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REGION 12
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Strengthening the Colorado Educator Workforce Pipeline: Analysis and Action Planning Facilitation Guide

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I. Module 1: Landscape Analysis

A. Overview

Developed by the Region 12 Comprehensive Center in partnership with the Colorado Department of Education, this document and corresponding materials are the first part of a five-module series designed to support Colorado teams in using data to identify and implement community-specific strategies to strengthen and diversify the educator workforce. This first module focuses on teams exploring existing resources, policies, and initiatives related to strengthening and diversifying the educator workforce. Below is an overview of each module:

> » **Module 1: Landscape Analysis.** Guides teams to reflect on existing and past efforts to prepare, recruit, and retain diverse educators by conducting a landscape analysis.

> » **Module 2: Data Analysis.** Directs teams through a data analysis process using a geographic information system (GIS) map to identify findings and local educator workforce trends.

> » **Module 3: Root Cause Analysis.** Supports teams with identifying the root causes to the challenges and opportunities identified in the data analysis.

> » **Module 4: Select Strategies.** Aims to help teams reflect on existing and new strategies to strengthen and diversify the educator workforce and select those that will address the root causes.

> » **Module 5: Action Planning.** Leads teams to develop an action plan to implement the strategies identified to support successful implementation.

Objectives

For this module, participants will:

> » Introduce teams and build community.

> » Understand the importance of addressing educator shortages and workforce diversity in Colorado.

> » Engage in a landscape analysis to better understand existing resources, policies, and initiatives related to strengthening and diversifying the educator workforce.

Audience

The slides and landscape analysis are designed for teams of stakeholders, led by a facilitator, interested in strengthening and diversifying the educator workforce pipeline—that is, how systems can better attract, prepare, and retain educators. It is recommended that teams are composed of diverse stakeholders and could include representatives from local education agencies, schools, educator preparation programs, and others who support the educator pipeline. The facilitator should be someone comfortable leading stakeholder engagement sessions and helping others to explore and use data.

Materials

Table 1 lists the recommended materials for teams to complete the landscape analysis and other activities. Two facilitation options are described, in-person or virtual, depending on the desired delivery format.

Table 1. Materials Recommended for In–Person and Virtual Facilitation

In-Person Facilitation	Virtual Facilitation
All resources linked below are also available at: https://region12cc.org/gis-map-exploration-and-application-resources	

» Slide presentation (with talking points/ facilitation guidance in each slide note)
» Printed copies of Landscape Analysis Handout (Appendix A)
» What is the Case for More Diverse Teachers? video
» Pens and markers
» Chart paper
» A computer, projector, and screen for the slide presentation
» Speaker
» Internet access
» Computers or laptops for participants
» Ancillary materials:
  ▪ Talent Development Framework: Improving Access to Excellent Educators for All Students
	» Slide presentation (with talking points/ facilitation guidance in each slide note)
	» A copy of the Landscape Analysis Handout (Appendix A) on a shared platform (i.e., Google docs, SharePoint, etc.)
	» What is the Case for More Diverse Teachers? video
	» Google Jamboard or other digital whiteboard that allows for sharing of text and images
	» Computers or laptops for participants
	» Virtual meeting platform to accommodate expected number of participants for a 2-hour session (e.g., Zoom, Google Meet, Microsoft Teams)
	» Ancillary materials:
	  ▪ Talent Development Framework: Improving Access to Excellent Educators for All Students

B. Facilitator's Guide

This section provides facilitators with suggestions for structuring the session and notes on how to implement the suggested activities for both in-person and virtual sessions. The other core components include a handout (see Appendix A) and slide presentation with talking points/facilitation guidance in each slide note. It is highly recommended that the facilitator thoroughly reviews these materials prior to facilitating the session.

Outline of Landscape Analysis Session

Table 2 provides a detailed outline of the agenda for the landscape analysis session, including suggested timing for the activities, corresponding slide numbers, and materials needed. Additional time may need to be allotted for the activities depending on the number of participants and their familiarity with the content. The presentation and activities may be divided into two sessions and will take approximately 2 hours total to complete.

Table 2. Detailed Outline of the Agenda

Agenda Item	Time	Slides	In-Person Materials Needed	Virtual Materials Needed
Welcome and Introductions	30 minutes	3–9	» Slides » Markers » Chart paper	» Slides » Google Jamboard or other digital whiteboard
Addressing Educator Shortages and Diversity in Colorado	25 minutes	10–17	» Slides » What is the Case for More Diverse Teachers? video » Speaker	» Slides » What is the Case for More Diverse Teachers? video
Landscape Analysis	60 minutes	18–21	» Slides » Printed or digital copies of Landscape Analysis handout » Pens	» Slides » Digital copy of Landscape Analysis handout
Next Steps	5 minutes	22–26	» Slides	» Slides

Guidance for Activities

Welcome and Introductions (Slides 3–9)

Objective: Develop a sense of community among team members and share the purpose and goals of the landscape analysis session.

Overview of Engagement: Facilitator will welcome participants; facilitator and participants briefly introduce themselves. The facilitator will review the agenda, objectives of the session, and any norms that have been agreed upon for discussion (update slide 5 accordingly). The team will build a sense of community by creating a team name, logo, and vision statement.

Activity Implementation: The facilitator will instruct the team to develop a team name, logo or mascot, and vision statement for the work. The team will have 20 minutes to complete the activity. Below are steps for setting-up and facilitating this activity virtually or in-person.

Virtual Facilitation:

1. Create a Padlet, or collaborative space using another virtual platform that will allow the team to display both text and images.

2. Instruct the team to brainstorm a team name, ideas for a team logo or mascot, and develop a vision statement.

3. Direct participants to write and craft their ideas on the slide or virtual platform. Teams can draw or find images for the logo and mascot.

In-Person Facilitation:

1. Provide the team with markers and chart paper.

2. Instruct the team to brainstorm a team name, ideas for a team logo or mascot, and develop a vision statement.

3. Direct the team to write and draw their final ideas on chart paper.

Addressing Educator Shortages and Diversity in Colorado: The Why (Slides 10–17)

Objective: Participants develop an understanding of the importance of addressing educator shortages and diversity in Colorado.

Overview of Engagement: Facilitator will play a [short video](#) highlighting the importance of educator workforce diversity and share statewide data highlighting the state trends in educator shortages in Colorado. The facilitator may update old data with new and add additional slides to highlight other local data/trends. Next, the facilitator will share research on the importance of examining shortages at the school and subject-level to help identify strategies that will address community-specific needs.

Activity Implementation: The facilitator will instruct the team to discuss and reflect on the video and data with a partner. Below are steps for setting-up and facilitating this reflection activity virtually or in-person.

Virtual Facilitation:

1. Divide the team into partners.

2. Share the reflection questions for the pairs to discuss on slide 16. You may share the questions via chat so the team will have access to the questions once they move to breakout room.

3. Move the pairs to break-out rooms to discuss the questions for about 8–10 minutes.

4. Return everyone to the main room and ask one or two people to share out a reflection.

In-Person Facilitation:

1. Instruct the team to find a partner.

2. Share the reflection questions to discuss on slide 16.

3. Instruct the pairs to discuss the questions for approximately 8–10 minutes.

4. Return everyone back together and ask for one or two people to share out a reflection.

Landscape Analysis (Slides 18–21)

Objective: Participants engage in a landscape analysis to understand the landscape of existing efforts and strategies to address educator shortages and workforce diversity.

Overview of Engagement: Facilitator will provide an overview of the purpose of the landscape analysis and share an example of information collected through the analysis. The team will then work as a group to complete the Landscape Analysis handout.

Activity Implementation: The facilitator will divide participants into small groups of approximately three to five participants. Each group will select a notetaker and a facilitator. Participants will have 50 minutes to engage with the landscape analysis. Below are steps for setting-up and facilitating this activity virtually or in-person.

Virtual Facilitation:

1. Create a Google Doc version of the Landscape Analysis handout, or use other online platform that will allow participants to work on the handout together. The team can work together within the same handout or divide participants into smaller groups depending on the size of the team.

2. Direct the team to work on the handout for approximately 50 minutes.

3. If the team does not finish, or if the landscape analysis requires conversations with additional invididuals not in attendance, the facilitator may assign completing the handout for homework.

In-Person Facilitation:

1. Print hard copies of the Landscape Analysis handout.

2. Depending on the size of the team, the facilitator can instruct the whole team to work together or divide the team into small groups of three to five people.

3. Direct the team to work on the handout for approximately 50 minutes.

4. If the team does not finish, or if the landscape analysis requires conversations with additional invididuals not in attendance, the facilitator may assign completing the handout for homework.

II. Module 2: Data Analysis

A. Overview

Developed by the Region 12 Comprehensive Center in partnership with the Colorado Department of Education, this document and corresponding materials are the second part of a five-part series designed to support Colorado teams in using data to identify and implement community-specific strategies to strengthen and diversify the educator workforce. This second module guides teams in exploring and analyzing local data using a geographic information system map. Below is an overview of each module.

> » **Module 1: Landscape Analysis.** Guides teams to reflect on existing and past efforts to prepare, recruit, and retain diverse educators by conducting a landscape analysis.

