this may have been in response to math data that demonstrated the need as well as the impetus of literacy coaches already working to support educators.” according to a Maine DOE specialist. Another specialist mentioned, “Math coaches appeared within the past 5-10 years. Many were literacy coaches that were shifted to math coaches, based upon state assessment data and being identified as a focus/priority school for mathematics.” If literacy scores started to improve and the coaching position was supporting that improvement it made sense to have those coaches shift and focus on math to start improving those scores. Literacy coaches have been around for some time, not only in elementary schools but middle and high schools as well (Walkowiak, 2016); whereas, “the placement of mathematics coaches is a more recent phenomenon due to the call for their placement in schools to catalyze and sustain instructional improvements” (Association of Mathematics Teacher Educators, 2013; Walkowiak, 2016, p. 14). Maine school districts seem to be mirroring districts around the country where literacy coaches started earlier than math coaches which are still just beginning. Where math coaches are still relatively new, one part of the research was to determine if those positions are on the rise. Based on data collected from Maine Mathematics Coaching Project participants, 70% of the participants were in school districts that did not have any type of math coaching position; they were still full time teachers in the first year of the program. By the second year of their program 80% of the participants were either full time or part time math coaches within their districts. That is a huge increase in mathematics coaches in school districts around Maine in just the past 2 years since the MMCP has started.

Most school districts around Maine do not have other types of instructional coaches. The reason is not clear as to why but can be assumed from the data collected that literacy and math

are the high stakes content areas where students are tested, so those are the focus areas. There are some districts that have other types of instructional coaches, but they are either general focus, special education, proficiency-based learning or curriculum focused which are all some type of general focus that could help all content areas.

The sustainability of these instructional coaching positions is another thing that still remains unclear. In order for the positions to be sustained, the funding needs to be in place. If schools are using Title I funds and still meet the requirements to maintain Title I status, then they would be able to continue using those funds. For schools in focus or priority school status, they have been able to obtain extra funding due to low scores. Once those scores improve, which ideally if they have instructional coaches they would, then that extra funding would go away as their school status changed. This is the same situation with the variety of grants that schools are using to pay for their coaches. Those funds are not endless and will run out at some point. Unless districts are able to start maintain their Title I status, if those are the funds they are using, it will be a challenge to have districts take over the cost for their instructional coaches. With what seems to be more and more difficult budget decision making in Maine school districts each year, asking school districts to add these positions, even if it is to improve teaching in learning, could be seen as irresponsible. If other programs are getting cut, can they justify adding a new position? That would be for each district to decide. As, Kiley Walsh Symonds had stated there are some key things within a school district that need to be looked at when it comes to funding instructional coaching positions. They can make instructional coaching a high-priority strategy, making sure that the superintendent, the school board, and the entire school community see the importance of instructional coaching and are willing to make it a priority. If coaching becomes a

priority then they change or eliminate other unneeded positions within the school district or take funding from other initiatives. This suggestion may mean that the district needs to look at how money in the district is being allocated (2003).

Recommendation

The recommendations from this study really focus on two areas: the need or purpose of instructional coaches and the logistics and funding to make it happen. School districts really need to figure out if instructional coaching positions are something they absolutely need. They need to decide if teachers are using best instructional practices, or if they could use improvement. They also need to analyze their student data to determine if students are meeting proficiency. This does not just mean standardized test data, but all data in regards to each student. If these two areas have deficiencies, schools districts should consider instructional coaches as one method to help improve teaching and learning in those areas. According to one Department of Education Specialist, "I think literacy coaches (or some form of academic coaches) will always be needed. Educators will continue to need job embedded professional learning and assistance at differentiating instruction for the wide range of students in their classrooms." This supports the need for why districts need instructional coaches. Another specialist said, "This should be a permanent position to sustain the work."

