IES Institute of Education Sciences

Early Childhood Data Use Assessment Tool

Regional Educational Laboratory Central

At Marzano Research

REL 2021–067
U.S. DEPARTMENT OF EDUCATION

A Publication of the National Center for Education Evaluation and Regional Assistance at IES

Early Childhood Data Use Assessment Tool

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The Early Childhood Data Use Assessment Tool is designed to identify and improve data use skills among early childhood education (ECE) program staff so that they can better use data to inform, plan, monitor, and make decisions for instruction and program improvement. Data use is critical in quality ECE programs but can be intimidating for some ECE program staff. This tool supports growth in their data use skills. The tool has three components: a data use checklist to identify ECE program staff's skills in using child assessment and administrative data, a resource guide to identify professional development resources aligned to goals in improving data use skills, and an action plan template to support planning for developing and achieving data use goals. The results obtained from using the tool are intended to support instruction and program improvement through increased and structured use of data.

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Introduction to the Early Childhood Data Use Assessment Tool

This section provides the background and an overview of the Early Childhood Data Use Assessment Tool. Ideally, all members of an early childhood data team will read this section before using the tool. A data team consists primarily of administrators and educators who are responsible for accessing and making sense of data to ensure high-quality programming for early childhood settings. A data team might also include others, such as instructional coaches and paraprofessionals. If it is not possible for all members of a data team to review this section, the data team leader or another designated individual can read the material and summarize it for the other team members. For example, the leader or designee might briefly summarize the key points for the rest of the data team before following the step-by-step guidance to complete the tool.

Background and overview

Through the Results Matter program, the Colorado Department of Education (CDE) aims to improve outcomes for Colorado's three- and four-year-old children by helping teachers, administrators, families, and other education stakeholders use authentic child assessment data[1] and administrative data to inform classroom instruction and program and policy decisionmaking (Colorado Department of Education, 2016). Results Matter provides resources for professional development, including a video library and professional learning modules to support teachers in implementing authentic assessment. However, a gap analysis[2] of these resources revealed that only a few were available to address the use of data in early childhood education (ECE) settings. The current tool was designed to address this gap.

The Regional Educational Laboratory (REL) Central partnered with CDE to develop a data use checklist and accompanying resource guide. The checklist and guide were designed to help ECE program staff participating in Results Matter use their existing child assessment and administrative data to make program decisions and inform instructional practices to improve student outcomes. At the conclusion of the project, CDE trained 200 ECE program staff to use the checklist and resource guide in collaboration with the data teams in their school districts.

CDE currently uses the original version of the checklist, the Administrative Data Use Self-Assessment, in the Results Matter program to support participating ECE program staff in identifying areas for professional growth. The original versions of the checklist and resource appendixes are available on the Results Matter website (Colorado Department of Education, n.d.).

1. *Authentic assessment data* are defined as data collected through observation of real-life activities within the early childhood setting. For more information, see Macy et al. (2016).
2. *Gap analysis* refers to a method for comparing existing content with ideal or desired content.

The Early Childhood Data Use Assessment Tool builds on and updates the original versions of the checklist and resource appendixes that the REL Central and CDE developed for ECE program staff. The expanded tool for ECE program staff includes a step-by-step guide and action plan template so that ECE data teams and program staff across the country can benefit from this work.

Development of the current tool was guided by a review of the literature on data use and its application in ECE settings. Feedback from expert stakeholders during development ensured that the tool included important content related to data use in ECE settings. In addition, interviews with ECE teachers and administrators in Colorado, Missouri, and North Dakota provided insights that could improve tool clarity and relevance. The feedback from these ECE teachers and administrators was incorporated into the final version of the current tool.

Why use the tool?

ECE program staff and data teams can improve their programs by using child assessment and administrative data to inform instructional practices and program decisionmaking. Conducting an assessment, such as the Early Childhood Data Use Assessment, is one way for the data team to take stock of its data use skills and improve them.

Data teams can build skills with the current tool by first assessing their collective capacity to apply their data use knowledge and skills. Next, data teams can identify which skills to be improved through professional development aligned with data use goals. ECE data teams can also use the tool to prioritize goals by identifying what skills are the most important for data teams to address or what skills need to be improved the most. Prioritizing data use goals, skills development, and available resources are all especially important when staff time and program resources are limited.

The assessment process in this tool culminates in ECE data teams developing and implementing an action plan to support improvements in their data use skills. For example, tool results may indicate that ECE program staff need to improve their skills in individualizing instruction. In this example, teams might use the tool to identify their proficiency in using and communicating about data to individualize instruction. Doing so could help the team set specific goals.

Tool components

The Early Childhood Data Use Assessment Tool includes three components: a data use checklist to identify ECE program staff's skills in using child assessment and administrative data, a resource guide to identify professional development resources aligned to goals in improving data use skills, and an action plan template to support planning for developing and achieving data use goals.

1. **Data use checklist:** The checklist has three elements: data use planning; data maintenance, use, and communication; and data use monitoring, support, and accountability. (See table 1 for a description of each element and appendix A for the complete checklist.)

The checklist items were adapted from other tools developed for similar purposes and various target audiences. The items were modified to fit the needs of ECE program staff and can be used for assessing data use proficiency.

The checklist should be used to identify the skill level of ECE program staff as a whole rather than staff in their individual capacities. It should be completed by a data team rather than an individual. In this way, all team members can provide input and learn from reviewing checklist items and developing data use goals and action steps within the action plan.

Parents and other family members, if available, can play an important role in providing data or information on data use. One way to gather data from families is to conduct a brief survey about their experiences in providing data or information on their children to teachers during parent–teacher conferences. For example, parents might provide data or information to their child's teachers at drop-off by sharing information on how the child slept the previous night or about new skills that the child mastered at home. The survey could be conducted online or on hard copies as families exit the program. This information is important for data element 2 (data maintenance, use, and communication) on the checklist.

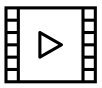
Table 1. Checklist elements and descriptions

Checklist element	Description
1. Data use planning	This element includes items related to planning for data use. It will support the team in identifying members' current skills for developing plans using different types of data.
2. Data maintenance, use, and communication	This element includes items that will help the team identify members' skills in maintaining, using, and communicating data to various audiences.
3. Data use monitoring, support, and accountability	This element includes items that will help the team identify members' skills for ongoing review and monitoring of data use.

2. **Resource guide:** The resource guide organizes professional development resources by checklist element and item (see appendix B for the complete resource guide) and describes the purpose of each resource. Icons identify the type of resource. The guide includes information, citations, and definitions of terms referenced in each item. Four primary types of resources are available: videos, tools, presentations, and practitioner briefs and scholarly articles (table 2).

   The data team will need to determine which resources and how many to use to develop their targeted data use skills. ECE coaches can provide some guidance to the data team on which and how many resources to use. More information on using the resources is provided in the step-by-step guidance in the tool.

Table 2. Resource icons and descriptions

Icon	Description
	**Videos** are generally brief recordings that capture practices in action. They can be viewed repeatedly. Many videos in the resource guide are from the Colorado Department of Education's Results Matter Video Library. Others provide support for each element in the data use checklist.
	**Tools** typically contain information on how to use research- or evidence-based practice strategies. Tools can include guides or other resources. Team leaders can review tools in printed format and make them available to other team members to support data use goals.
	**Presentations** are typically PowerPoint slide decks or posters presented at conferences that contain information or research. The presentation materials can be printed or viewed repeatedly.
	**Practitioner briefs and scholarly articles** vary in length and most often report on research or evidence supporting elements of data use. They can be downloaded and studied to support data use.

3. **Action plan:** After completing the checklist, the data team can use the action plan to develop and prioritize data use goals and skills, identify relevant resources, and develop action steps to achieve the data use goals.

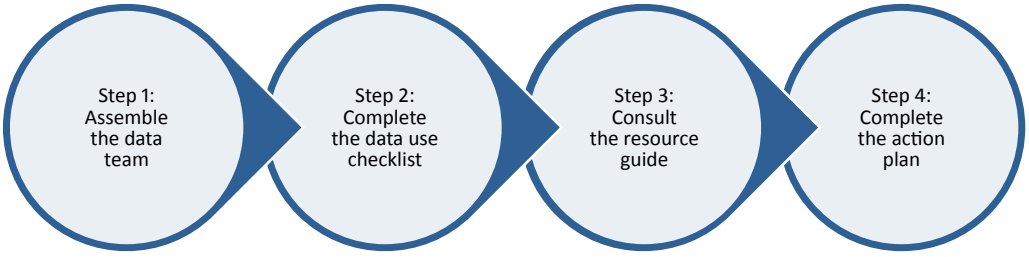
   By specifying action steps in the action plan, the data team can plan how to achieve their data use goals. Action steps should be specified as precisely as possible and in chronological order. For example, the team could include "incorporating child assessment data into family conferences" as a data use goal within data element 2. For this example, the team's first action step, "to prepare individualized data reports before the conferences," might be due in two weeks. The second step, "to prepare a family-friendly summary for each child using the data reports," might be due in four weeks. By completing these action steps, the team can work toward a data use goal of improving skills within data element 2. The data team can use the action plan to develop action steps, identify what resources to use and how, decide who will be involved in the action steps, and anticipate challenges.

   After engaging with the selected resources, the data team can review their progress using the action plan component "How will we know we have completed this action step?" The team can then decide next steps for assessing and developing ongoing data use.

Step-by-step guide for using the tool

The Early Childhood Data Use Assessment Tool includes a data use checklist to identify existing skills in ECE program staff's use of child assessment and administrative data, a resource guide to identify resources aligned to data use goals, and an action plan template to support planning for improved data use. This section describes the four steps for using the tool (figure 1), along with the activities necessary to accomplish them.

Figure 1. Step-by-step process for using the data use assessment tool



The time needed to complete the tool depends on how a data team decides to use it and on the team's experience and skills in data use. For example, a team with less experience might need more time to learn data use concepts before developing proficiency in a data use skill. Furthermore, if the data use goal identified for improvement is complex, a team might need more time to develop action steps and strategies to complete the action plan. An example of a complex data use goal is training all ECE program staff to use a new formative assessment system.

The length and frequency of a data team's meetings (weekly, monthly, or quarterly) to implement steps 1–4 of the tool will also depend on the availability of data team members. To complete steps 1–3, a team might hold one-hour weekly or monthly meetings. Once the team identifies data use goals and completes the action plan in step 4, meetings may decrease in frequency to bimonthly or quarterly as the team meets only to review progress or update the action plan.

