

Part B State Systemic Improvement Plan (SSIP) FFY2021

Section A: Data Analysis

What is the State-identified Measurable Result (SiMR)?

The Maine Department of Education (Maine DOE) has chosen, as its SSIP, implementation of evidence-based professional development in the teaching of mathematics to improve the math proficiency of students with disabilities. This initiative has been named Math4ME ("Math for Maine"). The State-Identified Measurable Result (SiMR) is measured as follows: Students in grades 3–8 with Individualized Education Programs (IEPs) will demonstrate improved math proficiency as measured by math scores on the statewide Maine Educational Assessment (MEA). Maine reports proficiency as follows: Percent = number of grade 3–8 students with IEPs who demonstrate proficiency in math divided by the number of grade 3–8 students with IEPs who are evaluated on the math assessment.

Has the SiMR changed since the last SSIP submission? (yes/no)

NO

Is the State using a subset of the population from the indicator (e.g., a sample, cohort model)? (yes/no)

YES

Provide a description of the subset of the population from the indicator.

Analyses are conducted on the math performance/proficiency rates of students with disabilities in grades 3–8.

Is the State's theory of action new or revised since the previous submission? (yes/no)

NO

Please provide a link to the current theory of action.

<https://www.maine.gov/doe/sites/maine.gov.doefiles/inline-files/Math4ME%20Logic%20Model%202021.xls.pdf>

Progress toward the SiMR

Please provide the data for the specific FFY listed below (expressed as actual number and percentages).

Select yes if the State uses two targets for measurement. (yes/no)

NO

Historical Data

Baseline Year	Baseline Data
2020	45.83%

Targets

FFY	2021	2022	2023	2024	2025
Target> =	47.83%	49.83%	51.83%	53.83%	55.83%

FFY 2021 SPP/APR Data

Math Proficient Students with Disabilities Grades 3-8	Students with Disabilities who Tested in Math Grades 3-8	FFY 2020 Data	FFY 2021 Target	FFY 2021 Data	Status	Slippage
6,687	14,384	45.83%	47.83%	46.49%	Did not meet target	No Slippage

Provide the data source for the FFY 2021 data.

Maine began using a new statewide math assessment (NWEA) in the 2020-2021 school year. Because the statewide assessment changed last year (FFY2020), proficiency rates based on the statewide assessment for FFY2020 constituted a new baseline. The NWEA administration in 2020-21 was a field test, and modifications to the method of scaling and benchmarking to determine proficiency were expected for the FFY2021 assessment. However, modifications/standardization of the scaling and benchmarking methods was delayed through FFY2021. Therefore, Maine plans to reset the baseline proficiency rate in FFY2022 and will reconsider targets, with stakeholder input, based on FFY2022 baseline.

Please describe how data are collected and analyzed for the SiMR.

Math scores are scaled and benchmarked to indicate proficiency levels and collected from all LEAs using a state-wide data system. The number of math proficient students with disabilities in grades 3–8 is divided by the total number of 3–8 grade students with disabilities who tested in math and is multiplied by 100 to yield a proficiency percentage.

Optional: Has the State collected additional data (i.e., benchmark, CQI, survey) that demonstrates progress toward the SiMR? (yes/no)

YES

Describe any additional data collected by the State to assess progress toward the SiMR.

2021-22 End of Year/Post-training Teacher Survey:

Perceptions of coaching supports, trainings, and implementation practices were investigated through surveys conducted near the end of the school year. The response rate was 100% (n=19). Most teachers (89.5%) believed that their mathematical instruction had improved as a result of the Math4ME training and support they received during the year. The same percentage also indicated that their knowledge of instructional practices had improved and that they were better prepared to implement the NCTM instructional practices. The same percentage of respondents felt that the Math4ME program and their use of instructional practices had a positive impact on their students' learning. All respondents felt that coaching improved their knowledge and teaching practices and all were very positive about the Math4ME program. Consistent with comments from previous cohorts, in the open-ended survey questions, participants described the positive impact of their Math4ME training on their students. Participants perceived an increase in student interest and engagement in math learning activities, increased confidence in tackling math problems, improved mathematical thinking skills related to the key NCTM practices, and improved test scores on the math assessments for some students. Participants also commented on improvements in their own math instruction knowledge and skills.

