

# Data Analysis

**COMPONENT #: 4-401-001**

**POINTS TO BE EARNED: 120 MPP**

## **PART I – PLANNING**

**DESCRIPTION:** Write a brief description of content and intent of component.

This component is designed to enable the participant to understand current trends and theories in the data-driven decision-making process.

The participant will learn and understand the sources of data available to review student and/or program progress; the data management systems used to report on and analyze data; and how to apply the principles and practices of data analysis to guide instruction, intervention, and professional development efforts.

Upon successful completion of this professional development activity, the participant will be able to use data to drive instruction, monitor progress, and effectively participate in data analysis meetings.

**STANDARDS/FOCUS AREAS ADDRESSED BY COMPONENT:** Identify the standards, national/state/district imperatives, initiatives or key focus areas this component supports.

**Standards for Professional Learning** (choose one)

- |   |   |
|---|---|
| <input type="checkbox"/> Learning Communities | <input type="checkbox"/> Learning Designs |
| <input type="checkbox"/> Leadership           | <input type="checkbox"/> Implementation   |
| <input type="checkbox"/> Resources            | <input type="checkbox"/> Outcomes         |
| <input checked="" type="checkbox"/> Data      |   |

**Florida Educator Accomplished Practices** (check all that apply)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Instructional Design and Lesson Planning | <input checked="" type="checkbox"/> Assessment                           |
| <input type="checkbox"/> The Learning Environment                            | <input checked="" type="checkbox"/> Continuous Professional Improvement  |
| <input type="checkbox"/> Instructional Delivery and Facilitation             | <input type="checkbox"/> Professional Responsibility and Ethical Conduct |

**Florida Leadership Standards** (check all that apply)

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Student Learning Results          | <input checked="" type="checkbox"/> Decision Making         |
| <input type="checkbox"/> Student Learning as a Priority               | <input checked="" type="checkbox"/> Leadership Development  |
| <input checked="" type="checkbox"/> Instructional Plan Implementation | <input checked="" type="checkbox"/> School Management       |
| <input checked="" type="checkbox"/> Faculty Development               | <input type="checkbox"/> Communication                      |
| <input type="checkbox"/> Learning Environment                         | <input type="checkbox"/> Professional and Ethical Behaviors |

**IPEGS Standards** (check all that apply)

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> PS 2 – Knowledge of Learners      | <input type="checkbox"/> PS 6 – Communication              |
| <input checked="" type="checkbox"/> PS 3 – Instructional Planning     | <input checked="" type="checkbox"/> PS 7 – Professionalism |
| <input type="checkbox"/> PS 4 – Instructional Delivery and Engagement | <input type="checkbox"/> PS 8 – Learning Environment       |
| <input checked="" type="checkbox"/> PS 5 – Assessment                 |  |

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**IMPACT FOCUS AREA(S):** Select the intended impact focus area(s) from the choices below. Note that Impact Evaluation procedures should reflect this level of impact.

- |  |   |
|--|---|
| <input type="checkbox"/> Educator knowledge/skill (content)        | <input checked="" type="checkbox"/> Student learning                  |
| <input checked="" type="checkbox"/> Educator (professional growth) | <input checked="" type="checkbox"/> Organizational support and change |

**SPECIFIC LEARNER OUTCOMES:** Identify the intended learner outcomes (number and content of learner outcomes should be reflective of the total points participants will earn as a result of completing this learning).

1. Identify relevant data sources available in schools in M-DCPS.
2. Understand what various sources of data measure and how these apply to professional practice.
3. Learn how to access and become familiar with available data management systems.
4. Generate questions to guide effective inquiry at the student, school, grade, program, and classroom levels.
5. Develop recommendations to target identified needs for instruction of all students.
6. Develop recommendations to target identified needs for professional development of instructional staff.
7. Develop recommendations to drive reflection and improvement in professional practice.
8. Develop annual improvement goals for their students based on an analysis of strengths and weaknesses evidenced in their data
9. Develop and implement strategies to regularly monitor progress toward attainment of annual improvement goals, including identification and analysis of relevant sources of progress monitoring data.
10. Analyze the impact and desired outcomes of instructional programs to determine valid and relevant connections to standardized tests and other sources of relevant data.
11. Develop skills to interpret and analyze student data to plan instruction so as to ensure improvement in student learning.
12. Learn and apply appropriate strategies, tools, and resources to identify and analyze data that are relevant to assessment, programs, and students.
13. Understand and become familiar with applicable models to support continuous improvement (such as, for example, the School Improvement Cycle - Plan, Do, Study and Act (PDSA), root cause analysis frameworks, etc.)
14. Learn how to support students in developing an understanding of their own data and how to use the data to set their learning and improvement goals and monitor their own progress.
15. Understand and become familiar with fundamental concepts in measurement and applied data analysis that are essential to data-driven decision-making, including, but not limited to: measures of central tendency and dispersion; reliability; validity; comparability of data; trends; sources of measurement error; confidence bands/intervals; scales and ranking; cut scores; and reporting formats (such as percentages, percentiles, raw scores, scale scores, performance bands, stanines, quartiles, etc.)
16. Learn how to use relevant sources of data to identify students' individual strengths, weaknesses, and learning needs and incorporate the findings into instructional planning, including appropriate differentiation.
17. Learn how to implement formal and informal assessment strategies and collect and analyze resulting data to inform instruction.