Step 1. Assemble the data team

When assembling the data team to complete the tool, it is useful to consider team composition. A data team can have many configurations, but it is important for team members to have background knowledge on data use and assessment findings. They should know what data are used in the ECE program and how the data are used and communicated within and outside the program. Team members should be committed to using data to plan and make decisions about their program. It is also important that the composition of the data team

reflect the languages, cultures, and communities of the families served by the ECE program, so that data can be collected, used, and communicated in a culturally responsive manner.

A data team can consist of many different ECE program staff members, including:

- Teachers.
- Assistant teachers.
- Paraprofessionals.
- Special education staff.
- Instructional or data use coaches.
- Administrators.
- Data managers.
- Family members or caregivers.
- Community members.

Another consideration is the size of the data team. An effective team generally has five to nine members. Research suggests that team productivity and effectiveness diminish when there are more than nine members (Mueller, 2017). If a team has more than nine members, consider dividing it into smaller groups of three to five members.

Step 2. Complete the data use checklist

The data use checklist is the first component of the tool. The checklist covers three data use elements:

1. Data use planning.

2. Data maintenance, use, and communication.

3. Data use monitoring, support, and accountability.

The data team can begin with any element in the checklist. The checklist assesses ECE program staff capacity rather than individual capacity. Therefore, a data team should complete the checklist together to assess team capacity. As the team reviews each item, members should discuss whether the team as a whole understands and has the capacity to address the data use requirements. Once the team discusses how individual capacity contributes to overall capacity, the team can negotiate consensus on a proficiency rating.

Items under each element are organized by four levels of data use proficiency.

1. **Foundational:** Items at this level reflect that ECE program staff have some knowledge of data use but cannot yet apply it.

2. **Applied:** Items at this level demonstrate that ECE program staff have basic knowledge of data use, management, analysis, and decisionmaking and have begun to apply this knowledge to practice and program improvements.

3. **Established:** Items at this level show that ECE program staff have a more established understanding of data use skills and routinely apply that understanding to practice.

4. **Exemplary:** Items at this level reveal that ECE program staff have different but interactive roles in using data. Items at this level also reflect that staff collaborate to use data to affect children's learning outcomes.

To determine data use proficiency, the data team can check the boxes next to each item to record whether program staff currently implement the item (for example, see checked items B and C in table 3). The tool is designed to be flexible in how items are reviewed. In one approach, the team can review the items from left to right within an element, with the team leader or a designated individual checking off boxes as data use items are implemented with increased proficiency. Alternately, the team can review all items across elements within a given proficiency (for example, foundational) before reviewing items at the next proficiency (for example, applied).

The data team's proficiency is determined by the highest level under which all items are checked (tables 3–5). In the first example (table 3), the team is not yet at the foundational level because item A is not yet checked. In a second example, the team has checked all items at the applied level of data use for an element, but only some items at the established level, indicating the applied level proficiency for that data use element (table 4).

Table 3. Example of a data team not yet at the foundational level for element 2

Foundational	Applied	Established	Exemplary
☐ 2.A. Data reports ensure that personally identifiable information, such as date of birth or intake assessment score, is protected in accordance with federal and state requirements. ☑ 2.B. Staff review the quality, accuracy, and timeliness of the data. ☑ 2.C. Staff respond to data requests in a timely manner.	☐ 2.D. Data are kept current throughout an assessment period. ☐ 2.E. Data are made available to users (teachers, administrators) in a timely manner to inform instruction and make site-level decisions. ☐ 2.F. Staff incorporate data into family conferences. ☐ 2.G. Staff use data to manage programs (professional development, curriculum, district-level policies, resource allocation) and inform decisions about programmatic elements.	☐ 2.H. Dissemination of data products includes sufficient information, such as sample size or percentages, to interpret and use the data appropriately. ☐ 2.I. Staff use data for individualizing instruction/ interventions and classroom planning. ☐ 2.J. Staff engage in data discussions in which data are used to guide staff professional development.	☐ 2.K. Staff demonstrate commitment to using data to identify and address achievement gaps by providing data disaggregated by student subgroups (for example, geographic locality, race/ethnicity, disability type, age, gender, or other criteria) through framing of useful questions that inform data-driven decisions. ☐ 2.L. Staff create as needed and make available a variety of data products (videos, webinars) or displays (tables, infographics) to enhance understanding of the data for a variety of audiences (families, community stakeholders, policymakers, and so on). ☐ 2.M. Data team leaders conduct data discussions with all staff to monitor and improve individual student learning, schoolwide learning, and teaching practices.

Table 4. Example of a data team at the applied level for element 2

Foundational	Applied	Established	Exemplary
☑ 2.A. Data reports ensure that personally identifiable information, such as date of birth or intake assessment score, is protected in accordance with federal and state requirements. ☑ 2.B. Staff review the quality, accuracy, and timeliness of the data. ☑ 2.C. Staff respond to data requests in a timely manner.	☑ 2.D. Data are kept current throughout an assessment period. ☑ 2.E. Data are made available to users (teachers, administrators) in a timely manner to inform instruction and make site-level decisions. ☑ 2.F. Staff incorporate data into family conferences. ☑ 2.G. Staff use data to manage programs (professional development, curriculum, district-level policies, resource allocation) and inform decisions about programmatic elements.	☐ 2.H. Dissemination of data products includes sufficient information, such as sample size or percentages, to interpret and use the data appropriately. ☑ 2.I. Staff use data for individualizing instruction/ interventions and classroom planning. ☑ 2.J. Staff engage in data discussions in which data are used to guide staff professional development.	☐ 2.K. Staff demonstrate commitment to using data to identify and address achievement gaps by providing data disaggregated by student subgroups (for example, geographic locality, race/ethnicity, disability type, age, gender, or other criteria) through framing of useful questions that inform data-driven decisions. ☐ 2.L. Staff create as needed and make available a variety of data products (videos, webinars) or displays (tables, infographics) to enhance understanding of the data for a variety of audiences (families, community stakeholders, policymakers, and so on). ☐ 2.M. Data team leaders conduct data discussions with all staff to monitor and improve individual student learning, schoolwide learning, and teaching practices.

In a third example the data team has completed all items on the checklist across all four proficiency levels except for item H at the established level (table 5). Even though all of the exemplary items at the highest level have been checked, the team's proficiency is still at the applied level because members have not completed item H. In this example, the team needs to focus on dissemination of data products that include sufficient information, such as sample size or percentages, to interpret and use the data appropriately.

Once the team identifies the proficiency for one or more elements, members can use the space at the bottom of the table for each element to insert notes for improvement related to that element. The practice examples at the end of step 2 illustrate different options for prioritizing data use goals.

Table 5. Example of a data team at the applied level for element 2 when all exemplary items are checked

Foundational	Applied	Established	Exemplary
☑ 2.A. Data reports ensure that personally identifiable information, such as date of birth or intake assessment score, is protected in accordance with federal and state requirements. ☑ 2.B. Staff review the quality, accuracy, and timeliness of the data. ☑ 2.C. Staff respond to data requests in a timely manner.	☑ 2.D. Data are kept current throughout an assessment period. ☑ 2.E. Data are made available to users (teachers, administrators) in a timely manner to inform instruction and make site-level decisions. ☑ 2.F. Staff incorporate data into family conferences. ☑ 2.G. Staff use data to manage programs (professional development, curriculum, district-level policies, resource allocation) and inform decisions about programmatic elements.	☐ 2.H. Dissemination of data products includes sufficient information, such as sample size or percentages, to interpret and use the data appropriately. ☑ 2.I. Staff use data for individualizing instruction/ interventions and classroom planning. ☑ 2.J. Staff engage in data discussions in which data are used to guide staff professional development.	☑ 2.K. Staff demonstrate commitment to using data to identify and address achievement gaps by providing data disaggregated by student subgroups (for example, geographic locality, race/ethnicity, disability type, age, gender, or other criteria) through framing of useful questions that inform data-driven decisions. ☑ 2.L. Staff create as needed and make available a variety of data products (videos, webinars) or displays (tables, infographics) to enhance understanding of the data for a variety of audiences (families, community stakeholders, policymakers, and so on). ☑ 2.M. Data team leaders conduct data discussions with all staff to monitor and improve individual student learning, schoolwide learning, and teaching practices.

Practice example

As a data team reviews what to prioritize for data use goals, members consider the following questions to guide the discussion:

- What element(s) are rated at the foundational level?
- What element(s) are feasible to improve?
- What staff, resources, or funding are available to address the data use element(s)?
- What professional development opportunities are available or affordable to address the data use element(s)?

The data team decides to focus on elements rated at the foundational, applied, and established levels to set a data use goal; in other words, elements rated below the exemplary level. In this example the team rated element 3 at the foundational level. To further develop the data use goal, the team focuses on a single item within the element that team members were not able to check off. Because they were not able to check off item C ("Staff use data to

track and measure the fidelity and quality of assessments and staff participation in data use trainings."), they focus their data use goal on whether the program needs improvement in tracking and measuring fidelity, quality, training, or all components of the item.

Practice example

A data team meets only once a month. With limited time and capacity, members decide to complete only one element of the checklist: element 2 (data maintenance, use and communication). The members review each item together, discussing unfamiliar terms and clarifying what the program staff value in terms of using and communicating data, until they have rated the proficiency of their program staff on this element.

The data team rated element 2 as not yet at the foundational level for using and communicating data because members can check off only items B and C (for example, see table 3). The team members are not sure whether they are protecting personally identifiable information in accordance with federal and state requirements in item A, and they identify this item as a priority for developing a data use goal. In the next step the team will be able to consult several resources in the resource guide to provide definitions and other information. Finally, in step 4 the team will choose as a data use goal the development of a shared understanding of item A. The team demonstrates achievement of this data use goal when the members agree that they have completed all the action steps in their plan.

Step 3. Consult the resource guide

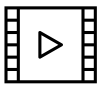
After the data team has prioritized one or more elements or items for improvement on the data use checklist in step 2, members can find professional development resources aligned with each item in the resource guide (see appendix B for the complete resource guide).

The number of resources available varies by item, and it is up to the team to decide how many of the resources to review. Team members' experience with data may be a good guide in choosing which resources to review for each item. For example, team members new to data use may choose to review all resources associated with an item.

