Needs Analysis Proposal:

James City Schools

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ECI 516: Design and Evaluation of Instructional Materials

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Overview

James City hosts ten schools along the rural eastern border of Guilford County, two high schools, three middle schools, and five elementary schools. This tightly knit community sustains approximately 5,000 students from pre-kindergarten through 12th grade. Though small and geographically separated from many of the larger schools in the county, James City consistently obtains annual budgeting to remain technologically relevant for in-person and hybrid learning. As such, they are able to maintain classes addressing both those challenged in traditional learning environments as well as students who excel in gifted and advanced placement (AP) programs.

As the COVID-19 pandemic changed the educational landscape more than two years ago, James City has continued to modernize networks and systems ensuring their students would remain connected regardless of how formal instruction was delivered. Information technology specialists and digital instruction experts were added to the staff of every school to ensure the appropriate expertise was on site to keep the classes and their participants online. In addition to providing digital devices to each student, teachers are encouraged to use multiple mediums to host and deliver instruction. While a single learning management system serves as the foundation for the James City digital education enterprise, teachers are not forced to use any particular software to deliver their content. They can choose those tools that work best for their discipline and the students within their classes.

The teacher demographics continue to trend towards a younger generation of teachers. While 1/3 of the teachers have at least 15 years of experience, there has been a significant shift in those with less than 5 years in the classroom. That population is approaching 40%. Diversity metrics are closely aligned with the community of James City, though female teachers remain in the majority at 90%. James City experiences a teacher turnover of about 1 in 5 each year. While most of the vacancies get filled, it's usually by less experienced candidates, thereby reinforcing the trend of a younger community of teachers. The unfilled vacancies, about 2-4%, are filled by either temporary or full-time substitute teachers.

To address a much younger and less experienced workforce, James City Schools have completely revised administrative procedures at each school to ensure those staffs have the guidance and oversight to reinforce best practices while maintaining accountability standards in line with county and state objectives. The school board recently instituted a new organizational development structure that it believes will encourage more collaboration and stronger relationships across geographically separated elements within the school system:

Figure 1 - James City Schools Training Hierarchy
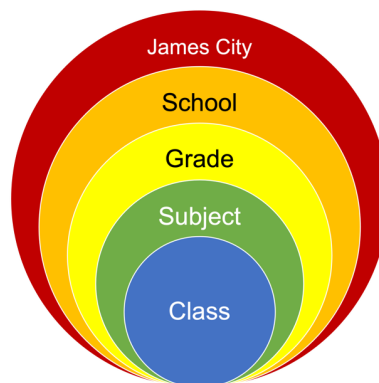
This training hierarchy groups cohorts of faculty and staff by subject and then grade. The structure is designed to build teams within disciplines that new teachers can easily assimilate into based on the commonality of what they teach. This design is focused mainly on the teachers as that's the population seeing the highest turnover rate as opposed to other staff.

Rationale

Current Conditions

Students in James City Schools are performing slightly below state and county averages in math, science, English language arts (ELA), and foreign languages. While these results align with historic averages for this part of the state, these subjects have the highest teacher turnover rates in the school system. The teachers are all hard-working and dedicated to their students, but they seem to be each solving numerous small challenges on their own. From learning which software is best for their learners to finding time to create innovative content for their lesson plans, they seem to be putting in maximum effort for very little gain.

The absence of tangible results has led in many cases to frustration and apathy. How can faculty and staff be convinced to keep working so hard if the results don't show any improvement over doing the minimum? Some solutions the teachers are creating are truly unique and powerful, but few seem willing to learn or adopt them. The current state of performance and attitudes can be summarized as:

- Below state standards for four subject areas

- Teacher retention rate below the state average and dropping

- Frustrated faculty and staff

- Lack of teamwork to share best practices within schools and across the district

Desired Conditions

To achieve what the school administrators and parents agreed would be the learning objectives for James City Schools, students should meet or exceed all state averages for end-of-grade (EOG) standardized test performance in each subject. That is the bare minimum. However, to achieve this, quality teachers must be retained that can carry lessons learned from one year to the next, thereby increasing the performance of the entire system. Collaboration within schools and across James City is a critical enabler to helping teachers see results for their labors. The ideal conditions can be characterized as:

- Meet or exceed NC averages in EOG standardized test

- Increase teacher retention with a goal of meeting NC averages

- Best practices shared within schools and across the district

Performance Gaps

The purpose of the needs assessment is to identify critical deficiencies in knowledge, skills, or attitudes contributing to these gaps:

- *EOG performance*. This gap is a delta of 5-10 % depending on the subject and grade.