2021-21 Coach Survey:

Coaches' perspectives on the support they provided was obtained through an online survey. There were 2 coaches for FFY2021. As in all prior years, coaches felt that all educators learned from the program. The coaches noted that some educators were hesitant and slow to make changes to their instructional practices. Coaches felt that the addition of educational technicians to the program was successful – they felt the educational technicians were excited about the training and support they received. Some educational technicians were not able to implement most of the practices due to their assignments – some were in classes with teachers that were not Math4ME participants, and others were one-on-one with a student with high needs. Coaches were in favor of increasing the number of teacher observations next year.

2021-22 Classroom Observations:

Classroom observations were conducted by the math coaches. Teachers were scored on 2 or 3 indicators of practice using the Fidelity-of-Practice Rubric. Data from the observations provide insight into how the NCTM principles were implemented. The four instructional areas are: establish mathematics goals to focus learning, use and connect mathematical representations, build procedural fluency from conceptual understanding, and implement tasks that promote reasoning and problem solving. There was a large variation in the observations scores, with educators in the same schools demonstrating similar levels of fidelity. Higher scores were seen for teachers who received feedback from coaches after a previous classroom observation. The average score across practice areas for all observed educators indicated 'some evidence' in the use of the NCTM instructional practices.

Did the State identify any general data quality concerns, unrelated to COVID-19, that affected progress toward the SiMR during the reporting period? (yes/no)

YES

Describe any data quality issues, unrelated to COVID-19, specific to the SiMR data and include actions taken to address data quality concerns.

The previous Maine statewide math assessment has not shown improvement in student learning. Maine DOE discussed potential contributing factors for this finding with stakeholders. One potential factor that was discussed is the fact that one of the analyses consists of a within-school proficiency comparisons of Math4ME classes and classes with the teachers not in Math4ME. Surveys show that coaches and teachers are reporting that they are sharing the resources with teachers that are not in Math4ME. In this case, proficiency may not differ substantially when comparing students taught by Math4ME teachers and those not taught by Math4ME teachers. An additional potential factor is that the Maine statewide math assessment that has been used is administered at grade placement level. It has been found, however, that the average percentage of special education teachers' students who are one or more mathematics grade levels below grade placement is 89%-97%. Therefore, the Maine statewide math assessment that has been used may not be a sensitive instrument for showing improvement for students at lower learning levels (below grade level). Based on discussions with stakeholders, the decision was made that the assessment is changed to the Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP), which is adaptive and tests students near their learning level. Additionally, the Math4ME team has consulted with MEPRI to evaluate the more detailed NWEA math subtests that are available to maximize the sensitivity and specificity of the instruments used to evaluate student learning. It is expected that results of the analysis of these subtests will be available in FFY2022.

Did the State identify any data quality concerns directly related to the COVID-19 pandemic during the reporting period? (yes/no)

NO

Section B: Implementation, Analysis and Evaluation

Please provide a link to the State's current evaluation plan.

https://www.maine.gov/doe/sites/maine.gov.do/files/inline-files/Outcomes%2C%20Measures%20and%20Evaluation%20Plan%202021.xlsx_3.pdf

Is the State's evaluation plan new or revised since the previous submission? (yes/no)

NO

Provide a summary of each infrastructure improvement strategy implemented in the reporting period:

Maine Education Policy Research Institute (MEPRI)

Maine DOE maintains its contract with MEPRI to serve as the external evaluator of the SSIP. MEPRI is a University of Maine research center with two decades of experience providing research, program evaluation, and policy analysis to Maine schools, government and community agencies, and the Maine State Legislature. Based on this long relationship, MEPRI personnel have detailed knowledge of Maine's educational data and initiatives. The SSIP evaluation continues to be coordinated by Janet Fairman, Ph.D., an Associate Research Professor of Education at the University of Maine, and Craig Mason, Ph.D. a Professor of Education and Applied Quantitative Methods at the University of Maine. Based on the combined expertise of MEPRI researchers to conduct and communicate quantitative analyses, including value-added and growth models, qualitative methods, and survey design, their continued involvement significantly benefits the Math4ME initiative.