Each resource includes a brief description of what users can expect to learn so that the data team understands how the resource aligns with its data use goal. For example, the first resource for element 1, item B (*Planning, Conducting, and Documenting Data Analysis for Program Improvement*) provides information on reviewing and revising a plan for data analysis, outlining findings from analyses, and reporting. If the data use goal that a team identifies in its action plan does not include a focus on this item, the team might decide not to use this resource. The resources are also organized by level of proficiency so that the team can readily find resources that will support improving its current level. Icons facilitate quick identification of the type of resource.

As described in the introduction, there are four primary types of resources (table 6).

Table 6. Resource icons and descriptions

Icon	Description
	**Videos** are generally brief recordings that capture practices in action. They can be viewed repeatedly. Many videos in the resource guide are from the Colorado Department of Education's Results Matter Video Library. Others provide support for each element in the data use checklist.
	**Tools** typically contain information on how to use research- or evidence-based practice strategies. Tools can include guides or other resources. Team leaders can review tools in printed format and make them available to other team members to support data use goals.
	**Presentations** are typically PowerPoint slide decks or posters presented at conferences that contain information or research. The presentation materials can be printed or viewed repeatedly.
	**Practitioner briefs and scholarly articles** vary in length and most often report on research or evidence supporting elements of data use. They can be downloaded and studied to support data use.

Practice example

After completing the checklist, a data team identified the need to develop foundational knowledge for element 2 (data maintenance, use, and communication). The team does not have a shared understanding of the federal and state requirements related to item 2.A ("Data reports ensure that personally identifiable information, such as date of birth or intake assessment score, is protected in accordance with federal and state requirements") and has developed a data use goal to understand these requirements. Personally identifiable information includes data that could be used to identify an individual. An early childhood program might collect such personally identifiable information as children's or parents' full names, social security numbers, bank account numbers, and email addresses. The team consults the resource guide for more information. They find three resources aligned with item 2.A. They review the descriptions and decide that the third resource, frequently asked questions (FAQ) related to data under the Individuals with Disabilities Education Act, is the best place to start because the team is familiar with early intervention data referenced in the resource.

Practice example

After completing the checklist and checking off almost every item, a data team found that it was still not consistently having "staff incorporate data into family conferences" (item 2.F). The team wants to develop this data use skill and consults the resource guide for more information. They find four resources aligned with item 2.F. They review the descriptions and decide that the first resource, a video, and the third resource, a presentation, would be most helpful to incorporate into an upcoming coaching session for staff.

Step 4. Complete the action plan

After using the data use checklist (appendix A) to identify and prioritize one or more elements for improvement and consulting the resource guide (appendix B) to find relevant resources, the data team can write one or more action steps to help team members develop and achieve their data use goals (see appendix C for the action plan template). The practice example below describes how to complete an action plan.

Practice example

After data team members have met to complete the checklist, rate their proficiency, and consult the resource guide together, the members are ready to write action steps and develop and achieve their data use goals. Box 1 and table 7 present the team's completed action plan. In this example, the administrator recorded the team's decision to focus on element 2 as its data use goal (box 1). The team enlisted the help of the program's instructional coach.[3] Together, they worked to attain the data use goal, to develop action steps, and to continuously review the team's progress toward the goal (table 7). Once the initial benchmarks were reached, the administrator took the lead to develop a continued data team assessment plan, establish the frequency for using the tool, and set new data use goals. The administrator in this example serves as the "goal reviewer," monitoring progress toward the data use goal and updating the goal as necessary. More details on the stages the team went through to complete its action plan are in box 1 and table 7. Information on creating SMART goals is described more fully in table 8.[4]

3. The instructional coach is listed in the template as optional because not all early childhood education programs have access to an instructional coach. However, if an instructional coach is available, the coach should be included in the action plan to support the data team.
4. SMART goals are those that are Specific, Measurable, Achievable, Realistic and relevant, and Timely (Doran, 1982).

Box 1. Example of completed data use goal in an action plan

Date: 8/1/20

Data team members: Andy (administrator), Kelly (coordinator), Tracy (teacher)

Goal reviewer: Andy

Instructional coach (optional): Jeff

Element(s) and item(s): Element 2 – Data maintenance, use, and communication; item I – Staff use data for individualizing instruction/interventions and classroom planning

Data use goal (written as SMART goal): After building capacity, the classroom teacher will use data to individualize instruction when planning monthly goals for each student. By the second semester the teacher will submit monthly goals to the administrator that are linked to data. During the first month the team will use the resources to build capacity with assistance from the coach (benchmarks 1 and 2). During the second month the administrator and the teacher will work together to link goals with data, using a template modeled on another program (benchmark 3). During the third month the administrator will review the monthly goals with the teacher (benchmark 4). Starting in the fourth month, the teacher will be able to write the monthly goals on his or her own (benchmark 5). Following benchmark 5, the team will convene, update the checklist, and choose the next goal.

Table 7. Example of action steps completed on an action plan

Action steps	Supporting resources	Responsible party	Timeline for completion	Measurement/accountability	Challenges
What activities will we engage in to reach our data use goals?	*What resources can we use?*	*Who will be involved in achieving this action step? Who will monitor progress?*	*How long will it take to complete this action step?*	*How will we know we have completed this action step?*	*What challenges do we anticipate or have we encountered in achieving this action step?*
1. Review the resources for element 2, item I in the resource guide.	Consult resources 1–4 in the resource guide.	Tracy (teacher) Kelly (coordinator) Andy (administrator—monitor progress) Jeff (coach)	9/30/20	Jeff facilitated a discussion of resources 1–4 (benchmarks 1 and 2).	Kelly (coordinator) will be on leave for surgery for one week in September.
2. Attend a data discussion at the Early Learning Center.	Partner with the data and instruction team at the Early Learning Center.	Tracy (teacher) Kelly (coordinator) Andy (administrator—monitor progress)	10/31/20	The team met after the data discussion and talked about what members had learned about creating a template for the monthly goals that references data. Andy and Tracy worked together to share the template with the program (benchmark 3).	A new student will join the program on November 1. We will need to create a separate plan for collecting assessment data and develop individual learning goals for the student.
3. Create data-driven monthly goals with support.	Review and update the template.	Tracy (teacher) Andy (administrator—monitor progress) Jeff (coach)	11/30/20	Andy reviewed the goals with Tracy and provided feedback (benchmark 4).	None
4. Create data-driven monthly goals independently.	Review previous month's goals from the template.	Tracy (teacher) Kelly (coordinator)	12/31/20	Kelly reviewed the goals and provided feedback to the team (benchmark 5).	None
5.					

Practice example

1. **A data team records the element number and item letter (if more than one item is unchecked under the level) for the data use goal.** For example, the team might determine a need to focus on element 2 (data maintenance, use, and communication) and the unchecked item I ("Staff use data for individualizing instruction/interventions and classroom planning"). The team inserts "2" and "I" in the action plan template (see box 1).

2. **The data team writes a data use goal to develop data use skills as a SMART goal for the plan** (Doran, 1981; table 8). SMART goals are those that are Specific, Measurable, Attainable, Realistic and relevant, and Timely. The SMART goal method helps the team set smaller goals along the way to meet larger, long-term goals. The SMART goals make achieving larger goals more attainable. Additionally, SMART goals are specific and provide a realistic and timely plan for what the team needs to do and how it needs to measure achievement of the goals. The example in table 8 illustrates how the team might use the SMART goal method for developing a data use goal and completing an action plan such as the one in box 1. The team demonstrates achieving a shared understanding when members agree that they have completed the action step(s) in the plan.

Table 8. SMART goals and sample action plan goals

SMART goal element	User scaffold	Example
Specific	What exactly do I want to happen?	The classroom teacher will use data to individualize instruction when planning monthly goals for each student (**specific**). By the second semester the teacher will submit monthly goals to the administrator that are linked to data (**measurable and timely**). During the first month the administrator and the teacher will work together to link goals with data. During the second month the administrator will review the monthly goals with the teacher. Starting in the third month, the teacher will be able to write the monthly goals on his or her own (**attainable, realistic, and relevant**).
Measurable	I will know I have reached my goal when…	
Attainable	With resources and action, is it possible to reach this goal by the deadline?	
Realistic and relevant	My goal is important enough for me to put a plan into action. I will follow this specific plan to reach my goal.	
Timely	I will reach this goal by…	

3. **A data team identifies one or more action steps that will help members develop data use skills for accomplishing data use goals.** The first action step that the team identifies is to consult the resource guide (appendix B) to identify resources to develop data use skills. Team members review the resources in the guide that are connected to element 2, item I, which they have prioritized from the data use checklist. They choose four of the five resources related to this item for further review. They plan for each member of the team to read the resources and then have their instructional coach facilitate a discussion of how each resource relates to their program. The team also identifies another action step: attending a data discussion at another ECE program that has already achieved the data use goal.

4. **Data team members are assigned to complete each action step and achieve the benchmarks, with a team member charged with monitoring progress.** It may not be necessary, practical, or helpful for every team member to complete every action step.

5. **The data team sets a target completion date for each action step.** It is important for the team to set realistic completion dates that will allow team members to hold one another accountable so that the data use goals remain a priority. Team members consider how much planning time staff might have to work on data use goals or how often staff meetings could be used to address data use goals.

6. **The data team determines how to measure progress and what benchmarks will be completed.** In this example the initial benchmark 1 is to share a key takeaway from the resources in action step 1. The benchmark is applying the tool resource to existing data use practices. The instructional coach determines whether each of the benchmarks has been achieved or whether more work is needed. One consideration might be whether the team is at the foundational or applied level and whether team members are unsure about how to improve data use. This would be a good opportunity for extended discussion with their instructional coach on how to set benchmarks and measure progress to support continuous improvement. Additionally, team members who are more experienced in data use can also provide feedback on setting benchmarks and measuring progress.

7. **The data team identifies and records anticipated challenges.** They identify any potential obstacles to achieving the data use goal. In this example the team considers other requirements for program staff that might be making the goal harder to achieve. They also identify anything unexpected that might interfere with attaining data use goals. In this example the team notes the extended leave of a critical staff member as well as the addition of a new student with no existing data to a class, making it difficult to write a data-driven goal for that student.

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Colorado Department of Education. (n.d.). *Administrative data use self-assessment*. Retrieved December 21, 2020, from https://www.cde.state.co.us/resultsmatter/administrativedatauseself-assessment.

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Appendix A. Data use checklist

Click on an item to jump to aligned resources in appendix B.

