July 2023


# Alabama Commission on the Evaluation of Services

IMPLEMENTATION OF THE TEACHER EXCELLENCE AND ACCOUNTABILITY FOR MATHEMATICS AND SCIENCE PROGRAM

Implementation Evaluation

ALABAMA COMMISSION ON THE
EVALUATION OF SERVICES

evidence.alabama.gov.



July 17, 2023

**Members of the Commission,**

I am pleased to transmit this report, An Evaluation of the TEAMS Program Implementation, to the Commission. The evaluation examined the implementation of the TEAMS program and its ability to measure success as demonstrated through early results.

The evaluation officially concluded on July 14, 2023. The Alabama State Department of Education participated in stakeholder meetings to discuss the findings and offer recommendations; however, they have not provided a written response to the report.

Report findings were centered around three primary themes.

1. **Does the program align metrics with outcomes?**
2. **Is the process clearly defined, efficient, and effective?**
3. **Can the program determine success at regular intervals through self-evaluation?**

I believe this report accurately reflects the TEAMS implementation and early results of the TEAMS program. Recommendations found in the report will enable the program to become more efficient by reducing redundancies and allowing for better alignment of programmatic activities with desired outcomes.

We very much appreciate the cooperation and assistance of the Alabama State Department of Education, participating local education agencies, as well as other affiliated organizations and their staff. I respectfully request that they be given an opportunity to respond during the public presentation of the report.

Sincerely,

**Marcus Morgan**
Director

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Montgomery, AL 36130-3550

# ACKNOWLEDGMENTS

The Alabama Commission on the Evaluation of Services would like to express our sincere gratitude to the researchers, practitioners, and professionals that assisted in this evaluation. In particular, we would like to acknowledge the efforts of the following organizations that contributed significantly to this report.

**State Agencies**

Alabama Commission on Higher Education
Alabama State Department of Education

**Organizations**

Alabama Education Association
School Superintendents of Alabama

**Local Education Agencies**

| | | | |
|---|---|---|---|
| Acceleration Day and Evening Academy | Henry County | LEAD Academy | Oneonta City |
| Andalusia City | Choctaw County | Lanett City | Oxford City |
| Arab City | Clarke County | Linden City | Perry County |
| Auburn City | Conecuh County | Lowndes County | Phenix City |
| Baldwin County | Cullman City | Macon County | Piedmont City |
| Barbour County | Dallas County | Madison City | Pike County |
| Bessemer City | Elba City | Madison County | Pike Road City |
| Birmingham City | Enterprise City | Marengo County | Roanoke City |
| Blount County | Etowah County | Marion County | Saraland City |
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| Haleyville City | Hale County | Vestavia Hills City | |

# TABLE OF CONTENTS

ACES
Alabama Commission on the Evaluation of Services

# An Evaluation of the TEAMS Program Implementation

REPORT SUMMARY — JULY 2023

**CONCLUSION:** Although the TEAMS program had a short window to be implemented and lacks defined measures of success, ***there is still time to take corrective action to ensure the intended outcomes are being accomplished.*** ALSDE reports correcting inefficiencies, progressing toward an automated system that will be integrated within three years. While the process is described as unclear and burdensome, the program has been quickly adopted by LEAs and teachers. Action should be taken now to ensure performance is properly tracked and reported.

## Implementation Evaluation

### Background

This report is one in a series dealing with Alabama's Teacher Workforce. For previous reports visit evidence.alabama.gov.

The TEAMS program was created by Act 2021-340. The program became effective in May of 2021, providing ALSDE roughly three months to plan and design the launch of the program for the 2021-2022 academic year. The law requires ALSDE to administer the program and the State Board of Education to develop administrative rules necessary to implement the act. ***The law itself does not specifically state the intended purpose of the program nor does it require ALSDE to align performance metrics with outcomes.***

TEAMS gives the opportunity for math, science, and computer science teachers to earn up to $20,000 more per year on a TEAMS contract. To qualify for the TEAMS program a teacher must:

- Be properly certified.
- Teach ALSDE approved courses full time.
- Hold or work to obtain the National Board Certified Teacher or National Certification for STEM Teaching.
- Complete 4 days of high quality professional development.
- Sign a 189-day contract.

**$98.5M** — **Expenditures to Date**

**2,608** — **Teachers (Year 1)**

## Key Findings

- **The TEAMS program is characterized by a labor-intensive process which can be significantly streamlined through widely available technology.**
- **The leading motivation to sign a TEAMS contract is higher pay, but the incentive negatively affected the morale among other teachers within the system.**
- **The TEAMS program deviates from implementation best practices, lacks defined goals, and maintains vague performance metrics.**
- **Any failure of communication is not for a lack of effort by ALSDE. However, the second largest recommendation from administrators was to adopt a clear and streamlined process.**

## RECOMMENDATIONS

- Streamline and automate the application process for funding to increase efficiency across the program.
- Develop quantitative metrics that accurately measure student growth associated with the TEAMS program.
- Determine the number of highly qualified teachers during the 2020-2021 school year to benchmark the number of highly qualified teachers prior to the implementation of TEAMS.
- Establish the ratio of unfilled positions to desired number and actual number of positions.
- Clearly define the information being collected to reduce errors and limit the amount of resources needed for quality control.
- ALSDE should better engage LEAs as they continue to provide updates and improve communication.
- Implement a timeline for when and where program information may be available.
- Establish benchmarks and milestones to actively monitor the success of TEAMS and make necessary program adjustments to ensure long-term success.
- Reevaluate TEAMS in 3-5 years to determine levels of success.