The second part of the recommendation is figuring out how to fund instructional coaching positions if they are needed. School districts need to think about the different avenues they can take in order to fund coaches. If they need coaches to improve instruction, they should explore options in Title II funds, their district PD funds and even Title I funds or other available grants. If schools are looking at instructional coaches to help improve student achievement, they

should look at Title I funds, Local and district funds, and other grants available to their school district. The key is to explore all possible funding options available to the school district. Another option would be to create the position over time; perhaps start with a part time instructional coach using some Title I funding. Then, think ahead in budgeting terms and allot some district funds for the position the following year to make it full time. No matter what avenue school districts choose to fund an instructional coach, they need to be sure to think ahead and determine how to sustain the position over time. One option would be to slowly allot district funds over time toward the position, so that eventually the district would fully fund the position. In case some sort of funding goes away, there is money available to continue the position. This is supported by a Department of Education Specialist: "hopeful it will be permanent, but that will depend on the ability the local district has to support the position."

Implications

The implications of this research are that more research needs to be done. Most of the school districts that mentioned funding as an issue need to know all avenues that are available to them. This research brought to light the avenues that are currently being used in school districts around the state and are most common. There are likely other grants and funding opportunities out there that some school districts could apply for that are not known or were not mentioned during this research.

The second implication is that not all school districts have all of the types of funding mentioned available to them. Not all districts qualify for Title I funding, which is most commonly used for funding, but the research did not specifically uncover if school districts that don't qualify for funding such as Title I, have instructional coaches and if they are funded

through district funds. Based on the data collected, it does seem as though if a school district wants or needs instructional coaches, they are finding a way to make it happen, as should be to meet the needs of all students.

The third implication is what school districts are considering "success" when it comes to student scores. Schools reported increases in student scores, but what scores are being looked at when making that decision? Are schools solely looking at standardized test scores and the increase on those tests, or are they looking at more than just standardized test scores? Are those tests really a good measure of a students' overall achievement? If schools are using only that test for their data, how does that help improve anything if that is the only data point, and it is only done once per year. When students enter school, they are expected to graduate with knowledge in all content areas, including basic skills, but also we expect students to exit high school being productive members of society. If we are expecting that, shouldn't that be something we also value when it comes to student success? If there are students who struggled through Algebra II and therefore did not do well on those questions on their state testing, does that mean they are not going to be productive members of society? That is doubtful. School districts need to start looking at the whole student when measuring successfulness, not just one test.

Personal Learning Reflection

I personally found this research to be completely relevant to my role in education. I am currently a full-time teacher but also enrolled in the Maine Mathematics Coaching Project to become a mathematics coach. In my role, I have been at a crossroads trying to determine if this is a position I really want to officially take on. I enjoy getting into the to classroom and working with teachers, but I also enjoy working with my own students. My focus for this research was

somewhat personal. I wanted to determine if math coaching positions are sustainable before I jump into one of those positions and potentially regret it later.

The information I uncovered was really interesting to me. I knew there were more literacy coaches than math coaches around the state just from talking with other teachers from around the state, but I never realized why. Now I know that those positions started sooner so there are more of them because the positions are more developed. I understand the University of Maine started a collaborative and that is how the literacy coaches got started, but I am still not clear on why the collaborative started. The University of Maine at Farmington now has something similar for mathematics coaches, and now mathematics coaches are on the rise because of the program.

I really wanted to determine the sustainability of the position, but I am not sure I fully figured that out. I know there are ways to fund the coaching positions, but as for ongoing funding, that is still a question. Districts would really need to make it a priority. In my case, I will be in one of the school districts in the Maine Mathematics Coaching Project that will not be adding an official math coaching position in the second year of the program. There is talk of adding the position the following year, but I am not even clear on how my own district plans on funding the position or if the school board will even approve adding the position.

I found the whole research process to be very interesting. I was able to do a lot of research on the current literature, which I would not typically do. I found all of the current research to be daunting but really helped me understand instructional coaching positions. My favorite part of the research was designing my research and how I was going to collect the data. The only thing I wish I had done differently was conducted some interviews. If thought I could

have interviewed the Maine Department of Education Specialists I would have, but even just getting them to complete the survey was a challenge. Analyzing the data I collected I also found fun, but it was also so much data that I struggled getting started because I was not sure where to start. My least favorite part of the whole research project was the writing. I just do not enjoy writing, so this part was the struggle for me. I enjoyed putting together the slides for the poster presentations, but I think I would honestly rather give a 20 minute presentation with an unlimited amount of slides in front of a group of people. Working within the constraints of the current presentation format I found to be very challenging.