Element 1. Data use planning

Foundational	Applied	Established	Exemplary
☐ 1.A. Staff know what data are available, the purpose for collecting the data, how to collect the data, how the data will be used, and when to discard the data.	☐ 1.B. Staff review and revise plans together for data analysis, product development, and dissemination.	☐ 1.C. Plans for data use and consistent reporting mechanisms across schools, centers, and programs are matched to the intended audience (school board, funder, parents, policymakers, community, and so on). ☐ 1.D. Plans are in place to use data to inform decisions about accountability and program needs, such as changes to instructional strategies, learning environment, teacher assignment, or professional development. ☐ 1.E. Staff plan for use of multiple data sources to inform decisions.	☐ 1.F. Data collection, use, and analysis questions are planned through a mutual process of engaging program staff, families, and community partners. ☐ 1.G. Formal written policies are in place regarding the collection, storage, dissemination, and use of data.
Improvement goals:			

Element 2. Data maintenance, use, and communication

Foundational	Applied	Established	Exemplary
☐ 2.A. Data reports ensure that personally identifiable information, such as date of birth or intake assessment score, is protected in accordance with federal and state requirements. ☐ 2.B. Staff review the quality, accuracy, and timeliness of the data. ☐ 2.C. Staff respond to data requests in a timely manner.	☐ 2.D. Data are kept current throughout an assessment period. ☐ 2.E. Data are made available to users (teachers, administrators) in a timely manner to inform instruction and make site-level decisions. ☐ 2.F. Staff incorporate data into family conferences. ☐ 2.G. Staff use data to manage programs (professional development, curriculum, district-level policies, resource allocation) and inform decisions about programmatic elements.	☐ 2.H. Dissemination of data products includes sufficient information, such as sample size or percentages, to interpret and use the data appropriately. ☐ 2.I. Staff use data for individualizing instruction/ interventions and classroom planning. ☐ 2.J. Staff engage in data discussions in which data are used to guide staff professional development.	☐ 2.K. Staff demonstrate commitment to using data to identify and address achievement gaps by providing data disaggregated by student subgroups (for example, geographic locality, race/ethnicity, disability type, age, gender, or other criteria) through framing of useful questions that inform data-driven decisions. ☐ 2.L. Staff create as needed and make available a variety of data products (videos, webinars) or displays (tables, infographics) to enhance understanding of the data for a variety of audiences (families, community stakeholders, policymakers, and so on). ☐ 2.M. Data team leaders conduct data discussions with all staff to monitor and improve individual student learning, schoolwide learning, and teaching practices.
Improvement goals:			

Element 3. Data use monitoring, support, and accountability

Foundational	Applied	Established	Exemplary
☐ 3.A. Staff ensure completion of student assessments and correct incomplete assessments in a timely manner. ☐ 3.B. Teaching staff receive adequate support (materials and training) from leadership (administrators and principals) to use data.	☐ 3.C. Staff use data to track and measure the fidelity and quality of assessments and staff participation in data use trainings. ☐ 3.D. Staff have established processes/routines for entering documentation in the online or ongoing assessment tool. ☐ 3.E. Staff participate in professional development that supports users' skills and competencies to understand, interpret, and use data effectively.	☐ 3.F. Multiple resources and tools (for example, help desk, analytic and querying tools, web portal) are available for a variety of data users to facilitate access to data and to support data use. ☐ 3.G. On a regular basis, staff have dedicated, structured time for collaborative review and data use planning. ☐ 3.H. Staff have documented data specifications (for example, data elements, restrictions related to data elements, querying parameters, report criteria) to answer specific questions, and documentation is updated as needed.	☐ 3.I. Staff hold data discussions across classes/grades to support children's transitions. ☐ 3.J. Staff hold organizational members accountable for making data-informed decisions and for the results of those decisions.
Improvement goals:			

Data use checklist sources

The DaSy Center. (2014). Subcomponent: Data use (DU). In *DaSy data systems framework* (pp. 35–38). SRI International. Retrieved May 22, 2020, from https://dasycenter.org/resources/dasy framework/data-use/.

Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making* (NCEE No. 2009–4067). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. https://eric.ed.gov/?id=ED506645.

National Center on Parent, Family, and Community Engagement. (2020). *Measuring what matters: Using data to support family progress—Overview* (Revised). U.S. Department of Health and Human Services, Administration for Children and Families, Office of Head Start. https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/measuring-what-matters-using-data-overview-eng.pdf.

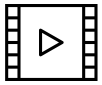
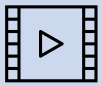
National Center on Program Management and Fiscal Operations. (2013). *What is quality data for programs serving infants and toddlers?* U.S. Department of Health and Human Services, Administration for Children and Families, Office of Head Start. Retrieved May 22, 2020, from https://eclkc.ohs.acf.hhs.gov/publication/what-quality-data-programs-serving-infants-toddlers.

Strategic Data Project. (2014). *Strategic use of data rubric*. Harvard University, Center for Education Policy Research. Retrieved May 22, 2020, from https://sdp.cepr.harvard.edu/strategic-use-data-rubric.

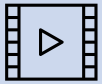
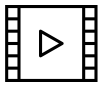
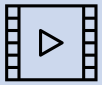
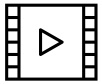
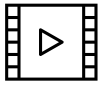
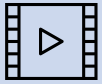
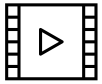
University of Massachusetts Donahue Institute & Department of Health and Human Services, Administration for Children and Families. (2007). *Setting the stage for data analysis: Assessing program strengths and risks*. http://www.donahue.umassp.edu/documents/setting-stage-data-analysis-strength-weak.pdf.

Appendix B. Resource guide

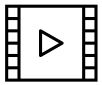
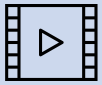
Element 1. Data use planning

Type	Resource	Description and purpose	Level
1.A. Staff know what data are available, the purpose for collecting the data, how to collect the data, how the data will be used, and when to discard the data.			
	Colorado Department of Education. (n.d.). *Blake's story* [Video]. http://www.cde.state.co.us/resultsmatter/blakesstory-player.	In this video an early intervention staff member goes to the grocery store with Blake and his mom to collect information on their normal routine and then uses ideas from that information to make the grocery trip better. This resource can be used to help early intervention staff understand the importance of collecting authentic assessment information and providing individualized instruction to help identified children meet goals.	Foundational
	Colorado Department of Education. (2013). *Using technology to enhance instruction and family engagement* [Video]. http://www.cde.state.co.us/resultsmatter/usingtechnologytoenhanceinstructionandfamilyengagement-player.	This video shows how teachers can use technology to improve instruction and engage families. Tablets or interactive whiteboards can be used to engage students during instruction and document student learning and progress. Data might include recorded videos that can be shared with children and families. There are also online message boards for parents as well as teachers to stay connected and share data.	Foundational
	Early Childhood Learning and Knowledge Center. (2018). *Learning from Assessment (LFA) Toolkit.* Retrieved January 23, 2019, from https://eclkc.ohs.acf.hhs.gov/child-screening-assessment/learning-assessment-lfa-toolkit/welcome-learning-assessment-lfa-toolkit.	This toolkit is a collection of presentations, handouts, guided practice exercises, and descriptions of additional resources designed to support program staff in enhancing, conducting, and interpreting child assessment data.	Foundational
1.B. Staff review and revise plans together for data analysis, product development, and dissemination.			
	The Center for IDEA Early Childhood Data Systems & The Early Childhood Technical Assistance Center. (2015). *Planning, conducting, and documenting data analysis for program improvement.* SRI International. Retrieved from https://dasycenter.sri.com/downloads/DaSy_papers/DaSy_SSIP_DataAnalysisPlanning_20150323_FINAL_Acc.pdf.	This tool helps with reviewing and revising a plan for data analyses, outlining findings from analyses, and reporting.	Applied
	Schachner, A., Vinh, M., & Cox, M. (2017). *Data informed decision makers: How to use data for decision making* [PowerPoint slides]. The Center for IDEA Early Childhood Data Systems. Retrieved January 23, 2019, from https://dasycenter.org/data-informed-decision-makers-how-to-use-data-for-decision-making/.	This presentation engages the listener in thinking about how to make instructional and systemic adjustments that are informed by data, even when constraints make this process difficult.	Applied
	The National Center on Program Management and Fiscal Operations. (n.d.). *Data in Head Start and Early Head Start: Tips for embracing data.* U.S. Department of Health and Human Services, Administration for Children and Families, Office of Head Start. https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/tip-sheet.pdf.	This resource provides tips for accounting for data, including providing understanding of data, implementing a welcoming approach for discussing data, establishing guidance for data use and management, and evaluating the data use process to make improvements.	Applied
	Early Childhood Learning and Knowledge Center. (2020). *Ongoing child assessment: A guide for program leaders.* Retrieved January 23, 2019, from https://eclkc.ohs.acf.hhs.gov/child-screening-assessment/article/ongoing-child-assessment-guide-program-leaders.	This guide provides information to help program leaders prepare, collect, aggregate and analyze, and use and share data. Program leaders can review case stories that demonstrate how education staff and program leaders use ongoing child assessment; discover definitions of terms, a planning worksheet, and a list of print and online resources in the appendixes; and find specific information about assessing children who are dual language learners and children with disabilities.	Applied

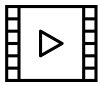
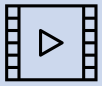
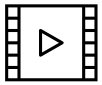
Appendix B. Resource guide