## Implementation of the Teacher Excellence and Accountability for Mathematics and Science Program

In 2021, 34.6% of Alabama students were proficient in science and less than 22% were proficient in math.[i] This is of heightened concern as Alabama's workforce development continues to grow industries that require skilled professionals in science, technology, engineering, and mathematics (STEM). The state annually dedicates numerous resources to keep pace with the economic and human capital needed to support this growth. One response to this need is the creation of the state-funded Teacher Excellence and Accountability for Mathematics and Science (TEAMS) program and salary matrix.[ii]

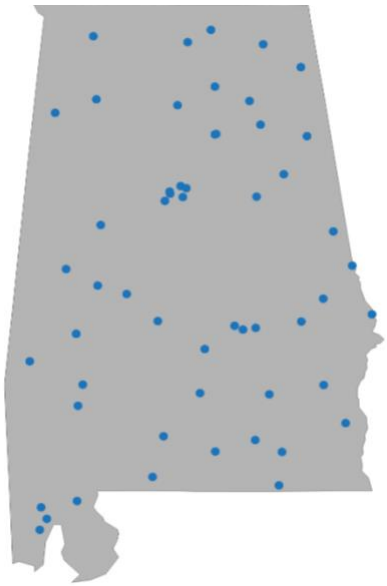
## Purpose and Scope of the Evaluation

The Alabama State Department of Education (ALSDE) is responsible for implementing and administering the TEAMS program's various provisions. The purpose of this evaluation is to examine the program's implementation and its ability to measure success as demonstrated through early results.

Findings from the evaluation are organized in three primary areas which are centered around widely accepted themes of effective implementation with recommendations for improvement:

1. **Planning and Goal Development.** Does the program align metrics with outcomes?
2. **Process and Implementation.** Is the process clearly defined, efficient, and effective?
3. **Evaluation and Continuous Improvement.** Can the program determine success at regular intervals through self-evaluation?

**Map of Cohort LEAs**



The evaluation was conducted through various approaches, including stakeholder interviews, surveys, and data analysis. For the purposes of this report, references to the following terms are defined as:

- **Cohort LEAs -** ACES interviewed a representative cohort of 55 LEAs online and in-person. References to the cohort indicate that evidence was gathered through these interviews.

- **Surveyed –** In collaboration with the Alabama Education Association (AEA), ACES conducted a statewide survey of teachers, administrators, and paraprofessionals. Components of the survey relating to the TEAMS program are incorporated in this report.

***See Data and Methodologies*** for more information and details of the analysis.

## SUMMARY OF FINDINGS

***The TEAMS program is characterized by a labor-intensive process which can be significantly streamlined through widely available technology.*** More than a third of the Cohort LEA administrators reported the need for an improved process from start to finish. In addition, more than 30% of surveyed administrators reported similar frustrations. The labor-intensive process includes manual data entry, untimely communication, repetitive tasks, and the lack of automation; all of which result in inefficiencies.

**The leading motivation to sign a TEAMS contract is higher pay, but the incentive negatively affected the morale among other teachers within the system.** The unintended consequences of salary disparities could have far-reaching impacts on the overall teaching profession. A large majority (92-98%) of the administrators interviewed and surveyed reported the salary increase was the primary motivation for becoming a TEAMS teacher. The most cited problem among surveyed administrators was decreased morale created by pay disparities (36%).

**The TEAMS program deviates from implementation best practices, lacks defined goals, and maintains vague performance metrics**. Well implemented programs align performance metrics with desired outcomes, analyze data in regular intervals, and build learning objectives that support continuous improvement. The TEAMS program utilizes self-reported performance metrics that do not align with the stated goals. Improper alignment prohibits the ability to measure the program's success and understand the impact of the program.

**Any failure of communication is not for a lack of effort by ALSDE. However, the second largest recommendation from administrators was to adopt a clear and streamlined process.** ALSDE developed a website that includes detailed FAQs. They also sent multiple communications to clarify important program details about the application process, qualifying teachers, and approved courses. Streamlining the process and establishing more feedback opportunities for the LEAs will help improve efficiencies across the program.

**Commitment to Continuous Improvement**

After the conclusion of evaluation fieldwork, ALSDE reported upcoming improvements to the application process for year three. The reported and scheduled future improvements indicate a commitment to continuous improvement of the TEAMS program; although not available for verification, testing, and review.

### OVERVIEW OF THE TEAMS PROGRAM

The TEAMS program was created by Act 2021-340. The program became effective in May of 2021, providing ALSDE roughly three months to plan and design the launch of the program for the 2021-2022 academic year. The law requires ALSDE to administer the program and the State Board of Education to develop administrative rules necessary to implement the act. ***The law itself does not specifically state the intended purpose of the program nor does it require ALSDE to align performance metrics with outcomes***.

TEAMS gives the opportunity for math, science, and computer science teachers to earn up to $20,000 more per year if they accept a TEAMS contract. To qualify for the TEAMS program a teacher must:

- Be properly certified.
- Teach ALSDE approved courses full time.
- Hold or work to obtain the National Board Certified Teacher (NBCT) or National Certification for STEM Teaching (STEM credential).
- Complete 4 days of high quality professional development (HQPD).
- Sign a 189-day contract.[iii]

The TEAMS program offers two types of contracts. A preliminary contract is offered when a teacher does not yet hold either a NBCT or a STEM credential. If a teacher already holds or obtains either of the advanced credentials, they can be offered an advanced contract. An advanced contract requires a teacher to forego tenure protections. Teachers who have completed 20 or more years of service in Alabama's public school system shall be offered a 5-year contract in hopes to retain the teacher.

During year one of the program, 2,608 teachers signed a TEAMS contract filling roughly 35% of the allocated TEAMS positions.[1] Two hundred forty-four (9.3%) of those teachers signed advanced contracts.

Through fiscal year 2023, the TEAMS program has been appropriated $180,000,000. In the first year (FY22), expenditures totaled $38,168,448[iv] and total $59,286,746[v] in year two (FY23) to date. Outside of the appropriations, there was $1,000,000 expended on the TEAMS marketing campaign.