One of the biggest things I learned through this research is even when you think you have a solid research method and tools, you still end up with more questions than answers. I feel like if I had more time, I may have done a follow up surveys to try and answer my new questions that I did not realize would come up in the research. I wish I had asked about locations of schools districts to determine if they are in rural areas or urban areas. I also wish I had asked if schools that are paying for instructional coaches with districts funds do so because they do not qualify for Title I or other types of funding. Overall, I really enjoyed this research, and I feel as though I learned a lot. I am still not sure I want to become an official full-time mathematics coach unless my district can show me their long term plan for sustaining the position.

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Appendices

Appendix A - Superintendent Consent Page of Survey Monkey

Dear Superintendent,

You are invited to participate in a research project being conducted by Lindsey Bickford, a student at the University of Maine at Farmington. The purpose of the research is to identify the number of instructional coaches by content throughout the state of Maine, why districts have them, and how those positions are funded.

What Will You Be Asked to Do?
If you decide to participate, you will be asked to complete an electronic survey which should take between 10-15 minutes.

Risks

- There is the possibility that you may be uncomfortable with some of the questions that may be asked.
- The time and inconvenience of the meeting may be risks of participating in the study.

Benefits
I don't anticipate substantial benefits at this time. There are no direct benefits to you from participating in the study. Aside from this benefit to the participant, this research will help me contributing to the field of knowledge.

Confidentiality
Subjects in this study will not be identified through completing this survey, the survey does not even ask for participant name. The documents and files from this study will all be kept within my Google account in which I am the only person with the password. Some data may be shared with Dr. Christopher Strople in order to help guide the research process. All data from the study, including the participant key, will be kept for 2 years and then destroyed.

Voluntary
Participation is voluntary. If you choose to take part in this study, you may stop at any time. You may skip any questions you do not wish to answer.

By opening the survey link below, I acknowledge that I am consenting to participate in this research study. I fully understand the purpose of this research and the procedures to be followed. I understand that my records will be kept confidential, my participation is voluntary, and that I may withdraw at any time without penalty. I also recognize that I may skip any questions I don't wish to respond to. Results of this research will be shared in the form of one or more publications and verbal presentations. If you have any questions about this study, please contact me, Lindsey Bickford, at lbickford@rsu3.org AND (207) 689-1030. You may also reach the faculty advisor, Dr. Christopher Strople on this study at christopher.strople@maine.edu or (207)

778-7015. You may also contact the Chair of the IRB Karol Maybury at karol.maybury@maine.edu. By checking the box below, I assert that I fully understand the above and give my consent to serve as a subject in this research. (If you would like a summary of the results, please make the request of the researcher at the contact given above).

Appendix B - Superintendent Survey Questions

General Instructional Coaches

1. In your school district, do you have instructional coaches in the following content areas? (check all that apply)
    a. Literacy
    b. Mathematics
    c. Science
    d. Social Studies
    e. General Instructional (Non-Content Specific)
    f. Other _____
    g. None

Literacy Instructional Coaches

2. If you have a literacy coach in the district, how many are there (part-time position counts)?
    a. 1 literacy coach
    b. 2 literacy coaches
    c. 3 literacy coaches
    d. 4 literacy coaches
    e. 5 or more literacy coaches
    f. No literacy coaches

3. If you have a literacy coach(es) in the district, how long has this position been in place? (years)

4. If you have a literacy coach(es), what was the reason for the district creating the position?

5. If you have a literacy coach(es) in the district, how is the position funded or paid for?
    a. District Funds
    b. Title I
    c. Other: _____
    d. Not Applicable

6. If you have a literacy coach(es) in the district, what is their salary?
    a. Teacher Salary
    b. More than teacher salary
    c. Less than teacher salary
    d. Not sure at this time
    e. Not Applicable

7. If you have a literacy coach(es) in the district, since those positions have been in place, have students literacy scores increased?

a. Yes- There has been a significant increase in literacy scores.
b. Yes- There has been some increase in literacy scores.
c. No- There have been no increases in literacy scores.
d. No- There have been decreases in literacy scores.
e. No Sure at this time.