Type	Resource	Description and purpose	Level
1.C. Plans for data use and consistent reporting mechanisms across schools, centers, and programs are matched to the intended audience (school board, funder, parents, policymakers, community, and so on).			
	Colorado Department of Education. (2009). *Authentic assessment in early intervention* [Video]. http://www.cde.state.co.us/resultsmatter/authenticassessmentinearlyintervention-player.	This video shows how authentic assessment, including observation of the child and conversations with the family, allows the assessor to learn what goes on in the day-to-day life of the child and how to use the information to think of interventions that best fit the child. It is also helpful to use video data when reviewing the child's progress with the family.	Established
	SEDL. (2016, September 1). *Data use early education* [Video]. YouTube. https://www.youtube.com/watch?v=JsqvQYke4ns.	This video shows nine standards for data use in early childhood education, including ways in which preschool and K–3 teachers can collaborate on routines.	Established
	Belodoff, K., Gundler, D. Nicolas, A., & Wise, E. (2016). *Demystifying the "D" word: Making data meaningful for families* [PowerPoint slides]. The Center for IDEA Early Childhood Data Systems. Retrieved January 23, 2019, from https://dasycenter.org/demystifying-the-d-word-making-data-meaningful-for-families/.	This presentation shares how to make data accessible and purposeful for families with children in early childhood education.	Established
	American Association of School Administrators. (n.d.). *Using data to improve schools: What's working.* http://aasa.org/uploadedFiles/Policy_and_Advocacy/files/UsingDataToImproveSchools.pdf.	This guide provides district and school leaders, school board members, parents, and community members ways to effectively use data for school improvement.	Established
1.D. Plans are in place to use data to inform decisions about accountability and program needs, such as changes to instructional strategies, learning environment, teacher assignment, or professional development.			
	Colorado Department of Education. (2016). *Using child assessment data to achieve positive outcomes* [Video]. http://www.cde.state.co.us/resultsmatter/usingchildassessmentdatatoachievepositiveoutcomes-player.	This video shows how staff can use data for many program elements, such as making improvements to instruction, establishing additional supports teachers need in the classroom, and communicating program effectiveness to potential private funders.	Established
	Colorado Department of Education. (2009). *Linking documentation and curriculum* [Video]. http://www.cde.state.co.us/resultsmatter/linkingdocumentationandcurriculum-player.	This video shows how to observe and document classroom data to see what interests and challenges the children and to use the data to plan future curriculum.	Established
	Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making* (NCEE 2009-4067). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/dddm_pg_092909.pdf.	This guide provides five recommendations on how student achievement data can be used for instructional improvement and for how students can use their own data to set personal learning goals. For this to be successful, a clear understanding is needed of the way data are used and supported schoolwide and districtwide.	Established
1.E. Staff plan for use of multiple data sources to inform decisions.			
	Colorado Department of Education. (2015). *The benefits of using authentic assessment in a child care program* [Video]. http://www.cde.state.co.us/resultsmatter/thebenefitsofusingauthenticassessmentinachildcareprogram-player.	This video shows how authentic assessment allows teaching staff to collect authentic data (observation, anecdote, work samples) over multiple time points instead of during a limited assessment.	Established
	Colorado Department of Education. (2009). *Linking documentation and curriculum* [Video]. http://www.cde.state.co.us/resultsmatter/linkingdocumentationandcurriculum-player.	This video shows how to observe and document classroom data to see what interests and challenges the children and to use the data to plan future curriculum.	Established
	Colorado Department of Education. (2009). *The essential role of observation and documentation* [Video]. http://www.cde.state.co.us/resultsmatter/theessentialroleofobservationanddocumentation-player.	This video exemplifies the importance of observing and documenting what children are learning and how to use the data to build activities that are individualized to children's needs and wants.	Established

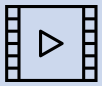
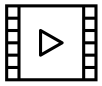
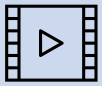
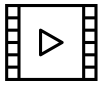
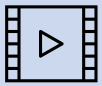
Appendix B. Resource guide

Type	Resource	Description and purpose	Level
	Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making* (NCEE 2009-4067). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/dddm_pg_092909.pdf.	This guide provides five recommendations on how student achievement data can be used for instructional improvement and for how students can use their own data to set personal learning goals. For this to be successful, a clear understanding is needed of the way data are used and supported schoolwide and districtwide.	Established
1.F. Data collection, use, and analysis questions are planned through a mutual process of engaging program staff, families, and community partners.			
	Colorado Department of Education. (2014). *Aiden's parent–teacher conference* [Video]. http://www.cde.state.co.us/resultsmatter/aidensparentteacherconference-player.	This video shows an example of a parent–teacher conference during which the teacher provides data to the parents and gathers data from the parents. The parents and teacher then use the data to discuss additional supports that the student needs at home from the perspective of both the parents and the teacher.	Exemplary
	Colorado Department of Education. (2014). *Preschool home visits—Making the time to build relationships* [Video]. http://www.cde.state.co.us/resultsmatter/preschoolhomevisitsmakingthetimetobuildrelationships-player.	This video shows how visiting a preschool student's home allows the teacher to gather data about the family and their culture. These data strengthen the working relationship between the teacher and family.	Exemplary
	Means, B., Padilla, C., & Gallagher, L. (2010). *Use of education data at the local level: From accountability to instructional improvement.* U.S. Department of Education, Office of Planning, Evaluation and Policy Development. https://www2.ed.gov/rschstat/eval/tech/use-of-education-data/use-of-education-data.pdf.	This report discusses the ways that districts around the nation encourage and strengthen districtwide use of data and the barriers to doing so.	Exemplary
1.G. Formal written policies are in place regarding the collection, storage, dissemination, and use of data.			
	Nelson, R., Kelley, G., Hebbeler, K., Vinh, M., Gillaspy, K., Barton, L., & Reid, J. K. (2017). *Local child outcomes measurement system (L-COMS).* Early Childhood Technical Assistance Center. http://ectacenter.org/eco/assets/pdfs/L-COMS_Framework.pdf.	This framework describes the fundamentals of a child outcomes measurement system, including having a clear purpose for the system; collecting, analyzing, reporting, and using data; evaluating the system and making improvements; and coordinating across early childhood education systems.	Exemplary
	Mauzy, D., Davis, R., Arzamendia, K., & Sellers, J. (2017). *Who's in charge of my data? Protecting data with effective data governance* [PowerPoint slides]. The Center for IDEA Early Childhood Data Systems. Retrieved January 23, 2019, from https://dasycenter.org/whos-in-charge-of-my-data-protecting-data-with-effective-data-governance.	This resource provides guidance for establishing a data governance structure that reinforces how education data are protected.	Exemplary
	Wayman, J. C., & Cho, V. (2008). Preparing educators to effectively use student data systems. In T. J. Kowalski & T. J. Lasley II (Eds.), *Handbook on data-based decision-making in education* (pp. 89–104). Routledge. http://www.waymandatause.com/wp-content/uploads/2013/11/Wayman_and_Cho.pdf.	This document explains the challenges that districts encounter when using data systems and it describes how districts can equip teachers with the knowledge and tools to use the systems.	Exemplary
	Mauzy, D., Davis, R., Arzamendia, K., & Sellers, J. (2017). *Who's in charge of my data? Protecting data with effective data governance* [PowerPoint slides]. The Center for IDEA Early Childhood Data Systems. Retrieved January 23, 2019, from https://dasycenter.org/whos-in-charge-of-my-data-protecting-data-with-effective-data-governance/.	This resource provides guidance for establishing a data governance structure that reinforces how education data are protected.	Exemplary
	U.S. Department of Education. (2016). *Understanding the confidentiality requirements applicable to IDEA early childhood programs: Frequently asked questions (FAQs).* https://studentprivacy.ed.gov/sites/default/files/resource_document/file/idea-confidentiality-requirements-faq_0.pdf.	This document provides early childhood programs with the privacy and confidentiality requirements set by the Individuals with Disabilities Education Act (2015).	Exemplary

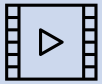
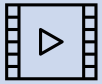
Element 2. Data maintenance, use, and communication

Type	Resource	Description and purpose	Level
2.A. Data reports ensure that personally identifiable information, such as date of birth or intake assessment score, is protected in accordance with federal and state requirements.			
	REL Northeast & Islands. (2015, August 24). *Data collection and use: An early childhood perspective* [Video]. YouTube. https://www.youtube.com/watch?v=P6FUI_kENIc.	This webinar shares how preschool programs are collecting, using, and sharing early childhood education data.	Foundational
	Nelson, R., Kelley, G., Hebbeler, K., Vinh, M., Gillaspy, K., Barton, L., & Reid, J. K. (2017). *Local child outcomes measurement system (L-COMS).* Early Childhood Technical Assistance Center. http://ectacenter.org/eco/assets/pdfs/L-COMS_Framework.pdf.	This framework describes the fundamentals of a child outcomes measurement system, including having a clear purpose for the system; collecting, analyzing, reporting, and using data; evaluating the system and making improvements; and coordinating across early childhood education systems.	Foundational
	U.S. Department of Education. (2016). *Understanding the confidentiality requirements applicable to IDEA early childhood programs: Frequently asked questions (FAQs).* https://studentprivacy.ed.gov/sites/default/files/resource_document/file/idea-confidentiality-requirements-faq_0.pdf.	This document provides early childhood programs with the privacy and confidentiality requirements set by the Individuals with Disabilities Education Act (2015).	Foundational
2.B. Staff review the quality, accuracy, and timeliness of the data.			
	Colorado Department of Education. (2009). *Using video to celebrate progress* [Video]. http://www.cde.state.co.us/resultsmatter/usingvideotocelebrateprogress-player.	This video shows how early intervention providers can share video data with families so that they can see how their children are progressing.	Foundational
	Early Childhood Learning and Knowledge Center. (2020). *Data in Head Start and Early Head Start: Digging into data.* Retrieved January 23, 2019, from https://eclkc.ohs.acf.hhs.gov/program-planning/article/data-head-start-early-head-start-digging-data.	This participatory training module involves six activities that develop skills for using data in Head Start and Early Head Start: selecting the right data, steering clear of data collection problems, changing one's view, drawing conclusions, taking action, and sharing data.	Foundational
	The Center for IDEA Early Childhood Data Systems. (2017). *Using your state's data to develop and answer critical questions* [PowerPoint slides]. Retrieved January 23, 2019, from https://dasycenter.org/using-your-states-data-to-develop-and-answer-critical-questions/.	This presentation shares how to use state Individuals with Disabilities Education Act (2015) data to answer questions that are important to one's work about children/students, families, personnel, and programs.	Foundational
	The National Center on Program Management and Fiscal Operations. (n.d.). *Data in Head Start and Early Head Start: Tips for embracing data.* U.S. Department of Health and Human Services, Administration for Children and Families, Office of Head Start. https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/tip-sheet.pdf.	This resource provides tips for accounting for data, including providing understanding of data, implementing a welcoming approach for discussing data, establishing guidance for data use and management, and evaluating the data use process to make improvements.	Foundational
	The Center for IDEA Early Childhood Data Systems. (2017). *What are data teams?* [Infographic]. Retrieved January 23, 2019, from https://dasycenter.org/data-culture-toolkit/teaming-for-data-use/what-are-data-teams/.	This infographic presents the definition of a data team, the purpose data teams serve, how to effectively include team members' varied perspectives, and the idea that no two data teams will have the same goals or function the same.	Foundational
2.C. Staff respond to data requests in a timely manner.			
	Colorado Department of Education. (2016). *Using child assessment data to achieve positive outcomes* [Video]. http://www.cde.state.co.us/resultsmatter/usingchildassessmentdatatoachievepositiveoutcomes-player.	This video shows how staff can use data for many program elements, such as making improvements to instruction, establishing additional supports teachers need in the classroom, and communicating program effectiveness to potential private funders.	Foundational