**Tenure as a Barrier**

The removal of tenure protections is the number one stated barrier to teachers enrolling in TEAMS.

51% of Cohort LEAs and 46% of surveyed administrators indicated that teachers were hesitant to sign a TEAMS contract and lose tenure protections.

## Detailed Findings and Recommendations

### 1.0 Planning and Goal Development | Does the program align metrics with outcomes?

The TEAMS Act did not specify any outcomes the program is trying to achieve. Though the program's outcomes were not explicitly defined, policymakers and stakeholders stated the program was created to remain "competitive in [the] recruitment of STEM jobs in the 21st century" [vi] by:

- Having a highly qualified teacher in every secondary math and science classroom in Alabama's public school system,
- Addressing unfilled teacher positions throughout the state, and
- Improving students' math and science scores.

[1] The program allocates one math and one science TEAMS position for every 105 6th-12th grade students enrolled in an LEA.

### *1.1 The TEAMS program lacks defined goals which can be benchmarked and measured.*

Although publicly stated, the lack of clearly defined and consistent goals from inception creates a program without benchmarks. Without established benchmarks, the overall success of the program cannot be determined in a verifiable way. Necessary implementation planning and processes greatly influence program goals and the eventual outcomes. With some appropriate planning and due diligence, the publicly stated goals may take shape and progress can be appropriately monitored.

#### HIGHLY QUALIFIED TEACHER

In a stakeholder interview, ALSDE stated that the goal of the program was to place highly qualified teachers in every secondary math, science, and computer science classroom. Under the program's structure, this means every teacher:

- Possesses the appropriate teaching certificate.
- Holds or is obtaining either a STEM or NBCT credential.
- Participates in approved high quality professional development. [vii]

The number of highly qualified teachers already teaching in Alabama's classrooms prior to the 2021-2022 school year was not quantified. Without determining how many of these teachers existed and where they were located throughout the state, the growth and progress toward this outcome are difficult to measure.

In the first year of the program, 244 teachers qualified for an advanced contract, meaning they already held the required credential before the TEAMS program launched. It is important to note there may be more than 244 highly qualified teachers. Through Cohort LEA interviews and surveys of administrators, ACES identified that schedule limitations and the removal of tenure protections kept at least some otherwise qualified teachers from participating in the program. ***ALDSE should determine the number of teachers that satisfied the requirements during the 2020-2021 school year to benchmark the number of highly qualified teachers prior to the implementation of TEAMS.***

#### UNFILLED POSITIONS

As previously reported by ACES, Alabama does a poor job tracking teacher vacancies because it does not define when a vacancy occurs.[viii] *Out-of-field* teachers is a commonly used metric in the state when discussing unfilled teaching positions.[2] While the number of out-of-field teachers may offer a close approximation to the number of unfilled secondary math, science, and computer science positions, it does not define nor benchmark the need.

**Early Success:**
**More Credentialed Teachers**

TEAMS resulted in more credentialed teachers in math and science classrooms during the 2022-2023 school year.

81% of Cohort LEAs experienced growth in TEAMS teachers during year two.

Cohort LEAs reported adding 595 teachers on an advanced contract and 352 new TEAMS teachers.

**Early Success:**
**Recruitment & Retention**

Cohort LEAs reported the program aided in retaining teachers that would have otherwise retired or left the classroom. Furthermore, Cohort LEAs reported 29 TEAMS teachers were from out-of-state.

[2] Out-of-Field teachers hold a valid Alabama certificate but are assigned to teach in an area(s) for which they are not properly certified.

To effectively determine the ***need* (unfilled positions)** for teaching positions and establish a benchmark to measure against, the state must first establish the ***desired*** number of teachers. If it is assumed that the TEAMS allocation formula represents the desired number of secondary math, science, and computer science teachers per student, then it can be assumed that 7,466 teachers were ***desired*** for the 2021-2022 school year. The number of TEAMS Teachers in 2021-2022 was 2,608. However, like highly qualified teachers mentioned above, this does not mean there were 4,858 unfilled positions.

To determine the actual number of unfilled positions using *out-of-field* teachers, the teachers for each approved course should be examined for whether they possess the appropriate credential. The ratio of the number of *out-of-field* FTEs to the desired number of FTEs represents one benchmark as it relates to unfilled positions. An alternative approach to determining need can be found in *Alternative to Determining Teacher Vacancies*.

Because LEAs identified barriers to the full implementation of TEAMS, another important benchmark should be the number of *out-of-field* FTEs to *actual* number of FTEs teaching TEAMS approved courses. ***ALSDE should establish the ratio of unfilled positions to desired number of positions and the ratio of unfilled positions to the actual number of positions.***

**Teacher Performance Metrics**

Cohort LEAs noted the absence of metrics associated with teacher performance.

12.7% identified the lack of accountability as a program issue. It is notable that LEA administrators were concerned with creating district-level performance metrics due to the fear that teachers would leave for districts that do not incorporate such measures.

### IMPROVED MATH AND SCIENCE SCORES

One of the most common metrics for determining academic achievement is student performance on standardized tests. Two of the often-cited standardized tests are the annual Alabama Comprehensive Assessment Program (ACAP) assessment delivered in every public school in the state and the National Association of Educational Progress (NAEP) assessment which attempts to compare students across states through a representative sample of classrooms.[ix] Neither of these assessments collect student proficiency in math or science at every grade, particularly grades with TEAMS teachers. The lack of at least annual assessments for each grade means student scores are subject to variables that cannot be accounted for adequately. ***See Table 1***.