> » **Module 2: Data Analysis.** Directs teams through a data analysis process using a geographic information system (GIS) map to identify findings and local educator workforce trends.

> » **Module 3: Root Cause Analysis.** Supports teams with identifying the root causes to the challenges and opportunities identified in the data analysis.

> » **Module 4: Select Strategies.** Aims to help teams reflect on existing and new strategies to strengthen and diversify the educator workforce and select those that will address the root causes.

> » **Module 5: Action Planning.** Leads teams to develop an action plan to implement the strategies identified to support successful implementation.

Objectives

Participants will:

> » Understand how to use the GIS map.

> » Learn how to identify challenges and opportunities for strengthening the educator workforce pipeline using the map.

> » Develop data-based recommendations to strengthen the educator workforce pipeline.

Audience

The guidance and workbook are designed for teams of stakeholders, led by a facilitator, interested in strengthening the educator workforce pipeline—that is, how systems can better attract, prepare, and retain educators. It is recommended that teams are composed of diverse stakeholders and could include representatives from local education agencies, schools, educator preparation programs, and others who support the educator pipeline. The facilitator should be someone comfortable leading stakeholder engagement sessions and helping others to explore and use data.

Materials

Table 1 lists the recommended materials for teams to complete the GIS map exploration and application activities. Two facilitation options are described, in-person or virtual, depending on the desired delivery format.

Table 1. Materials Recommended for In–Person and Virtual Facilitation

In-Person Facilitation	Virtual Facilitation
All resources linked below are also available at https://region12cc.org/gis-map-exploration-and-application-resources	
» Slide presentation (with talking points/ facilitation guidance in each slide note)	» Slide presentation (with talking points/ facilitation guidance in each slide note)
» Printed copies of Data Analysis Workbook (Appendix B) for participants	» Digital copy of Data Analysis Workbook (Appendix B) for participants
» Strengthening the Colorado Educator Workforce Pipeline GIS map	» Strengthening the Colorado Educator Workforce Pipeline GIS map
» Strengthening the Colorado Educator Workforce Pipeline GIS video	» Strengthening the Colorado Educator Workforce Pipeline GIS video
» Sticky notes in multiple colors	» Online sticky note tool (e.g., Google Jamboard, Padlet)
» Pens and markers	» Computers or laptops for participants
» Chart paper	» Virtual meeting platform to accommodate expected number of participants for a 2- to 4-hour session (e.g., Zoom, Google Meet, Microsoft Teams)
» A computer, projector, and screen for the slide presentation	
» Internet access	» Ancillary materials:
» Computers or laptops for participants	▪ Addressing Educator Workforce Shortages: Colorado Bright Spots
» Ancillary materials:	▪ Addressing Educator Workforce Shortages: A State Comparison Brief
▪ Addressing Educator Workforce Shortages: Colorado Bright Spots	▪ Talent Development Framework: Improving Access to Excellent Educators for All Students
▪ Addressing Educator Workforce Shortages: A State Comparison Brief	
▪ Talent Development Framework: Improving Access to Excellent Educators for All Students	

B. Facilitator's Guide

This section provides facilitators with suggestions for structuring the session and notes on how to implement the suggested activities for both in-person and virtual sessions. The other core components include a workbook (see Appendix B), slide presentation with talking points/facilitation guidance in each slide note, and GIS map. It is highly recommended that the facilitator thoroughly reviews these materials prior to facilitating the session.

Outline of Data Analysis Session

Table 2 provides a detailed outline of the agenda for the data analysis session, including suggested timing for the activities, corresponding slide numbers, and materials needed. Additional time may need to be allotted for the activities depending on the team's familiarity with the content and the number of participants. The presentation and activities may be divided into two sessions and will take approximately 4 hours total to complete.

Table 2. Detailed Outline of the Agenda

Agenda Item	Time	Slides	Materials Needed
Welcome and Introductions	10 minutes	29–35	» Slides
Introduction to the Strengthening the Colorado Educator Workforce Pipeline GIS Map	20 minutes	36–48	» Slides » GIS map » GIS video
1. Identify Key Findings Using the GIS Map	90 minutes	49–57	» Slides » GIS map » Data Analysis Workbook » Sticky notes and pens or online sticky note tool » Computers/laptops (virtual and in-person)
Break time, end of first session	10–20 minutes	58	
2. Develop Data Interpretations	60 minutes	59–64	» Slides » Sticky notes, pens, chart paper or online sticky note tool » Computers/laptops (virtual and in-person)
3. Create Recommendations	60 minutes	65–73	» Slides » Data Analysis Workbook » Sticky notes, pens, chart paper or online sticky note tool

Agenda Item	Time	Slides	Materials Needed

			» Computers or laptops (virtual and in-person)
			» Ancillary materials:
			  ▪ Addressing Educator Workforce Shortages: Colorado Bright Spots
			  ▪ Addressing Educator Workforce Shortages: A State Comparison Brief
			  ▪ Talent Development Framework: Improving Access to Excellent Educators for All Students

Guidance for Activities

Welcome and Introductions (Slides 29–35)

Objective: Develop a sense of community among team members and share the purpose and goals of the data analysis session.

Overview of Engagement: Facilitator will welcome participants; facilitator and team members briefly introduce themselves. As an icebreaker activity, the facilitator will share a grid of pictures and ask participants to select which picture best illustrates how they feel when using data and why.

» **Virtual facilitation**: Participants can respond via a poll or the chat feature of the selected virtual meeting platform.

» **In-person facilitation**: Facilitator may call on individuals to respond to the question or administer a poll in-person.

The facilitator will review the agenda, objectives of the data analysis session, and any norms that have been agreed upon for discussion (update slide 8 accordingly).

Introduction to the Colorado Educator Workforce Pipeline GIS Map (Slides 36–48)

Objective: Participants develop an understanding of a GIS application, the importance of place-effects, and how to navigate the GIS map.

Overview of Engagement: Facilitator will introduce place effects, explain what GIS is, and how it can help in better understanding the Colorado educator workforce pipeline. The facilitator will introduce key terms for GIS applications such as points, lines, and polygons. The facilitator will explain how to navigate the Colorado GIS map.

Activity Implementation: Three options to facilitate this section of the data analysis session include the following:

» Facilitator presents slides 10–22 and gives a tour of the GIS map to participants.

» Facilitator plays the GIS video during the data analysis session, which covers the same content as the slides and includes a tour of the GIS map.

» Facilitator assigns the GIS video for pre-work to participants prior to the session.

1. Identify Key Findings Using the GIS Map (Slides 49–57)

Objective: Participants understand a "data finding" and the process for developing findings and can identify findings using the GIS map.

Overview of Engagement: Facilitator will provide an overview of what is a finding and how to identify findings within the GIS map. The facilitator will divide participants into small groups, and each group will explore at least two dashboards of the GIS map. In reviewing the GIS map for their section(s), each group will identify findings. The map exploration could focus on the entire state, a particular region relevant to the team, or a select district.

Activity Implementation: The facilitator will divide participants into small groups of approximately three to five participants. Each group will select three members to serve as a notetaker, reporter, and navigator, respectively. Assign each group at least two different dashboards from the GIS map depending on the size of the team. Groups will use the workbook section (see Tables B1–8) that aligns with their assigned dashboards. The workbook provides directions on how to navigate the map, including the specific filters to adjust in the map, and corresponding reflection questions for the teams to consider as they develop their findings. Participants will have a minimum of 60 minutes to explore the map and identify their findings. Below are steps for setting-up and facilitating this activity virtually or in-person.

Virtual Facilitation:

1. Create a [Google Jamboard](#), [Padlet](#), or use other online tool that will allow participants to write on virtual sticky notes. Teams will work from the same Jamboard or Padlet.

2. Instruct the navigator to share their screen showing the GIS map with the group and adjust the filters as they explore the map.

3. Direct teams to follow the workbook for guidance on the specific filters and questions to help explore the map. Teams will write their notes from exploring the data in the "Data Observations" column in the workbook. These observations will help to inform the findings.

4. Instruct the notetaker to write the group's findings on the virtual sticky notes. The notetaker will write the name of the dashboard at the top of the sticky note and the finding in the body.

5. Assign sticky note colors to different teams or dashboards if the online tool allows for it.

6. Send groups to different break-out rooms to explore the map and record their findings.

7. After the groups finish identifying their findings, the facilitator will bring them back together. The reporters will share one finding per dashboard.

In-Person Facilitation:

1. When organizing the small group set-up, ensure that groups have space to engage in conversations without disrupting other groups.

2. Provide each group with different color sticky notes and pens. Each team will review the GIS map within their group on a shared computer or laptop.

3. Instruct the navigator to share the GIS map with the group and adjust the filters as they explore the map.

4. Direct teams to follow the workbook for guidance on the specific filters and questions to help explore the map. Teams will write their notes from exploring the data in the "Data Observations" column in the workbook. These observations will help to inform the findings.

5. Instruct the notetaker to record the group's findings on the sticky notes. Have them write the name of the dashboard at the top of the sticky note and the finding in the body.

6. After the groups finish identifying their findings, the facilitator will bring them back together. The reporters will share one finding per dashboard.

2. Develop Data Interpretations (Slides 59–64)

Objective: Participants develop data interpretations from the findings.