Garrett Consulting

Garrett Consulting services were used to develop a State Personnel Development Grant (SPDG) proposal for Math4ME. Maine received the 2021 grant and continues to contract with Garrett Consulting to serve as the external evaluator for the grant. To prepare for grant reports, the Math4ME team meets regularly with Garrett Consulting to examine objectives, goals, assessments and data collection. Activity logs, evidence-based professional development charts and implementation checklists are a few of the valuable tools developed with the consultants.

Math Trainers & Coaches

Math4ME summer trainings have returned to in person and the remainder of the year continues to be remote, synchronous and interactive. The former Maine DOE Math Specialist, Cheryl Tobey, now with the Maine Math and Science Alliance (MMSA) has returned to serve as the Math4ME project lead trainer. She continues to bring a wealth of experience and math content and pedagogical expertise to the Maine DOE and continues to collaborate with Math4ME lead coach, Susan Hogan. Susan is the new distinguished educator supporting Math4ME with training and coaching. She comes to the project with years of mathematics teaching and leadership.

Math4ME Stakeholder Group

The Math4ME stakeholder group consists of special educators, special education directors, school administrators and representatives from the Maine Department of Education, Maine Math & Science Alliance, the external evaluators and Maine Parent Federation. A member of the State Performance Plan/Annual Performance Report State Advisory Panel and higher-education faculty are also a part of the group. This group has meets quarterly to deepen the engagement in Math4ME programming and decision making.

State Leadership Team (SLT)

A component of the state personnel development grant is the convening of a state leadership team to provide guidance on building capacity and sustainability for the grant projects. The SLT includes leadership from across the Maine Department of Education which assists with collaboration and breaking down department silos. The SLT also meets quarterly.

LEA Teachers

Math4ME focuses on rural special educators and the paraprofessionals that work with them and general educators in a team. This year started with educator and paraprofessional pairs in the most rural areas of Maine. The participating Local Education Agencies (LEAs) were selected based on an application process that assessed readiness and capacity to institute evidence-based improvement practices in teaching mathematics.

Federal Technical Assistance

Maine continued to benefit greatly from the support and assistance of OSEP-funded technical assistance centers. The IDEA Data Center and other agencies have provided indispensable guidance, consultation, and coordination through all steps of Maine's SSIP development and implementation. The Maine team has also participated in state personnel development grant (SPDG) director meetings and communities of practice addressing implementation and sustainability.

Describe the short-term or intermediate outcomes achieved for each infrastructure improvement strategy during the reporting period including the measures or rationale used by the State and stakeholders to assess and communicate achievement. Please relate short-term outcomes to one or more areas of a systems framework (e.g., governance, data, finance, accountability/monitoring, quality standards, professional development and/or technical assistance) and explain how these strategies support system change and are necessary for: (a) achievement of the SiMR; (b) sustainability of systems improvement efforts; and/or (c) scale-up.

Accountability/Monitoring

External evaluation: The addition of Garrett Consulting to the external evaluation team for the SPDG will strengthen Math4ME's accountability and monitoring. Strengthening the identification of the project's goals, outcomes and approaches to measurement will support system change to assist with future work to scale up Math4ME.