**TABLE 1|** Current student assessments for math and science don't capture the majority of grades impacted by TEAMS.

| | Grades Assessed | |
|---|---|---|
| Assessment | Math | Science |
| ACAP | 3rd-8th and 11th | 4th, 8th, 11th |
| NAEP | 4th and 8th | 4th, 8th, 12th |

A metric that is appropriately aligned to the intended outcome of improving math and science scores should be closely associated to the inputs of the program (i.e., the placement of highly qualified teachers in the classroom). This is a difficult proposition in a state that does not currently link an individual student to classroom teachers over the student's academic career. Without this

level of detailed information, it is nearly impossible to determine which variables, if any, have an impact on student achievement.

The lack of annual assessments not only hinders the measurement of success for this intended goal, but it also creates difficulty in establishing a benchmark to gauge progress. ***ALSDE should develop quantitative metrics that accurately measure student growth associated with the TEAMS program.***

### *1.2 TEAMS's existing performance metrics are vague and self-reported.*

On the LEA TEAMS Credentials Review and Funding Request Form, LEAs report if a teacher came from out of state, earned a new certification, and whether TEAMS contributed to retention.[x] While these metrics could be helpful measuring the ability to recruit and retain teachers, program' submissions by LEAs demonstrate the need to better define what information is being collected. For example, the Funding Request Form asks the following questions with (response differences): [3]

1) Did this teacher previously teach out of state? (Self-reported: 272; ALSDE Progress Report: 11)
2) Is this teacher new to the teaching profession? (Self-reported: 30, ALSDE Progress Report: 9) [xi]

Self-reported performance metrics lack some degree of reliability if there is not an implemented process for quality control which ALSDE has demonstrated with progress reports to date. The stark differences in self-reported numbers and progress report numbers indicates that measures need to be more clearly defined. ***ALSDE should clearly define the information being collected to reduce errors and limit the amount of resources needed for quality control***.

## 2.0 Execution or Process and Application| Is the process clearly defined, efficient, and effective?

### *2.1 The current credential review and funding application process is inefficient, requiring manual and duplicative data entry by LEAs.*

The TEAMS credential review and funding application process requires annual completion of multiple forms, often for each TEAMS teacher, even though some of the required information is already collected through existing software or processes. This approach is inadequate given the current landscape of software applications and significant investments in data systems in recent years.

**Clearly Defining Metrics**

The current LEA TEAMS Credentials Reviews and Funding Request Form asks LEAs to report:

***Did this teacher previously teach out of state?***

A clearer and better-defined question would be:

***Did this teacher leave a teaching job in another state to become a TEAMS teacher?***

These changes attempt to tie the result of the question directly to the TEAMS program.

**Inefficient and Unclear Paperwork Process**

Over a third of Cohort LEAs stated the paperwork process was a problem and several recommended automation, integration, or general improvements to the application platform as a solution.

Inefficient and unclear process was the 2nd largest issue reported by surveyed administrators at 33%.

[3] ACES performed a limited review of 1st year submitted funding requests as a part of this evaluation. The review showed the inconsistencies with LEA self-reported metrics and ALSDE Progress Reports demonstrating both the need for better defined metrics and ALSDE's quality control over responses.

Over 41% of the required fields between contracts and the funding request are duplicated. Of the remaining fields in the funding request, at least 30% exist in a current ALSDE database. Compounding the duplication issue, LEAs must enter this information for each TEAMS teacher (as many as 504 for Mobile County).

At the end of the fieldwork phase of this evaluation, ALSDE reported upcoming changes to the credential review and funding application process. ALSDE intends to begin automation in July 2023. The final system integration is estimated to be completed by June 2024 and should eliminate the redundancies within the current process.

Although ALSDE continues to make improvements and changes, the process needs significant improvements and automation to be efficient. ***ALSDE should complete automation and streamlining of the application process for funding to increase efficiency across the program.***

### *2.2 Continuous updates and improved guidelines are made available by ALSDE to LEAs with instructions on how to complete the application process.*

Since the beginning of TEAMS implementation, ALSDE provided instructions on completing the request for funding application as well as the necessary supporting information. A website with detailed, frequently asked questions was produced and multiple communications were sent to try to clarify important details for the program. As it relates to the process for applying, who qualifies, and approved courses, any failure of communication was not for a lack of effort by ALSDE.

While ALSDE should be commended for their efforts, there are still opportunities to improve the overall communication and accessibility of TEAMS related information. As an example, it can be difficult to locate superintendent memos, instructions, and other forms and documents on the department's website. To date, one TEAMS *webpage* only contains links to three documents, while another TEAMS *webpage* contains detailed frequently asked questions.[xii, xiii] An attempt to search for TEAMS related content on the website produces many more documents that are not readily obtainable in any one searchable location. ***ALSDE should better engage LEAs as they continue to provide updates and improve communication.***

### *2.3 TEAMS updates lack a timeline that meets the typical planning and scheduling needs of LEAs.*

The current program does not have structured release dates for an updated list of approved courses, number of allocated positions, hard-to-staff schools, or changes to the approved professional development options. Although the department releases this information through memos, there is no requirement or expectation for the yearly updates to be released at a certain time. Updated information can interfere or change how a district schedules teachers for the upcoming school year.

Information for the 2023-2024 school year has yet to be released regarding allocations, hard-to-staff schools, and approved courses. ***ALSDE should implement a timeline for when and where program information may be available. This will aid in creating expectations and a clearer process for ALSDE and LEAs alike.***

### 3.0 Evaluation and Continuous Improvement | Can the program determine success at regular intervals through self-evaluation?