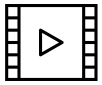
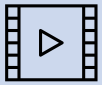
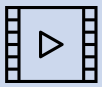
Appendix B. Resource guide

Type	Resource	Description and purpose	Level
	SEDL. (2016, September 1). *Data use early education* [Video]. YouTube. https://www.youtube.com/watch?v=JsqvQYke4ns.	This video shows nine standards for data use in early childhood education, including ways in which preschool and K–3 teachers can collaborate on routines.	Foundational
	Belodoff, K., Gundler, D. Nicolas, A., & Wise, E. (2016). *Demystifying the "D" word: Making data meaningful for families* [PowerPoint slides]. The Center for IDEA Early Childhood Data Systems. Retrieved January 23, 2019, from https://dasycenter.org/demystifying-the-d-word-making-data-meaningful-for-families/.	This presentation shares how to make data accessible and purposeful for families with children in early childhood education.	Foundational
	American Association of School Administrators. (n.d.). *Using data to improve schools: What's working.* http://aasa.org/uploadedFiles/Policy_and_Advocacy/files/UsingDataToImproveSchools.pdf.	This guide provides district and school leaders, school board members, parents, and community members ways to effectively use data for school improvement.	Foundational
2.D. Data are kept current throughout an assessment period.			
	Colorado Department of Education. (2009). *Using video to celebrate progress* [Video]. http://www.cde.state.co.us/resultsmatter/usingvideotocelebrateprogress-player.	This video shows how early intervention providers can share video data with families so that they can see how their children are progressing.	Applied
	Colorado Department of Education. (2011). *Using the iPod Touch and Dragon Dictation to record observation notes* [Video]. http://www.cde.state.co.us/resultsmatter/usingipodtouchanddragondictationtorecordobservationnotes-player.	This video introduces Dragon Dictations, a free application on the iPod Touch for documenting notes through voice. Teachers can record classroom observation data and the application will then transcribe the data. The notes can then be reviewed to monitor student progress.	Applied
	Nelson, R., Kelley, G., Hebbeler, K., Vinh, M., Gillaspy, K., Barton, L., & Reid, J. K. (2017). *Local child outcomes measurement system (L-COMS).* Early Childhood Technical Assistance Center. http://ectacenter.org/eco/assets/pdfs/L-COMS_Framework.pdf.	This framework describes the fundamentals of a child outcomes measurement system, including having a clear purpose for the system; collecting, analyzing, reporting, and using data; evaluating the system and making improvements; and coordinating across early childhood education systems.	Applied
	Means, B., Padilla, C., & Gallagher, L. (2010). *Use of education data at the local level: From accountability to instructional improvement.* U.S. Department of Education, Office of Planning, Evaluation and Policy Development. https://www2.ed.gov/rschstat/eval/tech/use-of-education-data/use-of-education-data.pdf.	This report discusses the ways that districts around the nation encourage and strengthen districtwide use of data and the barriers to doing so.	Applied
2.E. Data are made available to users (teachers, administrators) in a timely manner to inform instruction and make site-level decisions.			
	Colorado Department of Education. (2009). *Using documentation to become a better teacher* [Video]. http://www.cde.state.co.us/resultsmatter/usingdocumentationtobecomeabetterteacher-player.	This video shows how using video documentation in the classroom allows teachers to track student progress, review student strengths and areas for improvement, and plan teaching activities.	Applied
	Colorado Department of Education. (2009). *The essential role of observation and documentation* [Video]. http://www.cde.state.co.us/resultsmatter/theessentialroleofobservationanddocumentation-player.	This video exemplifies the importance of observing and documenting what children are learning and how to use those data to build activities that are individualized to children's needs and wants.	Applied
	Means, B., Padilla, C., & Gallagher, L. (2010). *Use of education data at the local level: From accountability to instructional improvement.* U.S. Department of Education, Office of Planning, Evaluation and Policy Development. https://www2.ed.gov/rschstat/eval/tech/use-of-education-data/use-of-education-data.pdf.	This report discusses the ways that districts around the nation encourage and strengthen districtwide use of data and the barriers to doing so.	Applied

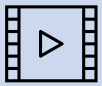
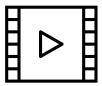
Appendix B. Resource guide

Type	Resource	Description and purpose	Level
2.F. Staff incorporate data into family conferences.			
	Colorado Department of Education. (2014). *Engaging families with video at parent–teacher conferences* [Video]. http://www.cde.state.co.us/resultsmatter/engagingfamilieswithvideoatparentteacherconferences-player.	This video shows how a parent–teacher conference can be enriched by sharing data exemplifying student learning and progress. This helps to facilitate conversations about what the teacher can do in the classroom and what the parent can do at home to better help the student succeed.	Applied
	Nelson, R., Kelley, G., Hebbeler, K., Vinh, M., Gillaspy, K., Barton, L., & Reid, J. K. (2017). *Local child outcomes measurement system (L-COMS).* Early Childhood Technical Assistance Center. http://ectacenter.org/eco/assets/pdfs/L-COMS_Framework.pdf.	This framework describes the fundamentals of a child outcomes measurement system, including having a clear purpose for the system; collecting, analyzing, reporting, and using data; evaluating the system and making improvements; and coordinating across early childhood education systems.	Applied
	Belodoff, K., Gundler, D. Nicolas, A., & Wise, E. (2016). *Demystifying the "D" word: Making data meaningful for families* [PowerPoint slides]. The Center for IDEA Early Childhood Data Systems. Retrieved January 23, 2019, from https://dasycenter.org/demystifying-the-d-word-making-data-meaningful-for-families/.	This presentation shares how to make data accessible and purposeful for families with children in early childhood education.	Applied
	American Association of School Administrators. (n.d.). *Using data to improve schools: What's working.* http://aasa.org/uploadedFiles/Policy_and_Advocacy/files/UsingDataToImproveSchools.pdf.	This guide provides district and school leaders, school board members, parents, and community members ways to effectively use data for school improvement.	Applied
2.G. Staff use data to manage programs (professional development, curriculum, district-level policies, resource allocation) and inform decisions about programmatic elements.			
	Colorado Department of Education. (2016). *Using child assessment data to achieve positive outcomes* [Video]. http://www.cde.state.co.us/resultsmatter/usingchildassessmentdatatoachievepositiveoutcomes-player.	This video shows how staff can use data for many program elements, such as making improvements to instruction, establishing additional supports teachers need in the classroom, and communicating program effectiveness to potential private funders.	Applied
	Nelson, R., Kelley, G., Hebbeler, K., Vinh, M., Gillaspy, K., Barton, L., & Reid, J. K. (2017). *Local child outcomes measurement system (L-COMS).* Early Childhood Technical Assistance Center. http://ectacenter.org/eco/assets/pdfs/L-COMS_Framework.pdf.	This framework describes the fundamentals of a child outcomes measurement system, including having a clear purpose for the system; collecting, analyzing, reporting, and using data; evaluating the system and making improvements; and coordinating across early childhood education systems.	Applied
	Mauzy, D., Davis, R., Arzamendia, K., & Sellers, J. (2017). *Who's in charge of my data? Protecting data with effective data governance* [PowerPoint slides]. The Center for IDEA Early Childhood Data Systems. Retrieved January 23, 2019, from https://dasycenter.org/whos-in-charge-of-my-data-protecting-data-with-effective-data-governance.	This resource provides guidance for establishing a data governance structure that reinforces how education data are protected.	Applied
	Means, B., Padilla, C., & Gallagher, L. (2010). *Use of education data at the local level: From accountability to instructional improvement.* U.S. Department of Education, Office of Planning, Evaluation and Policy Development. https://www2.ed.gov/rschstat/eval/tech/use-of-education-data/use-of-education-data.pdf.	This report discusses the ways that districts around the nation encourage and strengthen districtwide use of data and the barriers to doing so.	Applied

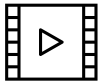
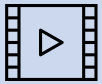
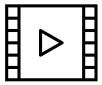
Appendix B. Resource guide

Type	Resource	Description and purpose	Level
2.H. Dissemination of data products includes sufficient information, such as sample size or percentages, to interpret and use the data appropriately.			
	Edutopia. (2015, April 7). *Demystifying student data for parents.* Retrieved January 23, 2019, from https://www.edutopia.org/practice/sharing-data-create-stronger-parent-partnerships.	This resource provides tips for sharing data with parents through data folders, parent–teacher conferences, and a possible night dedicated to parents and teachers sharing data on student progress.	Established
	Gould, T., Nicholas, A., Ruggiero, T., Blandford, W., Thayer, S., & Bull, B. (2015). *Types of data systems.* The Center for IDEA Early Childhood Data Systems. https://dasycenter.sri.com/downloads/DaSy_papers/DSL_Brief_2_Types_of_Data_Systems_FINAL_20150122_Acc.pdf.	This resource describes the purposes of four types of data systems frequently used for Part C (early intervention services for infants and toddlers with disabilities) and Part B 619 (special education services for school-age children with disabilities) programs.	Established
	U.S. Department of Education. (2005). *Information quality guidelines.* Retrieved January 23, 2019, from https://www2.ed.gov/policy/gen/guid/iq/iqg_4.html.	This resource contains guidance on high-quality data and explains how to determine the quality of data.	Established
2.I. Staff use data for individualizing instruction, interventions, and classroom planning.			
	Colorado Department of Education. (2009). *Using documentation to become a better teacher* [Video]. http://www.cde.state.co.us/resultsmatter/usingdocumentationtobecomeabetterteacher-player.	This video shows how using video documentation in the classroom allows teachers to track student progress, review student strengths and areas for improvement, and plan teaching activities.	Established
	Institute of Education Sciences. (2019, October 29). *Every child shines: Using formative assessment to reflect on children's individual knowledge & skills* [Video]. YouTube. https://www.youtube.com/watch?time_continue=3&v=5Q3DFs4hrpU&feature=emb_logo.	This video introduces early educators to the best practices in using formative assessment data from a developmental perspective for planning and differentiating instruction.	Established
	Indiana Early Learning Advisory Committee. (2017). *ELAC early learning data informed decision making toolkit.* http://www.elacindiana.org/elacindiana/wp-content/uploads/2018/01/ELAC-Early-Learning-Data-Toolkit-Final-Dec-2017-2.pdf.	This toolkit helps prepare communities for collecting and working with data to answer questions that are significant to a child's progress in school.	Established
	Gundler, D. Nicolas, A., & Belodoff, K. (2017). *Data-informed stakeholders: Building family capacity to understand and use EI/ECSE program data.* The Center for IDEA Early Childhood Data Systems. https://dasycenter.sri.com/downloads/DaSy_presentations/DEC2017_FamilyCapacity.pdf.	This resource shares how to increase the capacity of families to understand and use data to ask questions and make decisions related to student learning.	Established
	The Center for IDEA Early Childhood Data Systems, National Center for Systemic Improvement, & The Early Childhood Technical Assistance Center. (2018). *Telling your SSIP story in an infographic: Strategies, tips, and examples.* SRI International. https://dasycenter.sri.com/downloads/DaSy_papers/SSIPY511_InfographicGuide.pdf.	This guide describes a process for creating effective infographics for sharing State System Improvement Plan data with stakeholders.	Established
2.J. Staff engage in data discussions in which data are used to guide staff professional development.			
	Colorado Department of Education. (2016). *Using child assessment data to achieve positive outcomes* [Video]. http://www.cde.state.co.us/resultsmatter/usingchildassessmentdatatoachievepositiveoutcomes-player.	This video shows how staff can use data for many program elements, such as making improvements to instruction, establishing additional supports teachers need in the classroom, and communicating program effectiveness to potential private funders.	Established
	Indiana Early Learning Advisory Committee. (2017). *ELAC early learning data informed decision making toolkit.* http://www.elacindiana.org/elacindiana/wp-content/uploads/2018/01/ELAC-Early-Learning-Data-Toolkit-Final-Dec-2017-2.pdf.	This toolkit helps prepare communities for collecting and working with data to answer questions that are significant to a child's progress in school.	Established