Professional Development

Trainers & Coaches: Cheryl Tobey and Susan Hogan have years of experience working with Maine educators and both have significant expertise in mathematical training and coaching. The professional development that they provide will lead to student learning and therefore achievement of the SiMR. The training and coaching they provide will lead to educators' increased knowledge of fundamental concepts and pedagogy, improved skill of teachers in teaching fundamental concepts in mathematics, increase the number of students with disabilities exposed to research-based teaching practices and will increase proficiency in math for students with disabilities in grades 3-8. This will be evident in NWEA student assessment data, teacher surveys, and fidelity of practice data.

Math4ME Cohort General & Special Education Teachers & Paraprofessionals: By focusing on educator and paraprofessional teams, students will be exposed to research-based teaching practices in fundamental concepts in math consistently. This will support the achievement of the SiMR. The teams' understanding of math best practices will increase proficiency in math for students with disabilities in their classrooms.

Governance

Stakeholder Group: The continued guidance and accountability by the stakeholder group will support sustainability.

Technical Assistance

OSEP-funded technical assistance centers and their staff provide technical assistance to support Math4ME program implementation and sustainability. Support is frequently provided by the IDEA Data Center and the National Center for Systemic Improvement (NCSI).

Did the State implement any new (newly identified) infrastructure improvement strategies during the reporting period? (yes/no)

NO

Provide a summary of the next steps for each infrastructure improvement strategy and the anticipated outcomes to be attained during the next reporting period.

Through examinations of data and stakeholder engagement the Math4ME project will focus on school wide implementation for the 2023-2024 school year. Math4ME teams in the schools will consist of a teacher coach and a school wide team including an administrator, special and general educators, and paraprofessionals. The embedded teacher coach and teams will build sustainability and capacity for programming in the school and will have a stronger influence on student learning outcomes.

List the selected evidence-based practices implement in the reporting period:

Math4ME training is grounded in the National Council of Teachers of Mathematics (NCTM) Mathematics Teaching Practices. This training includes hands-on activities and interactive professional learning experiences that allow participants to gain a deeper understanding of core mathematics concepts and strategies. Program content includes computational fluency operations; problem-solving skills and processes; and assessment, diagnostic probes, and formative feedback. It includes Math4ME professional learning sessions, Professional Learning Community (PLC), and Coaching.

Provide a summary of each evidence-based practices.

Professional Learning Sessions

Math4ME training consists of summer in person sessions and throughout the year remote, synchronous interactive professional learning experiences. The sessions focused on training teachers of grades 3-8 special education students in the fundamental concepts in math content and pedagogy with a focus on the National Council of Teachers of Mathematics (NCTM) principles and standards. Math4ME trainers/coaches also provide analysis of formative assessment results with teachers, methods of evaluating students for math levels to report strengths and needs, and other supports as requested by the teacher. Numerous resources relevant to math content and pedagogy may be found on the Math4ME Padlet website, including learning trajectory resources, formative assessment tools, and full research articles on evidence-based teaching practices.

Professional Learning Communities (PLC)

Each Math4ME team is paired with other teams to apply elements of the training to their practice and examine the results in these small groups hosted initially with a Math4ME coach. The goal of the PLCs is to create a safe place for conversations about mathematical practices and to encourage the groups to eventually add other teachers from their schools to join in the conversations and create interest in Math4ME. The smaller group interactive activities further support collaboration, feedback and reflection. Learning activities in both PL and PLC sessions use a range of modes including interactive sorts, reviewing student work, learning through video cases, and engaging in mathematics.

Coaching

Participants will engage in observation cycles with one of the Math4ME coaches. In addition to coaching, participants are supported with ad-hoc assistance from the Lead Coach and LEA-Level Coaches and are provided with numerous technical assistance resources. Coaches provide opportunities for conversations about mathematic instructional practices and informal observations with feedback. The Math4ME padlet also contains preconference coaching tools, coaching visit overview, and other materials used by the Coaches and Math4ME teachers for the coaching visits. The continued practice of developing teachers' conceptual understanding of mathematics and mathematics instruction through professional learning and coaching will lead to a change in classroom practices. The teachers' advanced mathematical understanding and pedagogy will lead to gains in student learning.