#### *3.1 Lack of benchmarks and scheduled milestones limits the ability of ALSDE to make effective improvements.*

Program implementation is a detailed process that includes several interconnected phases, each dependent on another. Failure to properly plan or execute in one stage can negatively impact other phases. Given the short timeline ALSDE worked under, this phase of implementation is elevated and more important to the success of the program. ALSDE has made improvements since initially rolling out the program. However, they lack a plan to evaluate the program, ensuring continuous improvement and achievement of desired outcomes. Program evaluation best practices include capturing and measuring data that illustrates if the program is achieving intended outcomes. The absence of routine monitoring and evaluation hinders the program's ability to adapt and improve over time based on evaluation evidence and user feedback. ***ALSDE should establish benchmarks and milestones to actively monitor the success of TEAMS and make necessary program adjustments to ensure long-term success.***

## Early Identification of Unintended Consequences

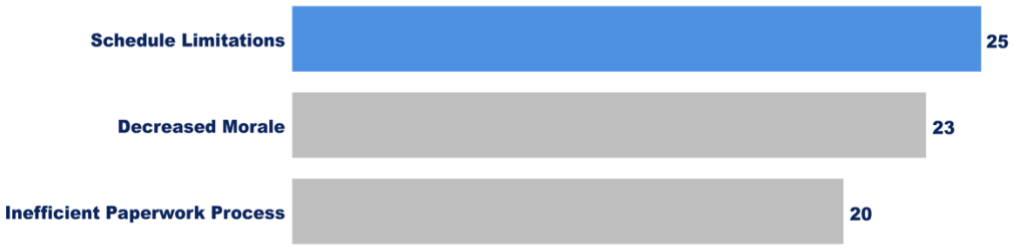
One key advantage of implementation evaluation is the early identification of future problems and unintended consequences. Early findings show that there are factors that could prohibit the program from reaching full capacity. These factors need to be observed after the program is fully developed to determine if there are needed improvements or additional unintended consequences that develop. ***TEAMS will need to be re-evaluated in 3-5 years to determine levels of success.***

#### *Reported schedule limitations may affect the ability of the program to reach full capacity.*

Other than a planning period, TEAMS teachers are allowed to teach one course that is not on the TEAMS approved list, but it must aid to improve student achievement in math, science, or computer science.[xiv] This waiver excludes teachers who teach electives not directly related to science or math.

This was particularly problematic for LEAs that rely on dually certified teachers to fully staff their needs. Teachers' desirability and availability may prevent the program becoming fully utilized due to the previously mentioned scheduling limitations.

**FIGURE 1 | 45%** of Cohort LEAs **identified Schedule Limitations** as a significant issue with TEAMS




### *A high number of retirement eligible TEAMS teachers in the initial years could alter typical retirement trends.*

Throughout the evaluation, concerns were raised the program would retain teachers who are or will soon be retirement eligible. A sample analysis of first year TEAMS teachers indicates that 20% would be eligible for retirement after three years in the TEAMS program.[4] [xv] With this number being disproportionately higher (30%) than the percentage of all teachers among the sample, the state could face an unusually high number of retirements of secondary math, science, and computer science teachers in the coming years.

### *Decreased morale among teachers could impact the overall teaching profession.*

Decreased morale was the most cited problem according to administrators in the statewide survey. Of the Cohort LEAs, 42% of administrators cited decreased morale due to pay disparities within their school systems. Administrators indicated teachers in grade levels and subjects that are not included in the TEAMS program feel un-appreciated. These administrators suggested expanding the TEAMS program to other grade levels and subjects of need as a solution. In a time when there is a persistent decrease in teacher morale, it is important to acknowledge that this program is adding to the decline.

**FIGURE 2 | 42%** of Cohort LEAs **identified Decreased Morale** as a significant issue with TEAMS


[4] All teachers nearing retirement eligibility would fall under Tier 1 of the Teacher Retirement System. As Tier 1 members, retirement benefits will be calculated using the average of the highest three years out of the last ten years the member made contributions.

## CONCLUSION

Although the TEAMS program had a short window to be implemented, there is still time to take corrective action that will ensure the intended outcomes are being accomplished. The inefficiencies identified within the application process can be corrected to be more streamlined and reduce LEA burden, which ALSDE reports is in progress. When an automated system is fully integrated, it will have taken ALSDE four years to completely incorporate. Additionally, performance metrics can be developed to properly align with the program's intended outcomes.

# DATA & METHODOLOGIES

## COHORT LEAS

ACES staff completed stakeholder meetings with ALSDE, School Superintendents of Alabama, and AEA to conceptualize possible avenues for data gathering. ACES then created a cohort of 59 LEAs to participate in interviews. The cohort was created through a series of quintiles. The quintiles distinguished the following variables to accurately represent the state of Alabama:

1) Percent of TEAMS contracts filled
2) Aggregated science and math proficiency scores
3) Student enrollment
4) Poverty levels
5) Demographic rates

Fifty-five LEAs chose to participate in the evaluation. Through the help of the School Superintendents of Alabama, ACES conducted either in-person or online interviews with the LEAs' superintendents and/or TEAMS staff members. Interviews contained questions regarding motivations and barriers for joining the TEAMS program, experiences with implementation, and possible solutions for improvements.

The following represents data collected from the cohort interviews regarding top barriers, problems, and solutions according to administrators.