- *Teacher retention*. Current retention rates for James City Schools are 10% below that of the state.

- *District Collaboration*. While there is some sharing of lessons learned within schools, it is less than ideal. There is little evidence of best practices being shared between schools.

Feasibility

Available Resources

No additional funding will be available to conduct the assessment at the school level. The District will provide one data scientist to each school to assist in consolidating and processing data during the assessment period. Each school will execute the plan using current staff and information management systems. The expectation is that teachers will participate in the assessment but will not be used to gather, collate, or analyze the data. School information and digital technologists will lead the data collection and analysis effort as they receive feedback through various survey instruments.

Organizational Support

James City Schools has placed a high priority on this effort. The need for an organized assessment has been presented at multiple school board meetings and public town halls to reinforce the importance of addressing these challenges. The contracted data scientists are a key indicator of how significant the District believes this assessment can be. The District expects to receive periodic updates on assessment

progress. The final analysis will be presented at a future school board meeting to ensure all key leaders understand the follow-on plan.

Cost-Benefit Analysis

James City Schools has contracted for ten data scientists for the duration of the assessment at a cost of $150K. This assumes an assessment period of no more than 3 months. School staffs will be affected as their IT and digital design technologists will be executing their daily responsibilities on top of this needs assessment. For the assessment period, the district is authorizing a 10% increase in allowed overtime. All total, the potential cost of the assessment is $300K.

Potential benefits from this assessment are two-fold. Better teacher retention means fewer resources spent in onboarding new people or hiring more substitutes. These programs cost the District approximately $300K annually. Secondly, student performance on EOG standardized tests directly influences federal and state grants for James City Schools. Meeting the state averages will result in $500K in additional funding. If state averages are surpassed by as little as 5%, that can lead to $1 million in additional grant funding. The total potential benefits from this assessment effort are $1.3 million in resources that would go directly into our schools.

Needs Assessment Plan

Objectives

This needs assessment will occur over a 90-day period in the 1st Quarter of the Spring Semester and will be designed to answer the following questions:

1. What factors are contributing to lower-than-average EOG test scores?

   a. What schools/classes/teachers are seeing the most students struggling?

   b. Are teachers aware that students are struggling with the material?

   c. Are students not receiving timely and effective assistance?

   d. Are students' performance impacted by factors outside of the classroom?

   e. Are students regularly using online help tools when they are challenged by a subject?

2. Why are teachers leaving the District at higher than state averages?

   a. Do teachers feel professionally ready when they begin at James City Schools?

   b. Does the school/district onboarding program reach out to new or potential hires before they begin working at a school?

   c. How much is the District mentoring program being utilized?

   d. Are teachers using or being offered professional development opportunities?

   e. Are health and/or safety concerns impacting teachers' decisions to stay with James City Schools?

   f. Are teachers prepared (training & resources) to teach via online or hybrid models?

3. Why are teachers reluctant to collaborate with others in their schools or across the District?

   a. Do teachers feel they have enough time to reach out and establish regular collaboration opportunities?

b. Are teachers comfortable sharing their challenges with others?

c. Are their infrastructure or digital hurdles to collaborating in real-time?

d. Are there any incentives to increasing collaboration?

Target Audience

This needs assessment will gain insights from three primary groups: administrators, teachers, and support staff. Each group provides unique perspectives on the challenges this assessment is designed to address. Our teachers will be the key performers for this assessment as they engage with students daily and have first-hand insights into their challenges as well as what may be driving some to leave our schools. School and district administrators are included as key decision-makers. They impact the daily work routines, resourcing decisions, and policies that guide the faculty and staff at each school. Finally, the support staff is included as they often work between the administrators and teachers providing training, system modernization, and resource support.