Overview of Engagement: The facilitator will provide an overview of how to create a data interpretation from the findings previously recorded.

Activity Implementation: The facilitator will convene the whole team to discuss the data findings and group them into themes. The findings could be grouped by topic, region/entity, role, or some other theme. This process will allow participants to examine the findings across the different dashboards. Next, the facilitator will divide the team into groups again and assign one or two themes to each group. Below are steps for setting-up and facilitating this activity in virtual or in-person settings.

Virtual Facilitation:

1. Move the findings around in Google Jamboard or the selected online tool into the themes suggested by the entire team.

2. Add headings or label the theme for each group of findings using either a text box in Jamboard or a column header in Padlet, for example.

3. After the findings are organized into themes, divide participants into groups so each group will develop data interpretations for one or two sets of findings.

4. Instruct groups to assign a new notetaker who will record the data interpretations on sticky notes using a different color from the findings.

5. Direct the notetaker to write the header "Data Interpretation" at the top of the sticky note and the data interpretation text in the body. It is recommended that groups place the data interpretations next to the corresponding findings to help make necessary connections.

6. Send groups to different break-out rooms to develop data interpretations. Teams will document their data interpretations from the same Jamboard frame or Padlet wall.

In-Person Facilitation:

1. Instruct groups to organize their sticky note findings into themes.

2. Direct groups to write the each theme on a piece of chart paper and add the corresponding findings. Post the chart paper around the room.

3. Ask groups to walk around the room and review the themes and findings from the other teams.

4. Discuss with the whole team whether any themes should be combined or findings moved to a new theme or duplicated to be included in multiple themes. Update the chart paper theme titles and findings during this discussion.

5. Divide participants into groups and assign one or two themes per group. Give each group the assigned theme's chart paper with the sticky notes.

6. Instruct groups to develop data interpretations based on the findings on the chart paper.

7. Request groups assign a new notetaker to write the data interpretations in the first column in Table B9 in the workbook.

3. Create Recommendations (Slides 65–73)

Objective: Participants develop data-based recommendations.

Overview of Engagement: The facilitator will review how to develop recommendations based on the findings and data interpretations.

Activity Implementation: The facilitator will maintain the same groups that created the data interpretations to develop recommendations. Each group will document their recommendations in Table B9 of the workbook. Below are steps for setting-up and facilitating this activity in virtual or in-person settings.

Virtual Facilitation:

1. Instruct groups to select a notetaker who will write the recommendations in Table B9 in the workbook and a reporter who will share out the recommendations to the larger team.

2. Direct groups to create recommendation(s) for each data interpretation, determine who should enact this recommendation, and the timeline. The notetaker will document this in the workbook.

3. Send groups to different break-out rooms to discuss and develop their recommendations.

4. Bring groups back together to the main room.

5. Give the reporter from each group permission to share their computer screen.

6. Request the reporter display their workbook while sharing the recommendations their team developed.

7. After each group presentation, ask whether the other groups have any additional recommendations or feedback to provide.

8. Instruct the reporter to document any feedback in their workbook.

9. Ask all reporters to share via email or cloud-based file storage their final workbooks with the facilitator.

10. After the session, combine the recommendations from the teams together into one copy of Table B9 from the workbook.

11. After the session, share with the team the final Table B9 from the workbook.

In-Person Facilitation:

1. Instruct groups to select a notetaker who will write the recommendations in Table B9 in the workbook and a reporter who will share out to the larger team the recommendations.

2. Direct groups to create recommendation(s) for each data interpretation, determine who should enact this recommendation, and the timeline. The notetaker will document this in the workbook.

3. After groups develop their recommendation(s), bring the groups back together.

4. Each reporter will present their group's recommendations.

5. After each group presentation, ask whether the other groups have any additional recommendations or feedback to provide.

6. Instruct the reporter to document any feedback in their workbook.

7. Ask all reporters to hand-in their final workbooks to the facilitator.

8. After the session, combine the recommendations from the teams together into one copy of Table B9 from the workbook.

9. After the session, share with the team the final Table B9 from the workbook.

Additional Resources: To help the team write recommendations of evidence-based strategies, the facilitator may provide ancillary materials for the team to reference. The following resources outline strategies from a national perspective and Colorado contexts:

» Addressing Educator Workforce Shortages: Colorado Bright Spots

» Addressing Educator Workforce Shortages: A State Comparison Brief

» Talent Development Framework: Improving Access to Excellent Educators for All Students

III. Module 3: Root Cause Analysis

A. Overview

Developed by the Region 12 Comprehensive Center in partnership with the Colorado Department of Education, this document and corresponding materials are the third part of a five-module series designed to support Colorado teams in using data to identify and implement community-specific strategies to strengthen and diversify the educator workforce. This third module builds on the previous module by reflecting on the data and conducting a root cause analysis. Below is an overview of each module:

> » **Module 1: Landscape Analysis.** Guides teams to reflect on existing and past efforts to prepare, recruit, and retain diverse educators by conducting a landscape analysis.

> » **Module 2: Data Analysis.** Directs teams through a data analysis process using a geographic information system (GIS) map to identify findings and local educator workforce trends.

> » **Module 3: Root Cause Analysis.** Supports teams with identifying the root causes to the challenges and opportunities identified in the data analysis.

> » **Module 4: Select Strategies.** Aims to help teams reflect on existing and new strategies to strengthen and diversify the educator workforce and select those that will address the root causes.

> » **Module 5: Action Planning.** Leads teams to develop an action plan to implement the strategies identified to support successful implementation.

Objectives

For this module, participants will:

> » Identify barriers and challenges to addressing educator shortages and diversifying the educator workforce.

> » Categorize barriers and challenges to inform planning and next steps (e.g., developing action plans that will address educator shortages and diversify the workforce).

> » Identify root causes of educator shortages and diversity gaps.

Audience

The slides and Root Cause Analysis handout are designed for teams of stakeholders, led by a facilitator, interested in strengthening and diversifying the educator workforce pipeline—that is, how systems can better attract, prepare, and retain educators. It is recommended that teams are composed of diverse stakeholders and could include representatives from local education agencies, schools, educator preparation programs, and others who support the educator pipeline. The facilitator should be someone comfortable leading stakeholder engagement sessions and helping others to explore and use data.

Materials

Table 1 lists the recommended materials for teams to complete the root cause analysis and other activities. Two facilitation options are described, in-person or virtual, depending on the desired delivery format.

Table 1. Materials Recommended for In–Person and Virtual Facilitation

In-Person Facilitation	Virtual Facilitation
All resources linked below are also available at: https://region12cc.org/gis-map-exploration-and-application-resources	
» Slide presentation (with talking points/ facilitation guidance in each slide note) » Printed copies of Root Cause Analysis handout (Appendix C) and the completed Data Analysis workbook » Pens » A computer, projector, and screen for the slide presentation » Internet access » Computers or laptops for participants	» Slide presentation (with talking points/ facilitation guidance in each slide note) » A copy of the Root Cause Analysis handout (Appendix C) and the completed Data Analysis workbook on a shared platform (i.e., Google docs, SharePoint, etc.) » Computers or laptops for participants » Virtual meeting platform to accommodate expected number of participants for a 2.5-hour session (e.g., Zoom, Google Meet, Microsoft Teams)

B. Facilitator's Guide

This section provides facilitators with suggestions for structuring the session and notes on how to implement the suggested activities for both in-person and virtual sessions. The other core components include a handout (see Appendix C) and slide presentation with talking points/facilitation guidance in each slide note. It is highly recommended that the facilitator thoroughly reviews these materials prior to facilitating the session.

Outline of Root Cause Analysis Session

Table 2 provides a detailed outline of the agenda for the root cause analysis session, including suggested timing for the activities, corresponding slide numbers, and materials needed. Additional time may need to be allotted for the activities depending on the team's familiarity with the content and the number of participants. The presentation and activities may be divided into two sessions and will take approximately 2.5 hours total to complete.

Table 2. Detailed Outline of the Agenda

Agenda Item	Time	Slides	In-Person Materials Needed	Virtual Materials Needed
Welcome and Introductions	10 minutes	75–80	» Slides	» Slides
Review Data Analysis	15 minutes	81–82	» Slides » Printed or digital copies of the Data Analysis workbook	» Slides » Digital copies of the Data Analysis workbook
Root Cause Analysis	120 minutes	83–91	» Slides » Printed or digital copies of Root Cause Analysis handout and Data Analysis workbook » Pens	» Slides » Digital copies of Root Cause Analysis handout and Data Analysis workbook
Next Steps	5 minutes	92–95	» Slides	» Slides

Guidance for Activities

Welcome and Introductions (Slides 75–80)

Objective: Develop a sense of community among team members and provide an overview of the purpose of the root cause analysis session.

Overview of Engagement: Facilitator will welcome participants and introduce themself. The facilitator will review the agenda, objectives of the session, and any norms that have been agreed upon for discussion (update slide 5 accordingly).

Review Data Analysis (Slides 81–82)

Objective: Participants review and reflect on the data to help inform the root cause analysis.

Overview of Engagement: Facilitator will share the completed workbook from the data analysis session. Participants will have an opportunity to review the workbook and discuss their reflections from the data findings and data interpretations.