**About the Cohort Quintiles**

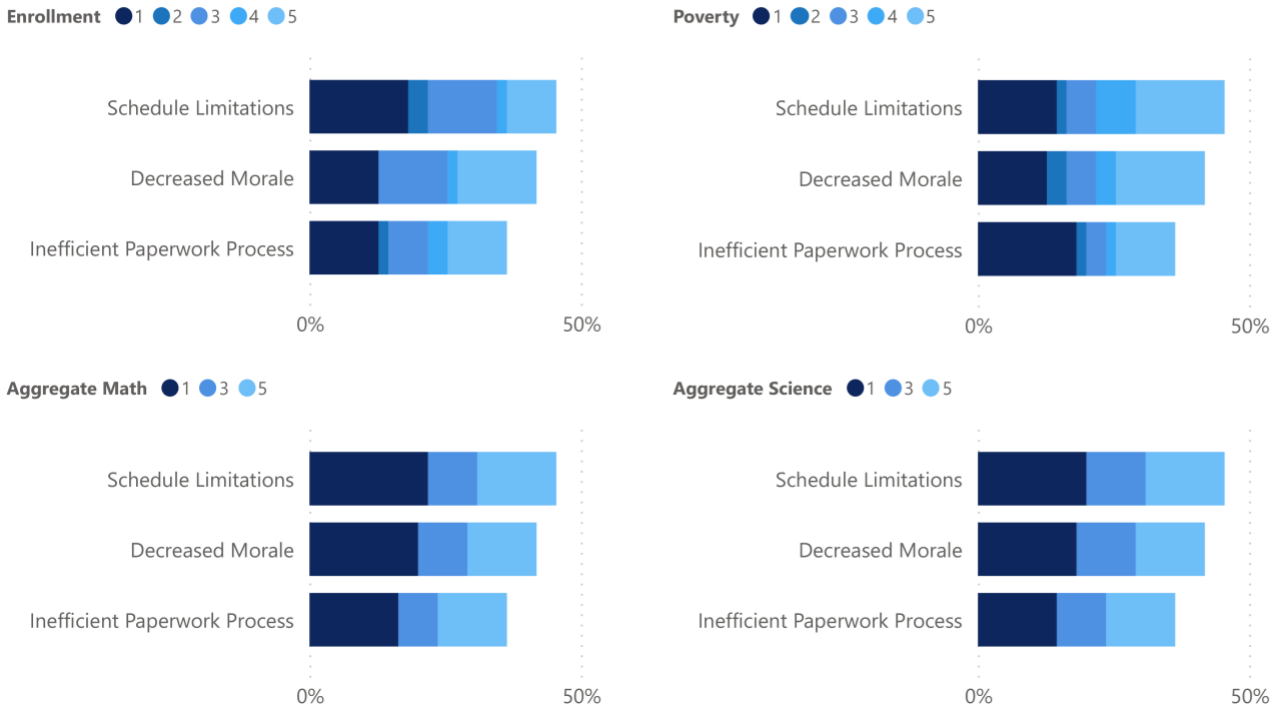
The charts below use the following scales for cohorts:

***Aggregate Math and Science***
1 = Higher proficiency rate
5 = Lower proficiency rate

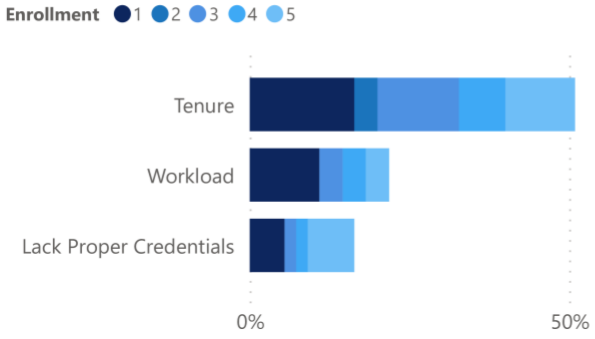
***Enrollment***
1 = More student enrollment
5 = Less student enrollment

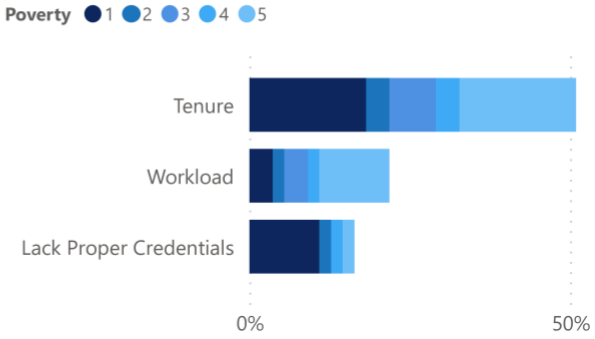
***Poverty***
1 = Higher poverty rates
5 = Lower poverty rates

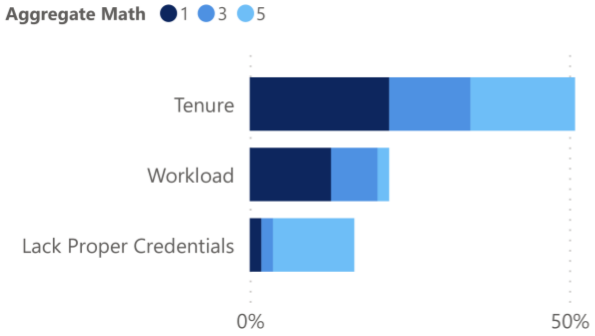
### Top 3 problems with TEAMS identified by Cohort LEAs