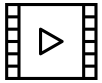
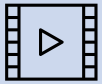
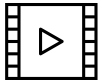
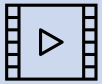
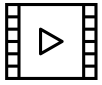
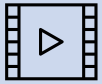
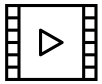
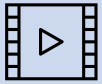
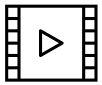
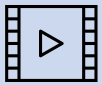
Appendix B. Resource guide

Type	Resource	Description and purpose	Level
	Hendricks, D., Bernstein, H., & Ruggiero, T. (2017). *Developing local data teams: Moving toward data informed decision making* [PowerPoint slides]. The Center for IDEA Early Childhood Data Systems. Retrieved January 23, 2019, from https://dasycenter.org/developing-local-data-teams-moving-toward-data-informed-decision-making/.	This presentation describes the purpose of having local data teams, explains how they operate, and gives examples of how the data teams make decisions on data use.	Established
	Means, B., Padilla, C., & Gallagher, L. (2010). *Use of education data at the local level: From accountability to instructional improvement.* U.S. Department of Education, Office of Planning, Evaluation and Policy Development. https://www2.ed.gov/rschstat/eval/tech/use-of-education-data/use-of-education-data.pdf.	This report discusses the ways that districts around the nation encourage and strengthen districtwide use of data and the barriers to doing so.	Established
2.K. Staff demonstrate commitment to using data to identify and address achievement gaps by providing data disaggregated by student subgroups (for example, geographic locality, race/ethnicity, disability type, age, gender, or other criteria) through framing of useful questions that inform data-driven decisions.			
	Institute of Education Sciences. (2016, November 30). *Teacher Data Use Survey webinar series: Webinar 4: Communicating results* [Video]. YouTube. https://www.youtube.com/watch?v=gFC5C0LHV8s.	This webinar describes approaches for sharing results from the Teacher Data Use Survey, which was developed to gauge how teachers use data. The webinar provides a template for reporting.	Exemplary
	SEDL. (2016, September 1). *Data use early education* [Video]. YouTube. https://www.youtube.com/watch?v=JsqvQYke4ns.	This video shows nine standards for data use in early childhood education, including ways in which preschool and K–3 teachers can collaborate on routines.	Exemplary
2.L. Staff create as needed and make available a variety of data products (videos, webinars) or displays (tables, infographics) to enhance understanding of the data for a variety of audiences (families, community stakeholders, policymakers, and so on).			
	The Center for IDEA Early Childhood Data Systems. (2017). *Longitudinal summary statements graphing templates.* Retrieved January 23, 2019, from https://dasycenter.org/longitudinal-summary-statements-graphing-templates/.	This tool provides Microsoft Excel templates that states can use to transform data into longitudinal summary statement graphs that can be copied and pasted into other documents for sharing. The tool can also be used at the district or program level. The templates can be adapted to create graphs of program summary data and then copied and pasted into presentations and reports.	Exemplary
	Gundler, D. Nicolas, A., & Belodoff, K. (2017). *Data-informed stakeholders: Building family capacity to understand and use EI/ECSE program data.* The Center for IDEA Early Childhood Data Systems. https://dasycenter.sri.com/downloads/DaSy_presentations/DEC2017_FamilyCapacity.pdf.	This resource shares how to increase the capacity of families to understand and use data to ask questions and make decisions related to student learning.	Exemplary
	The Center for IDEA Early Childhood Data Systems, National Center for Systemic Improvement, & The Early Childhood Technical Assistance Center. (2018). *Telling your SSIP story in an infographic: Strategies, tips, and examples.* SRI International. https://dasycenter.sri.com/downloads/DaSy_papers/SSIPY511_InfographicGuide.pdf.	This guide describes a process for creating effective infographics for sharing State System Improvement Plan data with stakeholders.	Exemplary
	The Center for IDEA Early Childhood Data Systems & the National Center for Systemic Improvement. (2018). *Data visualization toolkit* (Revised). Retrieved January 23, 2019, from https://dasycenter.org/data-visualization-toolkit-2/.	This toolkit provides users with the tools necessary to present data to stakeholders in meaningful and accessible ways.	Exemplary
	The Center for IDEA Early Childhood Data Systems. (n.d.). *Building stakeholder knowledge about data.* Retrieved January 23, 2019, from https://dasycenter.org/stakeholder-knowledge-toolkit/.	This toolkit provides stakeholders working with Individuals with Disabilities Education Act Part C (early intervention services for infants and toddlers with disabilities) and Part B 619 (special education services for school-age children with disabilities) programs with an introduction to relevant data to allow them to be easily involved in conversations around data.	Exemplary

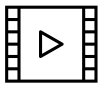
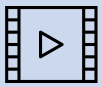
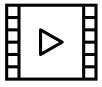
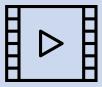
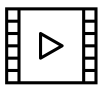
Appendix B. Resource guide

Type	Resource	Description and purpose	Level
2.M. Data team leaders conduct data discussions with all staff to monitor and improve individual student learning, schoolwide learning, and teaching practices.			
	Early Childhood Learning and Knowledge Center. (2018). *How to use Excel to manage data to improve teaching and learning* [Video]. https://eclkc.ohs.acf.hhs.gov/video/how-use-excel-manage-data-improve-teaching-learning.	This video demonstrates how Microsoft Excel 2007/2010 can be used to manage and display data.	Exemplary
	Early Childhood Learning and Knowledge Center. (2015). *Preparing and collecting data* [Video]. https://eclkc.ohs.acf.hhs.gov/video/preparing-collecting-data.	This video shows users how to collect, clean, and use data to demonstrate progress toward goals.	Exemplary
	Early Childhood Learning and Knowledge Center. (2013). *Let's talk about data! Leading cultures of inquiry* [Video]. https://eclkc.ohs.acf.hhs.gov/video/lets-talk-about-data-leading-cultures-inquiry.	This video uses a three-step model to demonstrates how to make data dialogues useful and meaningful.	Exemplary
	Early Childhood National Centers & National Center on Program Management and Fiscal Operations. (n.d.). *Tip sheet: Asking the right questions.* U.S. Department of Health and Human Services, Administration for Children and Families. https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/asking-right-questions-tip-sheet.pdf.	This tip sheet provides suggestions for appropriate dialogue about ongoing monitoring of data during the assessment process.	Exemplary

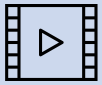
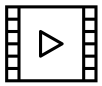
Element 3. Data use monitoring, support, and accountability

Type	Resource	Description and purpose	Level
3.A. Staff ensure completion of student assessments and correct incomplete assessments in a timely manner.			
	Colorado Department of Education. (2009). *Using video for self-reflection* [Video]. http://www.cde.state.co.us/resultsmatter/usingvideoforselfreflection-player.	This video shows an evaluator taking a video of herself during an early intervention evaluation and then reviewing it to see what was effective and what needed improvement.	Foundational
3.B. Teaching staff receive adequate support (materials and training) from leadership (administrators and principals) to use data.			
	Colorado Department of Education. (2015). *The Results Matter expansion project step by step* [Video]. http://www.cde.state.co.us/resultsmatter/theresultsmatterexpansionprojectstepbystep-player.	The Results Matter expansion project provided iPads and laptops to classrooms as well as technical advisors to train teachers to use these tools. These were helpful for teachers in documenting children's behavior, in engaging parents in conferences, and in making instructional improvements.	Foundational
	Colorado Department of Education. (2011). *Example of using video for coaching at SD27J preschool* [Video]. http://www.cde.state.co.us/resultsmatter/exampleofusingvideoforcoachingatsd27jpreschool-player.	This video shows how a classroom observation video can help guide a discussion between a teacher and a coach about strengths and areas for improvement.	Foundational
3.C. Staff use data to track and measure the fidelity and quality of assessments and staff participation in data use trainings.			
	Colorado Department of Education. (2009). *Using video for self-reflection* [Video]. http://www.cde.state.co.us/resultsmatter/usingvideoforselfreflection-player.	This video shows an evaluator taking a video of herself during an early intervention evaluation and then reviewing it to see what was effective and what needed improvement.	Applied
	Colorado Department of Education. (2013). *Teaming on the use of the GOLD® Documentation app* [Video]. http://www.cde.state.co.us/resultsmatter/teamingontheuseofthegolddocumentationapp-player.	In this video an early childhood professional, a paraprofessional, and a lead teacher paraprofessional discuss how they work together to document classroom data using the TS GOLD Documentation application and then use the data to talk about student progress.	Applied
	Colorado Department of Education. (2013). *Using the GOLD® Documentation app to better understand children's communication* [Video]. http://www.cde.state.co.us/resultsmatter/usingthegolddocumentationapptobetterunderstandchildrenscommunication-player.	This video demonstrates how the TS GOLD Documentation app can be used to gather language sample data from students in the classroom. Once a sample has been gathered, a teacher can upload it to GOLD online and add more detail to the data and track progress.	Applied
3.D. Staff have established processes/routines for entering documentation in the online or ongoing assessment tool.			
	Colorado Department of Education. (2012). *First Look: Teaching Strategies GOLD® Documentation app* [Video]. http://www.cde.state.co.us/resultsmatter/firstlookteachingstrategiesgolddocumentationapp-player.	This video presents a short training on using the TS GOLD Documentation app, including how to take a photo or record a video or audio of a student, add notes, assign documentation and objectives, and then upload.	Applied
	Colorado Department of Education. (2015, February 3). *Using the iPod Touch and iPhone to record video and photographic documentation* [Video]. YouTube. https://www.youtube.com/watch?v=qO-UZMif0j4&feature=player_embedded.	This video shows how early childhood educators use the iPod Touch and iPhone for classroom data, including for taking photos and videos of students, reviewing these with students for reflection, and allowing students to video and photograph each other during activities.	Applied
	Colorado Department of Education. (2010). *Watching video documentation with children* [Video]. http://www.cde.state.co.us/resultsmatter/watchingvideodocumentationwithchildren-player.	This video shows an example of how a child interacts with video data by recalling what she had done in the activity and noticing what others were doing around her. The teacher incorporates the additional data to better see what the student has learned.	Applied
	Colorado Department of Education. (2010). *Using documentation at Emerald Preschool* [Video]. http://www.cde.state.co.us/resultsmatter/usingdocumentationatemeraldpreschool-player.	This video shows how a preschool teacher uses data in a variety of ways, including assessing student progress, revisiting activities with the student through video documentation, communicating student progress with families, and informing other teachers of successful activities.	Applied