Provide a summary of how each evidence-based practice and activities or strategies that support its use, is intended to impact the SiMR by changing program/district policies, procedures, and/or practices, teacher/provider practices (e.g. behaviors), parent/caregiver outcomes, and/or child /outcomes.

In the past Math4ME Professional Learning Sessions were held in the summer and fall only. Now these sessions will continue throughout the school year. By shortening the sessions and extending them throughout the year, educators and paraprofessionals will have time in between sessions to implement math strategies and routines. In between the shortened sessions, PLCs meet. In these meetings participants bring examples of their practices to share and discuss with the group. This time of reflection on practice will strengthen the participants understanding of the math principles which will lead to the improved skills of special educators in teaching fundamental concepts in math. Coaching will further support the educators' understanding and implementation skills.

Describe the data collected to monitor fidelity of implementation and to assess practice change.

2021-22 Classroom Observations:

Classroom observations were conducted by the math coaches. Teachers were scored on 2 or 3 indicators of practice using the Fidelity-of-Practice Rubric. Data from the observations provide insight into how the NCTM principles were implemented. The four instructional areas are: establish mathematics goals to focus learning, use and connect mathematical representations, build procedural fluency from conceptual understanding, and implement tasks that promote reasoning and problem solving. There was a large variation in the observations scores, with educators in the same schools demonstrating similar levels of fidelity. Higher scores were seen for teachers who received feedback from coaches after a previous classroom observation. The average score across practice areas for all observed educators indicated 'some evidence' in the use of the NCTM instructional practices.

Describe any additional data (e.g. progress monitoring) that was collected that supports the decision to continue the ongoing use of each evidence-based practice.

2021-22 End of Year/Post-training Teacher Survey:

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Provide a summary of the next steps for each evidence-based practices and the anticipated outcomes to be attained during the next reporting period.

Math4ME training will focus on school wide implementation teams. The training will focus on K-5 mathematics concepts and standards teaching practices aligned with the NCTM standards. Math4ME teacher coaches and teams will engage in in-person and remote learning opportunities. The Math4ME coaches and teams will then lead their school PLCs with support from the Math4ME lead trainer and state coach. With other proposed infrastructure changes, this should increase retention of participants leading to a greater influence on student outcomes.

Does the State intend to continue implementing the SSIP without modifications? (yes/no)

NO

If no, describe any changes to the activities, strategies or timelines described in the previous submission and include a rationale or justification for the changes.

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Section C: Stakeholder Engagement

Description of Stakeholder Input

Data analysis, target-setting, and implementation planning activities related to Annual Performance Report (APR) and State Systemic Improvement Plan (SSIP) consisted of meetings of Maine DOE staff, the State Advisory Panel (SAP), conference presentations for special educators and administrators, and broad outreach to special education teachers, administrators, parents, and the public.

This outreach included parent sessions conducted by the Maine Parent Federation and recorded videos and live-remote (Zoom) sessions covering indicator content, historical data analysis, trend-analysis/data forecasting, implementation strategies, and target-setting. The indicator-specific videos and related surveys provided an opportunity for broad-based public participation and input on targets. The videos and surveys were developed in collaboration with the Maine Parent Federation (MPF).

IDEA requires that each state establish a State Advisory Panel for the purpose of providing policy guidance with respect to special education and related services for children with disabilities in the State. The Part B State Advisory Panel provides advice on the implementation of the IDEA program (Part B) that serves children with disabilities from age three through 21. Members are appointed by the Governor. The panel consists of 13 people. Six members are parents of children with a disability or individuals with a disability. Representation/roles of members include a teacher; a representative of an institution of higher education that prepares special education/related services personnel; a State official who carries out activities under subtitle B of Title VII of the McKinney-Vento Homeless Assistance Act; two administrators of programs for children with disabilities; a representative of a State agency (Department of Health and Human Services) involved in the financing or delivery of related services to children with disabilities; a representative of a vocational, community or business organization concerned with the provision of transition services to children with disabilities; a representative of a public charter school; and a representative from the State juvenile and adult corrections agencies. Additionally, Maine DOE is currently recruiting for a member to represent the State child welfare agency responsible for foster care. The SAP is a strong representation of community stakeholders.