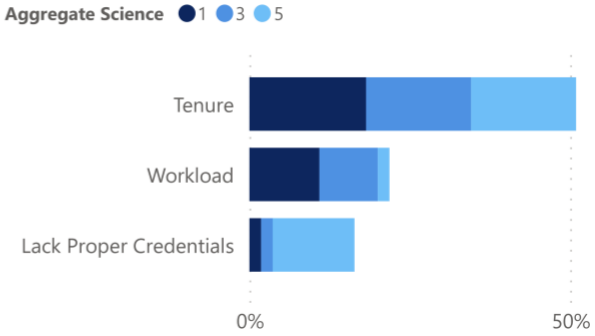


## Top 3 barriers to TEAMS identified by Cohort LEAs

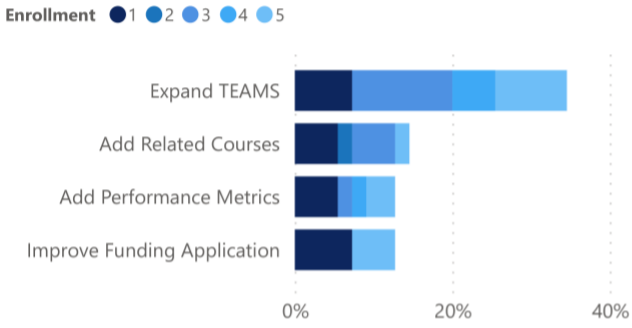


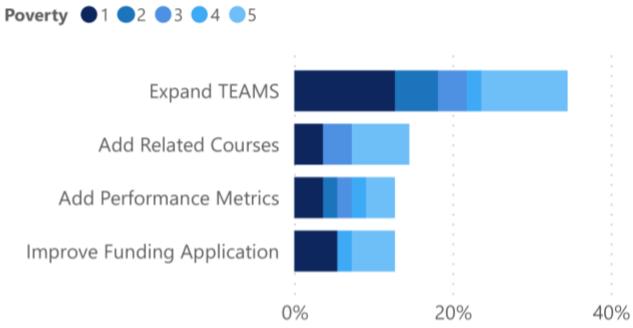



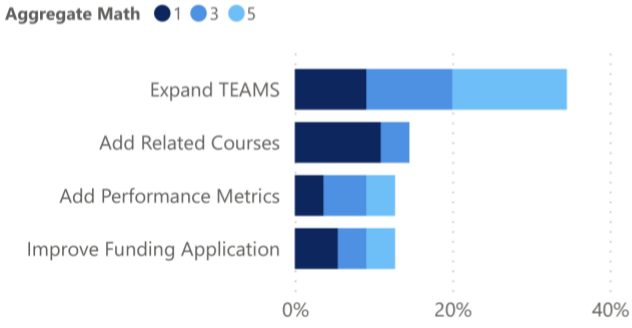



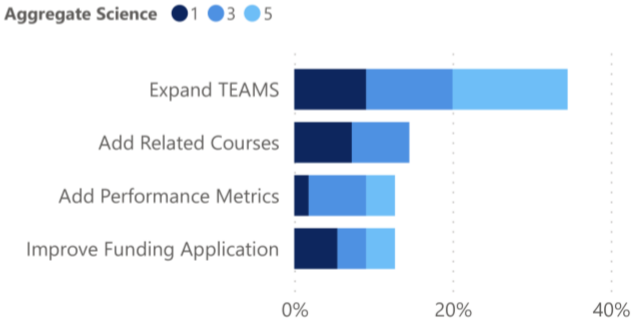




## Top 4 solutions recommended by Cohort LEAs for improving TEAMS



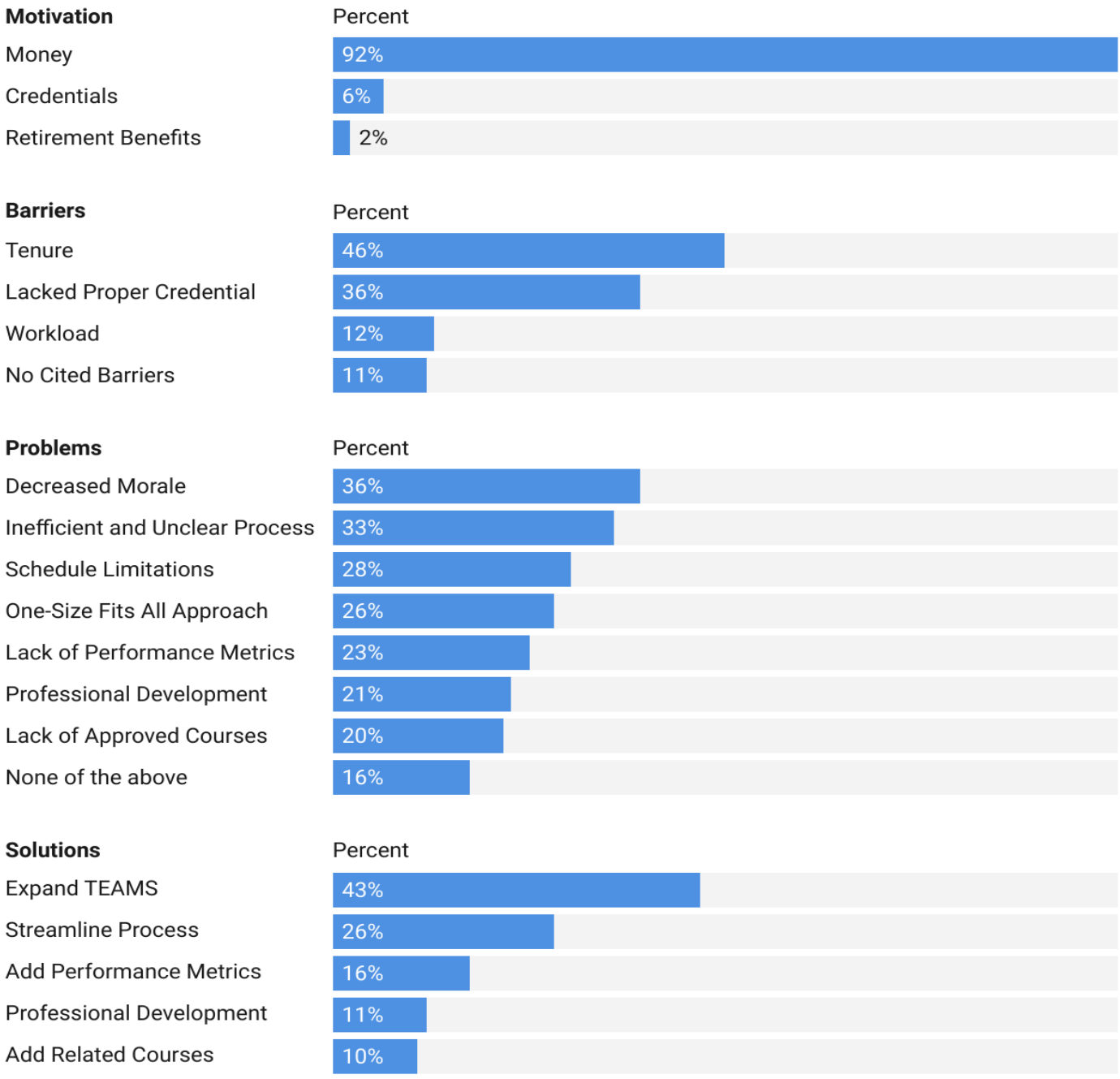



## SURVEY

In coordination with AEA, ACES surveyed AEA members consisting of teachers, education support professionals, administrators, professors, future teachers, and education retirees. There were 4,691 total responses. Current administrators and teachers were provided direct questions regarding the TEAMS program. In total, 426 administrators and current TEAMS teachers responded (91 administrators and 335 TEAMS teachers). The questions were asked in the same manner as the questions within the cohort interviews.

The following represents data collected from the surveys regarding top barriers, problems, and solutions according to administrators.



## ALTERNATIVE TO DETERMINING TEACHER VACANCIES

To effectively determine the ***need*** **(unfilled positions)** for teaching positions and establish a benchmark to measure against, the state must first establish the ***desired*** number of teachers. In the context of the TEAMS program, this means establishing the desired number of 6th-12th grade math, science, and computer science teachers for the state's public schools.

The ability to accurately quantify the desired number of teachers is complicated by scheduling differences across the state, desired student-to-teacher ratio differences across grades, and the courses available/required for students at each grade. Mathematically, this requires determining all these important variables for each subject, grade, and school. ***Figure 3*** demonstrates how this number may be determined for each subject.

$$\sum_{\mathcal{S}}^{n} \mathcal{X} = \sum_{\mathcal{Z}}^{n} \sum_{\mathcal{G}}^{n} \frac{\mathcal{Y}\mathcal{C}}{\mathcal{B}} \Big/ \mathcal{T}$$

$\mathcal{S}$ represents the subject (math, science, and computer science).
$\mathcal{Z}$ represents the schools.
$\mathcal{G}$ represents the grades (6th-12th grade).
$\mathcal{Y}$ represents the total number of enrolled students.
$\mathcal{C}$ represents the number of required/desired courses for students to complete.
$\mathcal{B}$ represents the desired student-to-teacher ratio for the grade and subject being taught.
$\mathcal{T}$ represents the number of courses that can be taught by a teacher in a year.
$\mathcal{X}$ represents the desired number of teachers.