Activity Implementation: The facilitator will instruct the team to discuss and reflect on the Data Analysis workbook. Below are steps for setting-up and facilitating this reflection activity virtually or in-person.

Virtual Facilitation:

1. Share a digital copy of the Data Analysis workbook. Instruct participants to review the workbook for approximately 5 minutes.

2. Pair participants together to discuss their reflections on the data findings and data interpretation.

3. Move the pairs to break-out rooms to discuss for about 8–10 minutes.

4. Return everyone to the main room and ask one or two people to share out a reflection.

In-Person Facilitation:

1. Share hard copies of the Data Analyis workbook and instruct participants to review for approximately 5 minutes.

2. Ask the team to find a partner to discuss their reflections on the data findings and data interpretations for about 8–10 minutes.

3. Return everyone back together and ask for one or two people to share out a reflection.

Root Cause Analysis (Slides 83–91)

Objective: Participants engage in a root cause analysis to explore the causes of educator shortages and a lack of workforce diversity.

Overview of Engagement: Facilitator will provide an overview of the purpose of the root cause analysis and review the four steps of the process. The team will then work as a group to complete the four steps of the Root Cause Analysis handout.

Activity Implementation: The facilitator will request a volunteer to serve as the notetaker who will write the final responses in the Root Cause Analysis handout. Participants will have 120 minutes to conduct the root cause analysis. Below are steps for setting-up and facilitating this activity virtually or in-person.

Virtual Facilitation:

1. Create a Google Doc version of the Root Cause Analysis handout, or use other online platform that will allow participants to work collaboratively on the same handout document. Share a digital copy of the Data Analysis workbook for the team to reference.

2. Request someone to serve as the notetaker who will share their screen and write the team's ideas on the Root Cause Analysis handout.

   » Direct the team to work on steps 1 through 3 for 60 minutes and the fourth step for 45 minutes.

3. Once each team has completed step 4, instruct teams to discuss and respond to the reflection questions in the slide presentation (slide 91) for 15 minutes.

In-Person Facilitation:

1. Print hard copies of the Root Cause Analysis handout and the completed Data Analysis workbook.

2. Request someone to serve as the notetaker who will write the team's ideas on a digital version of the Root Cause Analysis handout projected in the room.

   » Direct the team to work on steps 1 through 3 for 60 minutes and the fourth step for 45 minutes.

3. Once each team has completed step 4, instruct teams to discuss and respond to the reflection questions in the slide presentation (slide 91) for 15 minutes.

IV. Module 4: Select Strategies

A. Overview

Developed by the Region 12 Comprehensive Center in partnership with the Colorado Department of Education, this document and corresponding materials are the fourth part of a five-module series designed to support Colorado teams in using data to identify and implement community-specific strategies to strengthen and diversify the educator workforce. This fourth module builds on the previous modules by exploring new and existing strategies to address root causes to educator shortages and diversity gaps. Below is an overview of each module:

> » **Module 1: Landscape Analysis.** Guides teams to reflect on existing and past efforts to prepare, recruit, and retain diverse educators by conducting a landscape analysis.

> » **Module 2: Data Analysis.** Directs teams through a data analysis process using a geographic information system (GIS) map to identify findings and local educator workforce trends.

> » **Module 3: Root Cause Analysis.** Supports teams with identifying the root causes to the challenges and opportunities identified in the data analysis.

> » **Module 4: Select Strategies.** Aims to help teams reflect on existing and new strategies to strengthen and diversify the educator workforce and select those that will address the root causes.

> » **Module 5: Action Planning.** Leads teams to develop an action plan to implement the strategies identified to support successful implementation.

Objectives

For this module, participants will:

> » Identify the goals for strategies that will address their root causes.

> » Explore new strategies and reflect on existing strategies.

> » Determine the appropriate strategy to address each root cause based on local context..

Audience

The materials and tasks for Module 4: Select Strategies are designed for teams of stakeholders, led by a facilitator, interested in strengthening and diversifying the educator workforce pipeline—that is, how systems can better attract, prepare, and retain educators. It is recommended that teams are composed of diverse stakeholders and could include representatives from local education agencies, schools, educator preparation programs, and others who support the educator pipeline. The facilitator should be someone comfortable leading stakeholder engagement sessions and helping others to explore and use data.

Materials

Table 1 lists the recommended materials for teams to complete the module to select strategies. Two facilitation options are described, in-person or virtual, depending on the desired delivery format.

Table 1. Materials Recommended for In–Person and Virtual Facilitation

In-Person Facilitation	Virtual Facilitation
All resources linked below are also available at https://region12cc.org/gis-map-exploration-and-application-resources	
» Slide presentation (with talking points/ facilitation guidance in each slide note) » Printed copies of Select Strategies handout (Appendix D), the completed Landscape Analysis handout, and the completed Root Cause Analysis handout. » Copy of the pre-reading, Addressing Educator Workforce Shortages: Colorado Bright Spots, provided in advance of the session » Access to the Shortage Selection Tool » Pens » A computer, projector, and screen for the slide presentation » Internet access » Computers or laptops for participants	» Slide presentation (with talking points/ facilitation guidance in each slide note) » A copy of the Select Strategies handout (Appendix D) and the completed Landscape Analysis and Root Causes Analysis handouts on a shared platform (e.g., Google docs, SharePoint, etc.) » Copy of the pre-reading, Addressing Educator Workforce Shortages: Colorado Bright Spots, provided in advance of the session » Access to the Shortage Selection Tool » Computers or laptops for participants » Virtual meeting platform to accommodate expected number of participants for a 2.5 hour- session (e.g., Zoom, Google Meet, Microsoft Teams)

B. Facilitator's Guide

This section provides facilitators with suggestions for structuring the session and notes on how to implement the suggested activities for both in-person and virtual sessions. The other core components include a handout (see Appendix D) and slide presentation with talking points/facilitation guidance in each slide note. It is highly recommended that the facilitator thoroughly review these materials prior to facilitating the session.

Outline of Select Strategies Session

Table 2 provides a detailed outline of the agenda for the select strategies session, including suggested timing for the activities, corresponding slide numbers, and materials needed. Additional time may need to be allotted for the activities depending on the team's familiarity with the content

and the number of participants. The presentation and activities may be divided into two sessions and will take approximately 2.5 hours total to complete.

Table 2. Detailed Outline of the Agenda

Agenda Item	Time	Slides	In-Person Materials Needed	Virtual Materials Needed
Welcome and Introductions	10 minutes	97–102	» Slides	» Slides
Select Strategies: Steps 1–2	75 minutes	103–111	» Slides » Printed or virtual copies of the Select Strategies handout and the Root Cause Analysis handout » Link to Shortage Selection Tool » Pens	» Slides » Virtual copies of the Select Strategies handout and the Root Cause Analysis handout » Link to Shortage Selection Tool
Select Strategies: Steps 3–4	60 minutes	112–114	» Slides » Printed or virtual copies of the Select Strategies handout and completed copies of the Landscape Analysis handout » Pens	» Slides » Virtual copies of the Select Strategies handout and completed copies of the Landscape Analysis handout
Next Steps	5 minutes	115–118	» Slides	» Slides

Guidance for Activities

Welcome and Introductions (Slides 97–102)

Objective: Develop a sense of community among team members and provide an overview of the purpose of the select strategies session.

Overview of Engagement: Facilitator will welcome participants and introduce themself. The facilitator will review the agenda, objectives of the session, and any norms that have been agreed upon for discussion (update slide 5 accordingly).

Select Strategies: Steps 1–2 (Slides 103–111)

Objective: Participants reflect on the strategies from the pre-reading and explore new strategies that will address root causes to educator shortages and workforce diversity gaps.

Overview of Engagement: The facilitator will provide an overview of the four steps to the select strategies process. The team will then work as a group to complete the first two steps of the Select Strategies handout.

Activity Implementation: The facilitator will instruct the team to discuss and explore sample strategies. The facilitator will request a volunteer to serve as the notetaker who will write the final responses in the Select Strategies handout. Below are steps for setting-up and facilitating this activity virtually or in-person.

Virtual Facilitation:

1. Prior to the session, share a digital copy of the pre-reading, Addressing Educator Workforce Shortages: Colorado Bright Spots. For the pre-work, instruct participants to read the paper and note any interesting strategies from other Colorado districts and schools. During the session, ask participants to share one interesting strategy from the pre-reading. Participants can share their ideas via the chat feature of the platform or verbally.

2. Share a digital copy of the Select Strategies handout and the link to the Shortage Selection Tool.

3. Provide a demonstration of the tool and instruct the team to explore three examples from the strategies in the tool aligned to addressing their root cause(s). The team can also discuss and add to the handout any example strategies from the pre-reading. Ask team to discuss and document their reflections in the select strategies handout.

4. If the team is large enough, divide participants into small groups or pairs into breakout rooms to explore a greater variety of strategies.

5. Return everyone to the main room and ask one or two people to share out a reflection from any strategy that seemed like it could be a good fit locally and address the identified root cause.

In-Person Facilitation:

1. Prior to the session, share a digital copy of the pre-reading, Addressing Educator Workforce Shortages: Colorado Bright Spots. For the pre-work, instruct participants to read the paper and note any interesting strategies from other Colorado districts and schools. During the session, ask participants to share one interesting strategy from the pre-reading.