Maine DOE staff, including the Director of the Office of Special Services, the Part B Data Manager, and the Special Projects Coordinator, met with the SAP during monthly meetings in 2020 and 2021 to discuss the new State Performance Plan and the new alignment of indicators. Meetings covered indicator content, historical data analysis, trend-analysis/data forecasting, implementation strategies, and target-setting for performance indicators, including the SSIP.

Statewide meetings of the Maine Administrators of Services for Children with Disabilities (MADSEC) were held in 2020 and 2021 to discuss the authorization of the State Performance Plan/Annual Performance report and the new alignment of indicators. Meetings covered indicator content, historical data analysis, trend-analysis/data forecasting, implementation strategies, and target-setting for performance indicators, including the SSIP. Attendees were also provided links to surveys in which they identified and prioritized LEA-level initiatives related to APR performance indicators and provided suggestions related to APR implementation strategies.

Additional parent and broad-based public input was gathered through live sessions conducted by the Maine Parent Federation (MPF) and recorded videos and associated surveys hosted on the Maine DOE website. The videos were advertised in Maine DOE electronic publications and messages to LEA teachers and administrators and participation was also promoted by MPF staff. The live sessions and recorded videos covered indicator content, historical data analysis, trend-analysis/data forecasting, implementation strategies, and each video was linked to a survey for input on target-setting. Past performance for the indicator was compared with previous baseline measures, and the reasons for new baselines (if applicable) was discussed. Potential targets were suggested based on performance trajectories from previous years and new indicator parameters (when applicable). Maine continues to increase capacity for the participation of diverse groups of parents by developing advanced functionality of surveys, including the ability to participate in surveys by phone using a QR code and developing surveys and stakeholder input documents that are accessible to non-English speakers. Additionally, Maine continues to work with the Maine Parent Federation to reach underrepresented populations of parents and will include targeted sessions for underrepresented groups to ensure a diversity of represented stakeholders.

The Math4ME state leads meet with stakeholders quarterly to provide updates, share data, and examine questions of practice. During this year the Math4ME state team has worked to provide more opportunities for stakeholders to provide guidance in their role as an advisory panel.

Describe the specific strategies implemented to engage stakeholders in key improvement efforts.

Since the last SSIP reporting period, the Math4ME team continues to hold multiple small group meetings with both internal and external stakeholders, communicates through emails and held full stakeholder meetings quarterly to provide updates, seek guidance and make plans for the future of Math4ME. The concerns of stakeholders and the Maine DOE's plan for improvements based on this guidance are outlined in the next section of this report. Full stakeholder meetings will continue to be held quarterly for the next school year.

To continue stakeholder engagement, meetings will remain online to permit stakeholders throughout Maine to attend. During the most recent meeting, the Math4ME team led participants through a variety of activities and discussions designed to showcase various components of the updated training and fidelity measures while providing a conceptual framework for stakeholders to gain their feedback and insights. Stakeholders will continue to be a critical component in providing guidance to the Maine DOE for future implementation and scale-up efforts.

Were there any concerns expressed by stakeholders during engagement activities? (yes/no)

YES

Describe how the State addressed the concerns expressed by stakeholders.

Throughout the Math4ME project, scaling up and sustainability including participant retention have been concerns. The plan for the 2023-2024 school year is to refine the program to focus on school wide implementation with a school coach and team. Additionally, the Math4ME program will shift from a two year to three-year implementation with structured supports and intensive training and coaching in years 1 and 2 with a gradual release of responsibility and the strengthening of internal supports in year 3.