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### PART II – LEARNING

**LEARNING PROCEDURES:** Describe the experiences (the “what”) and formats/methods (the “how”) that will be used to provide participants with the knowledge and skills sufficient to master the intended learner outcome of this component.

1. Participate in guided discussion (Whole-class, small group, and/or think-pair-share) to identify and discuss the available sources of data in schools in M-DCPS (SLO 1).
2. Work independently and in small groups to identify how each of the available data sources are currently being used in their schools to support decision-making, when they are available and relevant, to what purpose or action planning each source of data can be applied, and what additional sources of data can be incorporated (SLO 1 & 2).
3. Generate hypotheses regarding the integration and application of all available sources of data to decision-making through guided discussion (SLO 3).
4. Through guided discussion, formulate guiding questions that can be used to implement effective inquiry, reflection, analysis, and action planning that are applicable to each data source, at the student, classroom, school, grade, and program levels (SLO 4, 5, 6, 7, 12, & 13).
5. Participate in an overview and guided tour of available data management systems and how to access those systems (SLO 1, 2 & 3).
6. Work independently to apply the learning and retrieve data from available and relevant data management systems to address the guiding questions and inquiry process that were developed to support decision-making (SLO 1, 2, 3, 4, & 11).
7. Through guided discussion, whole-group, and small group activities, acquire an understanding of fundamental concepts in measurement and how these affect the decision-making process (SLO 2, 10, 11, 12, 13, 14, & 15).
8. Participate in discussion groups to identify areas of concerns evidenced in the data and possible contributing factors (SLO 6, 7, 12, 13, & 14).
9. Develop a plan to address areas of concern which considers instructional support, intervention planning, and professional development (SLO 5, 6, 7, 8, 9, 11, 12, 13, & 14).
10. Participate in discussions regarding how to evaluate effectiveness of the support plan (SLO 9 & 13).
11. Develop annual improvement goals for students and analyze areas of strengths and weaknesses (SLO 8 & 11).
12. Participate in guided discussion and small group activities to build develop strategies to facilitate students' understanding of their own data, setting their own learning goals, and monitoring their learning progress (SLO 14 & 15).
13. Participate in guided discussion and data exploration and analysis to develop an understanding of fundamental concepts in measurement and data analysis and how these impact the reliability, validity, and comparability of data for decision-making (SLO 15).
14. Participate in guided discussion and practice, including whole-group and small-group activities to review formal and informal assessment strategies and how these can be implemented, and how to gather and analyze these data to inform instruction (SLO 15 & 16).
15. Develop a product related to the training (e.g. lesson plans, written reflection, audio/video tape, case study) verifying that the professional development impacted their professional behavior (SLO 1-21).
16. Provide evidence (e.g. student work, pre and post assessments, surveys) verifying that the content impacted student achievement (SLO 1-21).

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17. Monitor and adjust programs, as needed, as a result of the implementation feedback and findings (SLO 1-21).
18. Develop an action research study related to the training and provide evidence of implementation (SLO 1-21).
19. Provide evidence of collaborative planning related to the training.
20. Participate and engage in mentor/coaching activities which may include but not be limited to direct observation, conferencing, oral reflection, lesson demonstration and/or follow up session(s) (SLO 1-21).
21. Develop a product evidencing student participation in development of learning goals and progress monitoring strategies and the impact on student learning outcomes (SLO 1-21).

### PART III – IMPLEMENTATION

**IMPLEMENTATION PROCEDURES:** Method(s) and resource(s) that will be provided to support implementation of new learning for participants (check all that apply).

- X Apply newly acquired professional knowledge, skills, dispositions, and behaviors to improve practice.
- X Provide sufficient classroom- and school-focused support and assistance by skillful coaches, mentors, or others to the educator to ensure high-fidelity implementation of professional learning.
- X Provide educators with web-based resources and assistance to support implementation of professional learning.

### PART IV – EVALUATION

**IMPACT EVALUATION PROCEDURES:** Describe the processes that will be used to determine the impact (as identified in previous section titled “Impact Focus Areas”). Description should reflect methods for determining at least ONE of those areas, and will include a specific section for each impact focus area identified for this component.

1. Educator (professional growth): Will consist of review of evidence provided by participants regarding the application of the knowledge learned into identification of learner needs, instructional planning, and monitoring of learner progress.
2. Student learning: Will consist of evidence of implementation through documented impact on one or more measures of student achievement.
3. Organizational support and change: Will consist of evidence of implementation through documented impact on team, grade-level, school, or program instructional, action, or improvement plans. Will also consist of evidence of implementation and evaluation, review, or modification of those plans in response to data.

**COMPONENT EVALUATION PROCEDURES:** Describe the process(es) that will be used to determine the effectiveness of this component to include design, implementation and impact (check all that apply).

- X Evaluate the impact of all professional learning on educator’s practice through reflection, assessment, collaborative protocols for examining educator practice and work samples, peer visits, and/or professional portfolios.

## **Data Analysis**

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- X Determine the degree to which educator's professional learning contributed to student performance gains as measured by classroom assessment data.
  
- X Use summative and formative data from state or national standardized student achievement measures, when available, or other measures of student learning and behavior such as district achievement tests, progress monitoring, educator-constructed tests, action research results, discipline referrals, and/or portfolios of student work to assess the impact of professional learning.

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**Department:** Office of Professional Development and Evaluation

**Name of Author/Position:** Ada Fernandez-Vicaria - Director