2. Share hard copies of the Select Strategies handout and the link to the Shortage Selection Tool.

3. Provide a demonstration of the tool and instruct the team to explore three examples from the strategies in the tool aligned to addressing their root cause(s). The team can also discuss and add to the handout any example strategies from the pre-reading. Ask team to discuss and document their reflections in the select strategies handout.

4. If the team is large enough, divide participants into small groups to explore a greater variety of strategies.

5. Return everyone back together and ask for one or two people to share out a reflection from any strategy that seemed like it could be a good fit locally and address the identified root cause.

Select Strategies: Step 3–4 (Slides 112–114)

Objective: Participants will reflect on existing strategies from the landscape analysis.

Overview of Engagement: Facilitator will explain how to complete steps three and four of the select strategies process. Participants will discuss and reflect on existing strategies from the landscape analysis completed in the first session of Module 1.

Activity Implementation: The facilitator will request a volunteer to serve as the notetaker who will write the final responses in the select strategies handout. Participants will complete the final steps of the select strategies process. Below are steps for setting-up and facilitating this activity virtually or in-person.

Virtual Facilitation:

1. Share a ditial copy of the Lanscape Analysis handout completed in Module 1 for the team to reference and use in completing the Select Strategies handout.

2. Direct the team to work on steps three and four as a whole team. Request someone to serve as the notetaker or the facilitator can capture the discussion in the Select Strategies handout.

In-Person Facilitation:

1. Share hard copies of the Lanscape Analysis handout completed in Module 1 for the team to reference and use in completing the Select Strategies handout.

2. Request someone to serve as the notetaker who will write the team's ideas on a electronic version of the Select Strategies handout projected in the room.

3. Direct the team to work on steps three and four as a whole team.

V. Module 5: Action Planning

A. Overview

Developed by the Region 12 Comprehensive Center in partnership with the Colorado Department of Education, this document and corresponding materials are the fifth part of a five-part series designed to support Colorado teams in using data to identify and implement community-specific strategies to strengthen and diversify the educator workforce. This final module guides teams in developing an action plan to implement strategies to strengthen and diversify the educator workforce. Below is an overview of each module.

- » **Module 1: Landscape Analysis.** Guides teams to reflect on existing and past efforts to prepare, recruit, and retain diverse educators by conducting a landscape analysis.

- » **Module 2: Data Analysis.** Directs teams through a data analysis process using a geographic information system (GIS) map to identify findings and local educator workforce trends.

- » **Module 3: Root Cause Analysis.** Supports teams with identifying the root causes to the challenges and opportunities identified in the data analysis.

- » **Module 4: Select Strategies.** Aims to help teams reflect on existing and new strategies to strengthen and diversify the educator workforce and select those that will address the root causes.

- » **Module 5: Action Planning.** Leads teams to develop an action plan to implement the strategies identified to support successful implementation.

Objectives

Participants will:

- » Explore potential tasks to implement the strategy(ies) identified.

- » Develop an action plan to implement the strategy(ies).

Audience

The guidance and workbook are designed for teams of stakeholders, led by a facilitator, interested in strengthening the educator workforce pipeline—that is, how systems can better attract, prepare, and retain educators. It is recommended that teams are composed of diverse stakeholders and could include representatives from local education agencies, schools, educator preparation programs, and others who support the educator pipeline. The facilitator should be someone comfortable leading stakeholder engagement sessions and helping others to explore and use data.

Materials

Table 1 lists the recommended materials for teams to complete the action planning activities. Two facilitation options are described, in-person or virtual, depending on the desired delivery format.

Table 1. Materials Recommended for In–Person and Virtual Facilitation

In-Person Facilitation	Virtual Facilitation
All resources linked below are also available at https://region12cc.org/gis-map-exploration-and-application-resources	
» Slide presentation (with talking points/ facilitation guidance in each slide note) » Printed copies of Action Planning Workbook (Appendix E) for participants » Pens and markers » A computer, projector, and screen for the slide presentation » Internet access » Computers or laptops for participants	» Slide presentation (with talking points/ facilitation guidance in each slide note) » Digital copy of Action Planning Workbook (Appendix E) for participants » Computers or laptops for participants » Virtual meeting platform to accommodate expected number of participants for a 2- to 4-hour session (e.g., Zoom, Google Meet, Microsoft Teams)

B. Facilitator's Guide

This section provides facilitators with suggestions for structuring the session and notes on how to implement the suggested activities for both in-person and virtual sessions. The other core components include a workbook (see Appendix E) and slide presentation with talking points/facilitation guidance in each slide note. It is highly recommended that the facilitator thoroughly reviews these materials prior to facilitating the session.

Outline of Data Analysis Session

Table 2 provides a detailed outline of the agenda for the action planning session, including suggested timing for the activities, corresponding slide numbers, and materials needed. Additional time may need to be allotted for the activities depending on the team's familiarity with the content and the number of participants. The presentation and activities may be divided and will take approximately 2 hours total to complete.

Table 2. Detailed Outline of the Agenda

Agenda Item	Time	Slides	Materials Needed
Welcome and Introductions	15 minutes	120–125	» Slides
Action Planning	105 minutes	126–133	» Slides » Action Planning Workbook » Computers or laptops (virtual and in-person) » Pens

Guidance for Activities

Welcome and Introductions (Slides 120–125)

Objective: Develop a sense of community among team members and share the purpose and goals of the action planning session.

Overview of Engagement: Facilitator will welcome participants; facilitator and team members briefly introduce themselves. The facilitator will review the agenda, objectives of the action planning session, and any norms that have been agreed upon for discussion (update slide 5 accordingly).

Action Planning (Slides 126–133)

Objective: Participants reflect on potential tasks to implement the selected strategy(ies) and develop an action plan.

Overview of Engagement: Facilitator will provide an overview of the two steps for the process including exploring tasks by team member role and developing an action plan.

Activity Implementation: The facilitator will instruct the team to discuss and reflect on the potential tasks for the selected strategy(ies) from the *Shortage Strategy Selection Tool's Role Guides*. Next, participants will establish goals for implementing the strategy(ies) and create an action plan. Below are steps for setting-up and facilitating this activity, virtually or in-person.

Virtual Facilitation:

» Share electronic copies of the Action Planning Workbook and the *Shortage Strategy Selection Tool's Strategies Role Guide* for the goal (i.e., attract, prepare, and retain) for the team's selected strategy(ies).

» Direct the team to review the role guide and discuss the reflection questions from Table E1 of the Action Planning workbook.

   » Instruct participants to determine short- and long-term goals for implementing the selected strategy(ies) in Table E2 of the workbook and develop an action plan in Table E3. Refer to the team's reflections on potential tasks to complete the action plan.

» Engage the team to reflect on the action plan by discussing any potential barriers to successful implementation.

In-Person Facilitation:

» Share hard copies of the Action Planning Workbook (Appendix E) and the *Shortage Strategy Selection Tool's Strategies Role Guide* for the goal(s) (i.e., attract, prepare, and retain) for the team's selected strategy(ies).

» Direct the team to review the role guide and discuss the reflection questions from Table E1 of the Action Planning workbook.

   » Instruct participants to determine short- and long-term goals for implementing the selected strategy(ies) in Table E2 of the workbook and develop an action plan in Table E3. Refer to the team's reflections on potential tasks to complete the action plan.

» Engage the team to reflect on the action plan by discussing any potential barriers to successful implementation.

Appendix A: Landscape Analysis Handout

The purpose of this activity is to help your team inventory and think strategically about past and current initiatives to strengthen and diversify the educator workforce pipeline. Ideally, working through this activity will better ensure that your team is aware of what resources, policies, and initiatives already exist to help inform your selection of a strategy to effectively address educator shortages and the lack of educator diversity.

Table A1. Landscape Analysis Inventory

Name of Initiative	Leadership of Initiative *(Name and Affiliation of Team or Coordinator)*	Intended Purpose & Expected Outcome(s) *(1-2 bullets)*	Part(s) of Pipeline Being Addressed *(Attract, Prepare, Retain)*	Funding Source(s)	Start and End Date	Evidence of Outcome(s) *(details, links, or accompanying documents)*
Example: *Grow-Your-Own Program*	*Office of Career and Technical Education, Clark Montgomery School District*	• *Recruit students out of high school to become teachers.* • *Hired by the schools as paras, do their clinical experiences as paras, and prepared through State University.*	*Attract, Prepare*	*$1.5 million from Innovative High School Models grant*	*(Fall 2019 – Present)*	*26 candidates are currently enrolled in the program and are expected to take on full-time roles in Fall 2022.*

Name of Initiative	Leadership of Initiative *(Name and Affiliation of Team or Coordinator)*	Intended Purpose & Expected Outcome(s) *(1-2 bullets)*	Part(s) of Pipeline Being Addressed *(Attract, Prepare, Retain)*	Funding Source(s)	Start and End Date	Evidence of Outcome(s) *(details, links, or accompanying documents)*

Name of Initiative	Leadership of Initiative *(Name and Affiliation of Team or Coordinator)*	Intended Purpose & Expected Outcome(s) *(1-2 bullets)*	Part(s) of Pipeline Being Addressed *(Attract, Prepare, Retain)*	Funding Source(s)	Start and End Date	Evidence of Outcome(s) *(details, links, or accompanying documents)*

Appendix B: Data Analysis Workbook

Introduction

This section is designed to help Colorado teams navigate the Strengthening the Colorado Educator Workforce Pipeline Geographic Information System (GIS) Map and reflect on the data displayed. The workbook has two sections, each with corresponding tables: (1) Identifying Key Findings Using the GIS Map and (2) Creating Recommendations. The first section provides guidance for exploring the GIS map and identifying findings using the map. The second section provides space for teams to capture their recommendations based on their findings and data interpretations, including next steps.