8. If you DO NOT have a literacy coach(es) in the district, what is the reason?

Mathematics Instructional Coaches

9. If you have a mathematics coach in the district, how many are there (part-time position counts)?
    a. 1 mathematics coach
    b. 2 mathematics coaches
    c. 3 mathematics coaches
    d. 4 mathematics coaches
    e. 5 or more mathematics coaches
    f. No mathematics coaches

10. If you have a mathematics coach(es) in the district, how long has this position been in place? (years)

11. If you have a mathematics coach(es), what was the reason for the district creating the position?

12. If you have a mathematics coach(es) in the district, how is the position funded or paid for?
    a. District Funds
    b. Title I
    c. Other: _____
    d. Not Applicable

13. If you have a mathematics coach(es) in the district, what is their salary?
    a. Teacher Salary
    b. More than teacher salary
    c. Less than teacher salary
    d. Not sure at this time
    e. Not Applicable

14. If you have a mathematics coach(es) in the district, since those positions have been in place, have students mathematics scores increased?
    a. Yes- There has been a significant increase in mathematics scores.
    b. Yes- There has been some increase in mathematics scores.
    c. No- There have been no increases in mathematics scores.
    d. No- There have been decreases in mathematics scores.

e. No Sure at this time.

15. If you DO NOT have a mathematics coach(es) in the district, what is the reason?

Other Content Area Instructional Coaches

16. If you have any other content area instructional coaches or a non-content specific coach (other than literacy or mathematics) in the district, how many are there?
    a. 1 content area coach
    b. 2 content area coaches
    c. 3 content area coaches
    d. 4 content area coaches
    e. 5 or more content area coaches
    f. No content area coaches

17. If you have other content area coaches or a non-content specific coach in the district, how long has this position been in place? (years)

18. If you have other content area coaches or a non-content specific coach, what was the reason for the district creating the position?

19. If you have other content area coaches in the district or a non-content specific coach, how is the position funded or paid for?
    a. District Funds
    b. Title I
    c. Other: _____
    d. Not Applicable

20. If you have other content area coaches or a non-content specific coach in the district, what is their salary?
    a. Teacher Salary
    b. More than teacher salary
    c. Less than teacher salary
    d. Not sure at this time
    e. Not Applicable

21. If you have other content area coaches or a non-content specific coach in the district, since those positions have been in place, have students other content area scores increased?
    a. Yes- There has been a significant increase in other content area scores.
    b. Yes- There has been some increase in other content area scores.
    c. No- There have been no increases in other content area scores.
    d. No- There have been decreases in other content area scores.
    e. No Sure at this time.

22. If you DO NOT have other content area coaches or a non-content specific coach in the district, what is the reason?

Appendix C - Content Specialist at Maine DOE Consent Page of Survey Monkey

Dear Maine Department of Education Specialists,

You are invited to participate in a research project being conducted by Lindsey Bickford, a student at the University of Maine at Farmington. The purpose of the research is to identify the number of instructional coaches by content throughout the state of Maine, why districts have them, and how those positions are funded.

What Will You Be Asked to Do?
If you decide to participate, you will be asked to complete an electronic survey which should take between 10-15 minutes.

Risks

- There is the possibility that you may be uncomfortable with some of the questions that may be asked.
- The time and inconvenience of the meeting may be risks of participating in the study.

Benefits
I don't anticipate substantial benefits at this time. There are no direct benefits to you from participating in the study. Aside from this benefit to the participant, this research will help me contributing to the field of knowledge.

Confidentiality
Subjects in this study will not be identified through completing this survey. The survey does not ask for participant name although given the size of the organization, I anticipate the slight possibility of some recognition that information provided was sourced from certain personnel within the organization. Regardless of that slight possibility all statements are ultimately anonymous. The documents and files from this study will all be kept within my Google account in which I am the only person with the password. Some data may be shared with Dr. Christopher Strople in order to help guide the research process. All data from the study, including the participant key, will be kept for 2 years and then destroyed.