Once the desired number of teachers is determined, the number of *out-of-field* teachers teaching TEAMS approved courses can be used to create a benchmark for unfilled teaching positions. The table below provides a hypothetical example of how this benchmark could be determined for math teachers in one LEA.

| Grades | # of Enrolled Students | Number of ***Desired/Required*** Courses | ***Desired*** Student-to-Teacher Ratio | # of Courses Taught by a Teacher (Year) | Desired # of Teachers (Calculated) | Actual # of Out-of-Field Teachers |
|---|---|---|---|---|---|---|
| Grade 06 | 252 | 2 | 20.06 | 12 | 2.09 | 0.67 |
| Grade 07 | 281 | 2 | 19.70 | 12 | 2.38 | 0.67 |
| Grade 08 | 234 | 2 | 19.70 | 12 | 1.98 | 0.67 |
| Grade 09-12 | 886 | 4 | 17.95 | 12 | 16.45 | 4.00 |

**Benchmark: 26.2% Positions Unfilled**

# CITATIONS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[ii] Ala. Code § 16-13-330 (1975)

[iii] ACT 2021-340, 2021 Regular Session. https://arc-sos.state.al.us/ucp/L0613850.AI1.pdf

[iv] Budget Management Report (Fiscal Year 2022, 4th Quarter). Executive Budget Office, Alabama Department of Finance. http://budget.alabama.gov/wp-content/uploads/2022/10/4th-Qtr-BMR-FY22.pdf

[v] Budget Management Report (Fiscal Year 2023, thru June 30, 2023). Comptroller's Office, Alabama Department of Finance.

[vi] ALSDE. (December 19, 2022). Formal Communication. [Agency Interview]. https://governor.alabama.gov/newsroom/2021/05/governor-kay-ivey-signs-teacher-excellence-and-accountability-for-mathematics-and-sciences-teams-salary-schedule-program/ https://www.montgomeryadvertiser.com/story/news/education/2021/03/18/senate-passes-bill-provide-incentive-pay-alabamas-6-12-math-and-science-teachers/4749336001/ https://www.al.com/news/2021/03/record-education-budget-aims-to-improve-teaching-in-math-science.html

[vii] ACT 2021-340, 2021 Regular Session. https://arc-sos.state.al.us/ucp/L0613850.AI1.pdf

[viii] https://evidence.alabama.gov/wp-content/uploads/2022/07/ACES_An-Evaluation-of-Teacher-Recruitment-and-Retention.pdf#page=22

[ix] https://nces.ed.gov/nationsreportcard/

[x] Mackey, Eric. August 10, 2021. State of Alabama Department of Education. Teacher Excellence and Accountability for Mathematics and Science (TEAMS) Credentials Review and Funding Request Forms. [Memorandum]. https://www.alabamaachieves.org/wp-content/uploads/2021/08/TEAMS-Credentials-Review-and-Funding-Request-Forms.pdf

[xi] Sanders. J. ALSDE. Email Communication. TEAMS Progress [PDF] October 20, 2022.

[xii] https://www.alabamaachieves.org/2022/08/teams-credentials-review-and-funding-request/

[xiii] https://www.alabamaachieves.org/teams-2/

[xiv] ibid

[xv] TRS_Member_Handbook_2023.pdf (rsa-al.gov)