Identifying Key Findings Using the GIS Map

Tables B1–8 are organized around each essential question and dashboard in the Colorado GIS map. As teams explore each dashboard, the tables offer step-by-step instructions for how to navigate the map and document findings of challenges and opportunities (i.e., "Data Observations" column). These include filters that can be turned on and off in the GIS map to facilitate consideration of different perspectives (e.g., district vs. principal vs. teacher) and different demographics, and provide opportunities to "zoom" in on specific areas. The tables also include reflection questions for teams to consider and space in the final column of each table labeled "Data Observations," to record their discussion.

The purpose of this section of the workbook is to help guide teams through the GIS map and facilitate discussion. It is not intended to limit a team's exploration of the map and recording of observations. Teams are encouraged to ask their own unique questions of the map and identify findings.

Creating Recommendations

In Table B9, teams can document their data interpretations, meaning(s) derived from their data findings (Tables B1–8), with corresponding recommendations and next steps. Recommendations should focus on possible policies, practices, or strategies that will address what is described in the data interpretations. Additionally, recommendations could emphasize a priority area, a specific strategy to implement, or other research and data needed to address the interpretation(s). Next, teams can identify who will be responsible for enacting each recommendation. The responsible party could be a specific individual(s) and/or entities ("Who" column). Finally, teams can consider a desired timeline for implementing the recommendation(s) ("When" column). This could include categorizing recommendations by those accomplishable in the short- and long-term or adding specific time periods to complete them.

Workbook Tables

Table B1. Educator Mobility/Attrition: What are the status and longitudinal patterns of educator mobility/attrition in districts and schools?

Navigating the Map	Questions to Consider	Data Observations
Teacher		
Select the District-Level Mobility/Attrition Rate "on," the School-Level Teacher Mobility/Attrition Rate "off," and "Teacher" as the educator type from the drop-down menu.	» Which districts have the highest and lowest teacher mobility/attrition rates? » Are there any trends to note of the districts with the highest or lowest teacher mobility/attrition rates?	
Adjust the Students of Color slider bar.	» Do the districts with the highest mobility/attrition rates serve a lesser or greater percentage of students of color?	

Navigating the Map	Questions to Consider	Data Observations
Turn "off" the District-Level view and turn "on" the School-Level view.	» Which schools have the highest and lowest teacher mobility/attrition rates? » Are there any trends in the types of schools with higher or lower teacher mobility/attrition rates (e.g., elementary school vs. middle school)?	
Turn "on" both the District-Level view and School-Level view.	» Are there districts with clusters of schools with high teacher mobility/attrition rates? » Are there any districts with a mixture of some schools with low and some with high mobility/attrition rates? ▪ Are these schools in the same districts that were identified as having a high teacher mobility/attrition rate?	
Adjust the Students of Color slider bar.	» Do schools with the highest teacher mobility/attrition rate serve a lesser or greater percentage of students of color?	

Navigating the Map	Questions to Consider	Data Observations
Teacher (5-Year Difference)		
Select the District-Level Mobility/Attrition Rate "on," the School-Level Teacher Mobility/Attrition Rate "off," and "Teacher (5-Year Difference)" from the "Select a category" drop-down menu.	» Which districts have the greatest trend of increasing or decreasing their 5-year teacher mobility/attrition rate? » Are there any trends when comparing these districts to those districts with the highest or lowest teacher mobility/attrition rate for the most recent school year of data?	
Adjust the Students of Color slider bar.	» Do the districts with the trend of increasing teacher mobility/attrition rates over 5 years serve a lesser or greater percentage of students of color?	

Navigating the Map	Questions to Consider	Data Observations
Turn "off" the District-Level view and turn "on" the School-Level view.	» Which schools have the greatest trend of increasing or decreasing their 5-year teacher mobility/attrition rate? ▪ Are there any trends when comparing these schools with those schools with the highest or lowest teacher mobility/attrition rate for the most recent school year of data? » Are there any similarities in the types of schools with a trend of increasing or decreasing their 5-year teacher mobility attrition rate (e.g., elementary school vs. middle school)?	
Turn "on" both the District-Level view and School-Level view.	» Are there districts with clusters of schools with a trend of increasing their 5-year teacher mobility/attrition rate?	

Navigating the Map	Questions to Consider	Data Observations
Adjust the Students of Color slider bar.	» Do schools with the trend of increasing teacher mobility/attrition rate over 5 years serve a lesser or greater percentage of students of color?	
Special Service Provider (SSP)		
Select the District-Level Mobility/Attrition Rate "on," the School-Level Teacher Mobility/Attrition Rate "off," and "Special Service Provider (SSP)" as the educator type from the drop-down menu.	» Which districts have the highest and lowest SSP mobility/attrition rates? » Are there any trends to note of the districts with the highest or lowest SSP mobility/attrition rates? » Are there any parallels to districts with high teacher and/or principal mobility/ attrition rates?	
Adjust the Students of Color slider bar.	» Do the districts with the highest SSP mobility/attrition rates serve a lesser or greater percentage of students of color?	

Navigating the Map	Questions to Consider	Data Observations
Turn "off" "the District-Level view and turn "on" the School-Level view.	» Which schools have the lowest and highest SSP mobility/attrition rates? » Are there any parallels with the mobility/attrition rates of teachers and/or principals for these schools?	
Turn "on" both the District-Level view and School-Level view.	» Are there districts with clusters of schools with high SSP mobility/attrition rates? » Are there any districts with a mixture of some schools with low and high SSP mobility/attrition rates?	
Adjust the Students of Color slider bar.	» Do schools with the highest SSP mobility/attrition rates serve a lesser or greater percentage of students of color?	

Navigating the Map	Questions to Consider	Data Observations
Principal		
Select the District-Level Mobility/Attrition Rate "on," the School-Level Teacher Mobility/Attrition Rate "off," and "Principal" as the educator type from the drop-down menu.	» Which districts have the highest and lowest principal mobility/attrition rates? » Are there any trends to note of the districts with the highest or lowest principal mobility/attrition rates? » Are there any parallels with the principal mobility/attrition rates to teacher mobility/attrition rates?	
Adjust the Students of Color slider bar.	» Do the districts with the highest principal mobility/attrition rates serve a lesser or greater percentage of students of color?	
Turn "off" the District-Level view and turn "on" the School-Level view.	» Which schools have the lowest and highest principal mobility/attrition rates? » Are there any parallels with the principal mobility/attrition rates with teachers for these schools?	

Navigating the Map	Questions to Consider	Data Observations
Turn "on" both the District-Level view and School-Level view.	» Are there districts with clusters of schools with high principal mobility/attrition rates? » Are there any districts with a mixture of some schools with low and some with high principal mobility/attrition rates?	
Adjust the Students of Color slider bar.	» Do schools with the highest principal mobility/attrition rates serve a lesser or greater percentage of students of color?	

Table B2. Labor Market: What is the relationship between hard-to-fill positions and labor market trends?

Navigating the Map	Questions to Consider	Data Observations
Select "on" for District Unfilled Positions and "off" for District Shortage Mechanisms. Adjust the Unfilled Positions (per 100 students) slider bar.	» Which districts have the greatest unfilled positions? ▪ Are there any trends across those districts?	
Select an endorsement area from the drop-down menu (e.g., English Language Arts, Mathematics, Special Education Generalist).	» Which endorsement area(s) have the most unfilled positions? » Are there any trends in the districts that have unfilled positions for the endorsement area(s) with the most shortages?	
Select "on" for District Shortage Mechanisms and "off" for District Unfilled Positions	» Which districts have the highest percentage of positions filled via a shortage mechanism? ▪ Are there any trends among those districts?	

Navigating the Map	Questions to Consider	Data Observations
Select a shortage mechanism type from the "Select a category" drop-down menu (e.g., Long-Term Subs). Adjust the Filled by All Shortage Mechanisms slider bar.	» Which shortage mechanism do districts use the most? » Which districts utilize each shortage mechanism the most? » Are there trends across districts for each type of shortage mechanism used? » Which shortage mechanism is used the most in the districts identified as having the highest percentage of positions filled via a shortage mechanism? » Which districts, if any, have higher unfilled positions who also use a greater number of shortage mechanisms? » Are there any trends in districts that have both a high rate of unfilled positions and high utilization of shortage mechanisms?	