Voluntary
Participation is voluntary. If you choose to take part in this study, you may stop at any time. You may skip any questions you do not wish to answer.

By opening the survey link below, I acknowledge that I am consenting to participate in this research study. I fully understand the purpose of this research and the procedures to be followed. I understand that my records will be kept confidential, my participation is voluntary, and that I may withdraw at any time without penalty. I also recognize that I may skip any questions I don't wish to respond to. Results of this research will be shared in the form of one or more publications and verbal presentations. If you have any questions about this study, please contact me, Lindsey Bickford, at lbickford@rsu3.org AND (207) 689-1030. You may also reach the faculty advisor, Dr. Christopher Strople on this study at christopher.strople@maine.edu or (207)

778-7015. You may also contact the Chair of the IRB Karol Maybury at karol.maybury@maine.edu. By checking the box below, I assert that I fully understand the above and give my consent to serve as a subject in this research. (If you would like a summary of the results, please make the request of the researcher at the contact given above).

Appendix D - Content Specialist at Maine DOE Survey Questions

In recent years the number of instructional coaches around the state has increased, specifically in literacy and in mathematics. I realize that you are a content focused specialist, however, please answer all of the questions to the best of your ability. If there are questions outside your area of knowledge, respond with N/A or Unknown.

Literacy

1. When did Literacy Coaches start appearing in Maine? What was the reason that districts started hiring literacy coaches? Is the need for literacy coaches tied to standardized test scores? Was there a piece of legislature that supported the idea?

2. Do you know how many districts around the state have literacy coach positions at this time(either part-time or full-time)? If so, how many?

3. Do you know what levels of education the literacy coaches around the state have on average?
    a. Yes
    b. No

4. If you answered yes to question 3, What are the specific degrees that the majority of the literacy coaches hold?
    a. Bachelor's Degree
    b. Bachelor's Degree AND a Certificate
    c. Master's Degree with a focus in Literacy
    d. Master's Degree with a focus in something else
    e. Doctorate
    f. Other:_____
    g. Unsure

5. How are the literacy coaching positions around the state funded that you know of? (ex: Title I, Grants, District Funds, etc…)

6. Does the Maine Department of Education support the role of Literacy Coaches in schools? Why or why not?

7. In your opinion, will the position of literacy coach be permanent or temporary within school districts? If student scores improve, will schools be able to make literacy coaches a sustainable position if Title I funds go away?

Math

1. When did Mathematics Coaches start appearing in Maine? What was the reason that districts started hiring mathematics coaches? Is the need for mathematics coaches tied to standardized test scores? Was there a piece of legislature that supported the idea?

2. Do you know how many districts around the state have mathematics coach positions at this time (either part-time or full-time)? If so, how many?

3. Do you know what levels of education the mathematics coaches around the state have on average?
    a. Yes
    b. No

4. If you answered yes to question 3, What are the specific degrees that the majority of the mathematics coaches hold?
    a. Bachelor's Degree
    b. Bachelor's Degree AND a Certificate
    c. Master's Degree with a focus in Mathematics
    d. Master's Degree with a focus in something else
    e. Doctorate
    f. Other:_____
    g. Unsure

5. How are the mathematics coaching positions around the state funded that you know of? (ex: Title I, Grants, District Funds, etc…)

6. Does the Maine Department of Education support the role of Mathematics Coaches in schools? Why or why not?

7. The University of Maine at Farmington has created the Maine Mathematics Coaching Project which is helping to support PreK-8 teachers transitioning to the role of elementary mathematics coach. The program is going to be starting it's third cohort in the summer of 2017. Do you know how school districts are affording to send teachers through this program to gain educated and trained mathematics coaches?

8. In your opinion, will the position of mathematics coach be permanent or temporary within school districts? If student scores improve, will schools be able to make mathematics coaches a sustainable position if Title I funds go away?