Sampling Procedure

The needs assessment will be executed through surveys, individual interviews, and focus groups. Time is limited, so not every team member will participate in all survey events. The survey audience will be stratified by function:

Table 1 – Sampling Procedures for Each School

Function	Method	Participants
Administrator	Survey	2 – Principal, Asst. Principal
	Interview	2 – Principal, Asst. Principal
Support Staff	Survey	at least 10 (75%)
	Focus Group	8-10 (60-75%)
Teacher	Survey	75% of all teachers
	Focus Group	5 per subject in each grade
	Interview	2 per subject in each grade

Data Collection Methods

In-person interviews will be conducted with key administrators in each school as well as select teachers. Principals and Assistant Principals will be interviewed to gain insights into the design and application of school policies focused on the preparation for and execution of EOG tests. These key decision-makers will give insights into District culture regarding onboarding programs, mentorship, and professional development. Lastly, administrators will provide feedback on how teacher evaluations reflect actual metrics of student, teacher, and school performance. Teachers will be interviewed by subject and grade to gain insights into specific challenges they face in their discipline. A critical objective during these interviews is to assess how well teams are forming in that grade or subject as a reflection of the recent change in the District training hierarchy (Figure 1).

Focus groups will be conducted for both teachers and support staff. For teachers, these groups will be organized by grade to get a sense of common challenges and/or successes they are experiencing. The focus groups will aim to identify why some are

choosing to leave the school or profession and brainstorm ideas for ways to keep talented teachers in James City Schools. Teamwork, professional development opportunities, and collaboration across the district are topics for these discussions. The support staff focus groups will explore training and resource support as well as the use of technology. A critical area for discussion will be hybrid and virtual experiences compared to in-class learning.

Fairly broad surveys will be administered to all three functional categories. They will be anonymous but organized by function to assess trends across disciplines. Questionnaires will address all the needs assessment objectives while also affording the opportunity for open-ended responses on critical topics.

Instruments and Protocols

The needs assessment will rely on feedback gained through surveys, interviews, and focus groups. The surveys will be comprised of 40 questions designed by the instructional technologists with support from the contracted data scientists. The surveys will be a mix of multiple-choice answers and free text to allow broader and more nuanced feedback. These surveys will be administered early in the assessment to give the data science team time to consolidate and analyze the data.

The interviews will be designed specifically for each function. They will contain a couple of leading questions, while also giving the interviewee the opportunity to expound on topics of their choosing. Each interview is designed to be no longer than 45 minutes.

Focus groups will be 1 hour in duration and will be facilitated by a data science contractor for each grade and subject. These focus groups are non-attributional in nature and will be designed in two parts. The first half will resemble a town hall allowing the participants to provide feedback on our key topics. The second half will be more of a brainstorming session to generate ideas on potential solutions to address challenges or share best practices more widely.

Participation in interviews and focus groups will be approved by the administration and formally scheduled. The goal is for them to be voluntary, but if the participation goal is not being met, then the Principal needs to be made aware so that more people can be encouraged to support the assessment. Teachers are not expected to miss class to participate. All surveys will be anonymous and participant names will be removed from all content entered into the final data analysis. The goal is to identify and address challenges, not specific individuals. To this end, all participants will sign memorandums signaling they understand the needs assessment and agree to participate.

Implementation Plan

The needs assessment will be executed over a 12-week period (Table 2) in the Spring semester. The exact timing will be built around school activities and holidays. Twelve weeks is the required time to complete all aspects of the assessment and coincides with the contract for the data scientists. Any extensions will require District approval.

Table 2 – Needs Assessment Plan

Task	WK1	WK2	WK3	WK4	WK5	WK6	WK7	WK8	WK9	WK10	WK11	WK12
Preparatory Planning	■	■										
Present Assessment Plan	■											
Develop Suvey Instruments		■										
Schedule Data Collection Events		■										
Data Collection			■	■	■	■	■	■				
Administer Surveys			■	■	■	■						
Conduct Individual Interviews				■	■	■	■					
Conduct Focus Groups				■	■	■	■					
Followup/Re-engage if necessary								■				
Data Analysis									■	■		
Consolidate Feedback									■			
Normalize/Sanitize Data									■			
Apply Analytic Models										■		
Determine Findings											■	■
Focus Area 1											■	
Focus Area 2											■	
Focus Area 3											■	
Broad Insights/Take-aways											■	
Present Recommendation												■

Conclusion

James City Schools continues to be proud of the work our faculty, staff, and administrators have done in recent years to provide our students with a quality education. We must endeavor to understand and address any and all challenges that may impede this goal. While conflicts and reprioritization of efforts are unavoidable, the purpose behind this assessment is sound and the results can significantly benefit the community for years to come.