Navigating the Map	Questions to Consider	Data Observations

Reset the "Filled by All Shortage Mechanisms" slider bar to cover the full range. Turn "on" both the District Unfilled Positions and District Shortage Mechanisms. Adjust the "Median Household Income," the "Average Teacher Salary," the "Unemployment Rate (% of civilians 16 years and older not in the labor force)," and the "Student Teacher Ratio" slider bars one at a time.	» Which districts have a low or high median household income?
	  ▪ Are there any trends compared to the districts identified with high unfilled positions or teacher mobility/attrition rates?
	» Which districts have a low or high average teacher salary?
	  ▪ Are there any trends compared to the districts identified with high unfilled positions or teacher mobility/attrition rates?
	» Which districts have a low or high unemployment rate?
	  ▪ Are there any trends compared to the districts identified with high unfilled positions or mobility/ attrition rates?
	» Which districts have a low or high student teacher ratio?
	  ▪ Are there any trends compared to the districts identified with high unfilled positions or teacher mobility/attrition rates?	

Table B3. Incentive Programs: How are teacher incentive programs related to district mobility/attrition and ability to fill open positions?

Navigating the Map	Questions to Consider	Data Observations

One at a time, select each incentive type in the "Incentives" drop-down menu (i.e., "Total Incentives," "Quality Teacher Recruitment Grant," "All other incentives") and review the map.	» Which districts employ the most teachers who have received a stipend or program?
	  ▪ Are there any trends across the districts for total incentives?
	» Which districts employ the most teachers who have received a Quality Teacher Recruitment Grant?
	  ▪ Are there any trends compared with "All incentives"?
	» Which districts have received the most "All other incentives"?
	  ▪ Are there any trends compared with "All incentives"?	

Adjust the Teacher Mobility/Attrition Rate (per 100 students) slider bar for each incentive type in the drop-down menu.	» Do the districts with the highest teacher mobility/attrition rates employ the teachers who receive the most total incentives, most Quality Teacher Recruitment Grants, and/or most other incentives?	

Navigating the Map	Questions to Consider	Data Observations
Select the "Unfilled Positions" option. One at a time, select each type of incentive from the drop-down menu while adjusting the Unfilled Positions (per 100 students) slider bar.	» Do the districts with the highest percentage of unfilled positions employ teachers who receive the most overall stipends, most Quality Teacher Recruitment Grants, and/or most other incentives?	

Table B4. Teacher Supply: What is the relationship between the location of preparation programs and district hiring needs?

Navigating the Map	Questions to Consider	Data Observations
Educator Preparation Program (EPP) Endorsement Area		
Select the "EPP Endorsement Area" tab. Select "All" as the "Endorsement Area" in the drop-down menu and the "Unfilled Positions (#)" option.	» Are there nearby EPPs to supply teachers to those districts with more unfilled positions? 　▪ Do those EPPs have many graduates?	

Navigating the Map	Questions to Consider	Data Observations
Select any interested endorsement area(s) from the drop-down menu (e.g., English Language Arts, Mathematics, Special Education Generalist).	» For each endorsement area of interest: ▪ Are there nearby EPPs to supply teachers to the districts with unfilled positions in the selected endorsement area? ▪ Are there any districts without a nearby EPP to supply teachers in the selected endorsement area?	
Adjust the # Unfilled Positions (per 100 Students) slider bar starting with all endorsement areas.	» Do the districts with the greatest percentage of unfilled positions lack nearby EPPs?	
Under "Select a category" select Filled by All Shortage Mechanisms (#). Adjust the # Filled by All Shortage Mechanism (per 100 Students) slider bar.	» Do the districts with the greatest percentage of shortages filled by a shortage mechanism lack nearby EPPs?	

Navigating the Map	Questions to Consider	Data Observations
EPP to Districts		
Select the "EPP to Districts" tab. Select "All" from the District New Hires by EPP drop-down menu and review the map. Then, select any EPP(s) of interest from the drop-down menu.	» Do the districts with the greatest number of new hires have nearby EPPs? » Which districts hire the most graduates from the EPP(s) of interest? ▪ Are there any nearby districts that have not hired graduates from the EPP(s) of interest?	
Adjust the Unfilled Positions per 100 Students slider bar while viewing "All" from the drop-down menu and review the map. Then, select any EPP(s) of interest from the drop-down menu.	» Are new hires going to districts with the highest percentage of unfilled positions? » Are there particular EPPs who are supplying teachers to districts with unfilled positions?	

Table B5. District/School Performance: What is the relationship between district/school performance rating and teacher mobility/attrition?

Navigating the Map	Questions to Consider	Data Observations
Select the "District" option for School/District Performance and Teacher Mobility/Attrition.	» Are there any trends related to district performance ratings and teacher mobility/attrition rates (e.g., geographic)?	
Select the Performance Indicator checkboxes for "Accredited with Priority Improvement Plan" and "Accredited with Turnaround Plan."	» Are there any trends related to districts with a priority improvement or turnaround plan?	
Adjust each slider bar [i.e., Students of Color, Eligible for Free or Reduced-Price Lunch, Teacher Mobility/Attrition Rate (per 100 students)].	» Do the districts on a priority improvement or turnaround plan have higher teacher mobility/attrition rates? » Do the districts on a priority improvement or turnaround plan with high teacher mobility/attrition rates also serve a greater percentage of students of color or students eligible for free or reduced-price lunch?	

Navigating the Map	Questions to Consider	Data Observations
Select the "School" view option for School/District Performance and Teacher Mobility/Attrition.	» Are there any geographic trends related to school performance ratings?	
Select the checkboxes for "Accredited with Priority Improvement Plan" and Accredited with Turnaround Plan."	» Are there any trends related to schools with a priority improvement or turnaround plan? ▪ Are these schools located in the districts previously identified on priority improvement or turnaround plans?	
Adjust each slider bar [i.e., Students of Color, Eligible for Free or Reduced-Price Lunch, Teacher Mobility/Attrition Rate (per 100 students)].	» Do the schools on a priority improvement or turnaround plan have higher teacher mobility/attrition rates? » Do the schools on a priority improvement or turnaround plan and that have a higher teacher mobility/attrition rate also serve a greater percentage of students of color and/or students eligible for free or reduced-price lunch?	

Table B6. Student Populations: What is the relationship between districts/schools with high at-risk student populations and teacher mobility/attrition?

Navigating the Map	Questions to Consider	Data Observations
Select the "District" option from the District or School-Level section and "African American" from the Student Population drop-down menu and review the map. Then, adjust the Teacher Mobility/Attrition Rate (per 100 students) slider bar. Select each option in the drop-down menu for Student Population and adjust the slider bar for each population group.	» Do districts that serve a higher percentage of African American students have higher teacher mobility/attrition rates? » Do districts that serve a higher percentage of Latinx students have higher teacher mobility/attrition rates? » Do districts that serve a higher percentage of students receiving free or reduced-price lunch have higher teacher mobility/attrition rates? » Do districts that serve a higher percentage of special education students have higher teacher mobility/attrition rates? » Do districts that serve a higher percentage of English learner students have higher teacher mobility/attrition rates? » Are there any trends across the districts and student populations?	

Navigating the Map	Questions to Consider	Data Observations
Select the "School" option from the District or School-Level section and "African American" from the Student Population drop-down menu and review the map. Then, adjust the Teacher Mobility/Attrition Rate (per 100 students) slider bar. Select each option in the drop-down menu for Student Population and adjust the slider bar for each population group.	» Do schools that serve a higher percentage of African American students have higher teacher mobility/attrition rates? » Do schools that serve a higher percentage of Latinx students have higher teacher mobility/attrition rates? » Do schools that serve a higher percentage of students receiving free or reduced-priced lunch have higher teacher mobility/attrition rates? » Do schools that serve a higher percentage of special education students have higher teacher mobility/attrition rates? » Do schools that serve a higher percentage of English language students have higher teacher mobility/attrition rates? » Are there any trends across the schools and student populations? » Are there any trends when comparing school and district results?	

Table B7. Working Conditions: What is the relationship between working conditions and teacher mobility/attrition?

Navigating the Map	Questions to Consider	Data Observations
Select the "Overall" option for the School-Level Teaching & Learning Conditions Colorado (TLCC) Scores and adjust the Teacher Mobility/Attrition Rate (per 100 students) slider bar. Adjust the Overall Score slider bar to focus on higher and lower scores.	» Do the schools with higher teacher mobility/attrition rates have lower overall survey scores? » Do the schools with higher overall survey scores have lower teacher mobility/attrition rates? ▪ Are there any trends across these schools (e.g., geographic)?	
Select the "Leadership" option and adjust the Teacher Mobility/Attrition Rate (per 100 students) slider bar. Adjust the Leadership Score slider bar to focus on the higher and lower scores.	» Do schools with higher mobility/attrition rates have lower leadership survey scores? » Do schools with higher leadership survey scores have lower teacher mobility/attrition rates? ▪ Are there any trends across these schools? ▪ How do they compare with the overall scores?	

Table B8. Teacher Diversity: What is the status of teacher diversity in districts?

Navigating the Map	Questions to Consider	Data Observations
Select "All Districts" in the District Overlap and BIPOC Teachers.	» Which districts have the greatest percentage of BIPOC students? » Which districts have the greatest percentage gap between BIPOC students and teachers? » Which districts have the greatest BIPOC parity ratio? » What trends do you see across the three maps?	
Adjust the Teacher Mobility/Attrition Rate slider bar.	» Do districts with a greater gap between BIPOC students and teachers have a higher teacher mobility/attrition rate? » Do districts with a greater BIPOC parity ratio have higher teacher mobility/attrition rate?	
Select "Overlapped Districts".	» What trends or patterns exist between the overlapped districts across the three maps?	