Appendix E - Maine Mathematics Coaching Project Candidates Consent Page of Survey Monkey

Dear Maine Mathematics Coaching Project Candidate,

You are invited to participate in a research project being conducted by Lindsey Bickford, a student at the University of Maine at Farmington. The purpose of the research is to identify the number of instructional coaches by content throughout the state of Maine, why districts have them and how those positions are funded.

What Will You Be Asked to Do?
If you decide to participate, you will be asked to complete an electronic survey which should take between 10-15 minutes.

Risks

- There is the possibility that you may be uncomfortable with some of the questions that may be asked.
- The time and inconvenience of the meeting may be risks of participating in the study.

Benefits
I don't anticipate substantial benefits at this time. There are no direct benefits to you from participating in the study. Aside from this benefit to the participant, this research will help me contributing to the field of knowledge.

Confidentiality
Subjects in this study will not be identified through completing this survey, the survey does not even ask for participant name. The documents and files from this study will all be kept within my Google account in which I am the only person with the password. Some data may be shared with Dr. Christopher Strople in order to help guide the research process. All data from the study, including the participant key, will be kept for 2 years and then destroyed.

Voluntary
Participation is voluntary. If you choose to take part in this study, you may stop at any time. You may skip any questions you do not wish to answer.

By opening the survey link below, I acknowledge that I am consenting to participate in this research study. I fully understand the purpose of this research and the procedures to be followed. I understand that my records will be kept confidential, my participation is voluntary, and that I may withdraw at any time without penalty. I also recognize that I may skip any questions I don't wish to respond to. Results of this research will be shared in the form of one or more publications and verbal presentations. If you have any questions about this study, please contact me, Lindsey Bickford, at lbickford@rsu3.org AND (207) 689-1030. You may also reach the faculty advisor, Dr. Christopher Strople on this study at christopher.strople@maine.edu or (207) 778-7015. You may also contact the Chair of the IRB Karol Maybury at

karol.maybury@maine.edu. By checking the box below, I assert that I fully understand the above and give my consent to serve as a subject in this research. (If you would like a summary of the results, please make the request of the researcher at the contact given above).

Appendix F - Maine Mathematics Coaching Project Candidates Consent Survey Questions

1. Which cohort of the Maine Mathematics Coaching Project are you in?
    a. Cohort 1
    b. Cohort 2

2. How did you hear about the Maine Mathematics Coaching Project?
    a. Mathematics Leadership Certification through UMF
    b. School District Mentioned it
    c. Other: _____

3. Why are you participating in the Maine Mathematics Coaching Project?
    a. School District asked me to participate
    b. I found out about it and asked if I could become a coaching candidate
    c. Other: _____

4. The cost of the Maine Mathematics Coaching Project is $11,000 over a two year period. How was your enrollment funded?
    a. School District
    b. Title I Priority School Money
    c. Title I Focus School Money
    d. Other:_____
    e. Not sure

5. In your first year in the program, did your school district already have a mathematics coaching position?
    a. Yes: Full Time
    b. Yes: Part Time
    c. No

6. In your first year in the program, were you in the role of a mathematics coach?
    a. Yes: Full Time
    b. Yes: Part Time
    c. No: Full Time Teacher

7. Cohort 1 Only: When you began your second year in the program, if your district did not have a mathematics coach the first year, did they add one the second year?
    a. Yes: Full Time
    b. Yes: Part Time
    c. No

8. Cohort 1 Only: When you began your second year in the program, were you in the role of a mathematics coach?
    a. Yes: Full Time
    b. Yes: Part Time

c. No: Full Time Teacher

9. If you or someone else in your school district is hired as a mathematics coach, how is the position funded?
    a. School Funds
    b. Title I Priority School Money
    c. Title I Focus School Money
    d. Other:_____
    e. Not sure
    f. Not Applicable- No district mathematics coach

10. If you or someone else in your school district is hired as a mathematics coach, what is the salary scale that you know of?
    a. Teacher Pay Scale
    b. Above Teacher Pay Scale
    c. Other: _____
    d. Not sure