Navigating the Map	Questions to Consider	Data Observations
Select "All Districts" for District Overlap and "Districts with no BIPOC teachers" under BIPOC Teachers.	» Are there any districts with a high percentage of BIPOC students (first map) and no BIPOC teachers (third map)? » What trends or patterns exist for the districts with a greater percentage of BIPOC students and no BIPOC teachers or greater BIPOC parity ratio?	

Table B9. Data Interpretations, Recommendations, and Next Steps

Data Interpretation	Recommendation	Who *(which individual(s) and/or entities will be responsible for enacting this recommendation)*	When *(the timeframe for implementing this recommendation)*

Data Interpretation	Recommendation	Who *(which individual(s) and/or entities will be responsible for enacting this recommendation)*	When *(the timeframe for implementing this recommendation)*

Data Interpretation	Recommendation	Who (which individual(s) and/or entities will be responsible for enacting this recommendation)	When (the timeframe for implementing this recommendation)

Appendix C: Root Cause Analysis Handout[1]

Instructions

Follow the four steps outlined below to visualize potential root causes for challenges in recruiting and retaining a diverse teacher workforce. Each section includes examples printed *in italics*.

Step 1: Specify the Challenges to be Addressed and Craft a Problem Statement

First, in Table C1, list the challenges you brainstormed surrounding educator shortages and diversifying the workforce based on the findings from the data analysis session. Then, from the list, identify (e.g., underline) <u>one</u> challenge that seems most pressing.

Table C1. Challenges

Challenges
Example: <u>*Recruiting candidates into core content areas*</u>*, limited graduates from EPP programs closest to the district, shortage of teachers of color in majority student-of-color schools.*

Next, in Table C2, craft the problem statement. In one sentence, define the problem. Following, provide background information by pointing to evidence to describe and explain the context of the problem.

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[1] Adapted from *Root Cause Analysis Template*, by Center on Great Teachers & Leaders at the American Institutes for Research, 2020. Adapted with permission.

Table C2. Problem Statement

Problem Statement
Example: *There is a shortage of teachers in many of the core content areas. The district has 10 unfilled positions in mathematics, 15 unfilled positions in English language arts, and 20 unfilled positions in science.*

Step 2: Identify Root Causes

Brainstorm the potential root causes or reasons for the identified problem. There are no wrong answers. Include additional lines as needed.

Table C3. Possible Root Causes

Possible Root Causes
Example: *Lack of interest in those subject areas, licensure programs not pushing out candidates in those areas, etc.*
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Step 3: Categorize Root Causes

In Table C4, organize the possible root causes from Step 2 into categories. If there is a root cause that does not fit into a category, leave it as its' own category.

Table C4. Categories of Root Causes

Categories of Root Causes
Example: Shortage of science teachers (lack of interest in subject area, low graduation rate for EPP program).

Step 4: Explore Root Causes (5 Whys)

In Table C5, list the categories created in Step 3. For that category, identify up to five responses to the question "Why is this the case?", building on the response to the prior why. Focus on **systems challenges**, not symptoms. For example, "early-career teachers of color leave the profession after a few years" is a symptom, whereas "a lack of leadership in the schools in which they teach" is a **systems challenge**.

Table C5. Root Causes

	Root Cause Analysis Example	Category 1	Category 2	Category 3
Root Cause Category	*Shortage of Science teachers*			
Why 1?	*District had problems recruiting new science teachers*			

	Root Cause Analysis Example	Category 1	Category 2	Category 3
Why 2 (about why 1)?	*Educator preparation program didn't have many of these graduates*			
Why 3 (about why 2)?	*Issues passing PRAXIS*			
Why 4 (about why 3)?	*Disconnect between course and PRAXIS content*			
Why 5 (about why 4)?	*Faculty aren't familiar with current PRAXIS content*			

Appendix D: Select Strategies Handout

Instructions

Follow the four steps outlined below to visualize how to select a strategy that will address your identified root cause to strengthen and diversify your educator workforce. Each section includes examples that are printed *in italics*.

Step 1: Determine Goals for Strategies to Address Root Causes

In Table D1, list the root causes identified in Module 3: Root Cause Analysis (refer to your completed Module 3 Root Cause Analysis Handout). Next, consider which goal(s) (i.e., attract, prepare, or retain) you'll explore to identify strategies to address the root cause.

Table D1. Challenges

Root Cause Category	Root Cause from final Why	Goal (Attract, Prepare, Retain)
Example: Lack of diversity in educator workforce	*Educator preparation programs do not prepare teachers for culturally responsive instruction*	*Prepare*

Step 2: Explore Strategies and Consider Local Context

Using the *Shortage Selection Tool* and the pre-reading, explore example strategies in the identified goal. As you select strategies to explore, the tool will provide a list of briefs, modules, program exemplars, reports, and tools to assist in learning more about each strategy. Each team member should review 1 to 3 different examples and respond to the reflection questions in Table D2.

Table D2. Exploration of Strategies

Goal	Strategy and sub-strategy	Name of resource or link	What are the strengths of the example strategy?	What are some challenges with the example?	What are some considerations to apply this your local context?
Example: Retain	*Teaching and Learning Conditions; Diversity Equity & Inclusion*	*Culturally and Linguistically Diverse Students: What EPPs Need to Do to Support Teacher Learning*	• *Revisions to courses including adding a new course on intensive English learners (EL) and language-acquisition strategies* • *Requiring clinical experience to include practice-based tutoring with ELs*	• *Will require buy-in from university leadership* • *Additional resources*	*Does not address all needs around culturally responsive instruction*

Step 3: Review Initiatives Identified During Module 1: Landscape Analysis

Review your completed Landscape Analysis handout from Module 1 (see Appendix A, Table A1 for handout). Consider if there are any existing initiatives that aim to address your root cause. List those initiatives in Table D3 and respond to the reflection questions to consider if you should continuously improve or expand an existing effort.

Table D3. Exploration of Existing Initiatives

Goal	Initiative from Landscape Analysis	What outcomes did this effort achieve?	What changes could you make to continuously improve the effort to address the root cause?	What resources would you need?
Example: Prepare	*Professional Learning Community for faculty focused on diversity, equity, and inclusion*	• *Positive feedback from faculty surveys*	• *Expand efforts to replicate PLC with teacher candidates*	• *Staff/faculty to facilitate* • *Effort to promote*

Step 4: Select Strategies/Initiatives

Based on the example strategies you explored and reflections on existing initiatives identified as part of your landscape analysis, select the top three strategies/initiatives for your team's context. Keep in mind these strategies will be the focus of your team's action plan.

Table D4. Top Strategies or Existing Initiatives

Top Three Strategies/Initiatives
Example: *Professional Learning Community for faculty focused on diversity, equity, and inclusion.*
1.
2.
3.

Appendix E: Action Planning Workbook

Instructions

Follow the two steps outlined below to develop an action plan to implement your selected strategy(ies) to strengthen and diversify your educator workforce. Each section includes examples that are printed *in italics*.

Step 1: Explore Tasks by Role

For your selected strategy, read the *Shortage Strategy Selection Tool's Strategies Role Guide* for each team member role. The Role Guides are organized by goal (attract, prepare, or retain).

- » [Role Guide: Attract](#)
- » [Role Guide: Prepare](#)
- » [Role Guide: Retain](#)

Read and reflect on the potential tasks for the strategy based on your role representing either a state education agency, educator preparation program, or school district. Reflect on the potential tasks by responding to the reflection questions in Table E1.

Table E1. Exploration of Tasks

Strategy	What are the strengths of the example tasks?	What are some challenges with the example tasks?	What are some considerations to apply this your local context?	Which tasks should you include in your action plan?
Example: Mentoring and Induction	• *Districts provide training and coaching for mentors* • *Districts provide explicit expectations for the role of mentors*	• *It will be difficult to find sub coverage to provide mentors time for coaching, peer observation, and reflection.*	• *The mentoring program will focus on teachers of color. Training and supports for mentors will need to be specific to supporting new teachers of color.*	• *Developing training and supports for mentors* • *Create a job description outlining the expectations for the mentor role*

Strategy	What are the strengths of the example tasks?	What are some challenges with the example tasks?	What are some considerations to apply this your local context?	Which tasks should you include in your action plan?

Step 2: Develop an Action Plan

In Table E2, write your team's short-term and long-term goals for implementing the strategy. For the goals, consider the root cause you are addressing.

Table E2. Goals

Short-Term Goal(s)	Long-Term Goal(s)
Launch pilot mentoring program focused on new teachers of color.	*Increase the number of teachers of color who are retained in the district over five years or more.*

Complete your team's action plan in Table E3. Consider your reflections on the tasks from Step 1. In the action plan, outline the tasks to implement the strategy, who will be responsible for the task, and the timeline.

Table E3. Action Plan

Task	Person Responsible	Timeline	Notes
*Develop **draft** description of mentor role*	*Heather Apple*	*Two weeks*	*Share with team for feedback*