Appendix B. Resource guide

Type	Resource	Description and purpose	Level
3.E. Staff participate in professional development that supports users' skills and competencies to understand, interpret, and use data effectively.			
	Cowan, D. (2009). Creating a community of professional learners: An inside view. *SEDL Letter, 21*(1), 20–25. Retrieved January 23, 2019, from https://sedl.org/pubs/sedl-letter/v21n01/prof_learn.html.	This resource describes a method for developing a professional learning community centered on collaboration and ongoing professional development, including data use.	Applied
	Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making* (NCEE 2009-4067). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/dddm_pg_092909.pdf.	This guide provides five recommendations on how student achievement data can be used for instructional improvement and for how students can use their own data to set personal learning goals. For this to be successful, a clear understanding is needed of the way data are used and supported schoolwide and districtwide.	Applied
	Tobia, E. (2007). The Professional Teaching and Learning Cycle: Implementing a standards-based approach to professional development. *SEDL Letter, 19*(1), 11–15. Retrieved January 23, 2019, from http://www.sedl.org/pubs/sedl-letter/v19n01/professional-teaching-and-learning-cycle.html.	This resource discusses the Professional Teaching and Learning Cycle, which promotes job-embedded professional development, collaboration among teacher peers, and student learning aligned to state standards.	Applied
	Yoon, K. S., Duncan, T., Lee, S. W.-Y., Scarloss, B., & Shapley, K. L. (2007). *Reviewing the evidence on how teacher professional development affects student achievement* (REL 2007–No. 033). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest. https://ies.ed.gov/ncee/edlabs/regions/southwest/pdf/REL_2007033.pdf.	This resource reviews nine studies that meet U.S. Department of Education's What Works Clearinghouse (WWC) evidence standards and that discuss the link between professional development for teachers and student achievement. WWC provides support to educators on evidence-based decisionmaking.	Applied
	Colorado Department of Education. (2013). *Using technology to enhance instruction and family engagement* [Video]. http://www.cde.state.co.us/resultsmatter/usingtechnologytoenhanceinstructionandfamilyengagement-player.	This video shows how teachers can use technology to improve instruction and engage families. Tablets or interactive whiteboards can be used to engage students during instruction and document student learning and progress. Data might include recorded videos that can be shared with children and families. There are also online message boards for parents as well as teachers to stay connected and share data.	Applied
	Colorado Department of Education. (2013). *Teaming on the use of the GOLD® Documentation app* [Video]. http://www.cde.state.co.us/resultsmatter/teamingontheuseofthegolddocumentationapp-player.	In this video an early childhood professional, a paraprofessional, and a lead teacher paraprofessional discuss how they work together to document classroom data using the TS GOLD Documentation application. They can then use the data to talk about student progress.	Applied
3.F. Multiple resources and tools (for example, help desk, analytic and querying tools, web portal) are available for a variety of data users to facilitate access to data and to support data use.			
	Colorado Department of Education. (2016). *Using child assessment data to achieve positive outcomes* [Video]. http://www.cde.state.co.us/resultsmatter/usingchildassessmentdatatoachievepositiveoutcomes-player.	This video shows how staff can use data for many program elements, such as making improvements to instruction, establishing additional supports teachers need in the classroom, and communicating program effectiveness to potential private funders.	Established
	Colorado Department of Education. (2013). *Teaming on the use of the GOLD® Documentation app* [Video]. http://www.cde.state.co.us/resultsmatter/teamingontheuseofthegolddocumentationapp-player.	In this video an early childhood professional, a paraprofessional, and a lead teacher paraprofessional discuss how they work together to document classroom data using the TS Gold Documentation application. They can then use the data to talk about student progress.	Established
	Colorado Department of Education. (2013). *Using technology to enhance instruction and family engagement* [Video]. http://www.cde.state.co.us/resultsmatter/usingtechnologytoenhanceinstructionandfamilyengagement-player.	This video shows how teachers can use technology to improve instruction and engage families. Tablets or interactive whiteboards can be used to engage students during instruction and document student learning and progress. Data might include recorded videos that can be shared with children and families. There are also online message boards for parents as well as teachers to stay connected and share data.	Established

Appendix B. Resource guide

Type	Resource	Description and purpose	Level
3.G. On a regular basis, staff have dedicated, structured time for collaborative review and data use planning.			
	Colorado Department of Education. (2014). *Collaborating to support Aiden* [Video]. http://www.cde.state.co.us/resultsmatter/collaboratingtosupportaiden-player.	This video shows how an interventionist and a preschool teacher use data together to plan for how Aiden, a child with an immune disease that exposes him to infection, can attend class via videoconferencing.	Established
	Early Childhood Learning and Knowledge Center. (n.d.). *Planning for assessment* [Video]. https://eclkc.ohs.acf.hhs.gov/video/planning-assessment.	This in-service suite describes how teachers can plan efficiently for conducting ongoing assessment of children's learning in the preschool classroom.	Established
3.H. Staff have documented data specifications (for example, data elements, report criteria, querying parameters, restrictions related to data elements) to answer specific questions, and documentation is updated as needed.			
	Gould, T., Nicholas, A., Ruggiero, T., Blandford, W., Thayer, S., & Bull, B. (2015). *Types of data systems*. The Center for IDEA Early Childhood Data Systems. https://dasycenter.sri.com/downloads/DaSy_papers/DSL_Brief_2_Types_of_Data_Systems_FINAL_20150122_Acc.pdf.	This resource describes the purposes of four types of data systems frequently used for Part C (early intervention services for infants and toddlers with disabilities) and Part B 619 (special education services for school-age children with disabilities) programs.	Established
	U.S. Department of Education. (2005). *Information quality guidelines*. Retrieved January 23, 2019, from https://www2.ed.gov/policy/gen/guid/iq/iqg_4.html.	This resource contains guidance on high-quality data and explains how to determine the quality of data.	Established
3.I. Staff hold data discussions across classes/grades to support children's transitions.			
	Fain, A., & Eason, D. (2016). Collaborating for seamless transitions from early childhood education into elementary schools in Tulsa, Oklahoma. *Voices in Urban Education, 2016*(43), 16–26. Retrieved January 23, 2019, from http://vue.annenberginstitute.org/issues/43/collaborating-seamless-transitions-early-childhood-education-elementary-schools-tulsa.	Districts, schools, teachers, and parents partner to support student transitions into elementary school. This sharing of data ensures stability of care and supports parent engagement in their children's schooling.	Established
	Peters, S., Hartley, C., Rogers, P., Smith, J., & Carr, M. (2009). Supporting the transition from early childhood education to school: Insights from one Centre of Innovation project. *Teaching and Learning, 2009*(3), 4–10. http://www.nzcer.org.nz/system/files/journals/set/downloads/set2009_3_04_0.pdf.	This journal article provides ways in which early childhood education and elementary schools can work with data to make the transition for students and families a smooth process.	Established
	Little, M. H., Cohen-Vogel, L., & Curran, F. C. (2016). Facilitating the transition to kindergarten: What ECLS-K data tell us about school practices then and now. *AERA Open, 2*(3). Retrieved January 23, 2019, from https://doi.org/10.1177%2F2332858416655766.	This article discusses results from the Early Childhood Longitudinal Study—Kindergarten, which examined the ways in which schools used data to support students transitioning from early childhood to elementary.	Established
3.J. Staff hold organizational members accountable for making data-informed decisions and for the results of those decisions.			
	Anketell, M., Stipetic, D., Hudson, L, & Belodoff, K. (2017). *Going from questions to answers: Using data at the local level* [Poster]. The Center for IDEA Early Childhood Data Systems. Retrieved January 23, 2019, from https://dasycenter.org/going-from-questions-to-answers-using-data-at-the-local-level/.	The resources share best practices on how to support a data culture by asking questions and collecting data to answer the questions.	Established
	Hebbeler, K., Kasprzak, C., & Taylor, C. (2017). *Using child outcomes data to improve programs for children and families* [Poster]. The Center for IDEA Early Childhood Data Systems. https://dasycenter.sri.com/downloads/DaSy_presentations/DaSyECTAPoster_DEC2017_OutcomesData_Final.pdf.	The resource shows how Nevada collects and uses data for preschool special education outcomes.	Established
	Hendricks, D., Bernstein, H., & Ruggiero, T. (2017). *Developing local data teams: Moving toward data informed decision making* [PowerPoint slides]. The Center for IDEA Early Childhood Data Systems. Retrieved January 23, 2019, from https://dasycenter.org/developing-local-data-teams-moving-toward-data-informed-decision-making/.	This presentation describes the purpose of having local data teams, explains how they operate, and gives examples of how the data teams make decisions on data use.	Established

Appendix C. Action plan template

Date:
Data team members:
Goal reviewer:
Instructional coach (optional):
Element(s) and item(s):
Data use goal (written as SMART goal):

 Action steps	 Supporting resources	 Responsible party	 Timeline for completion	 Measurement/accountability	 Challenges
What activities will we engage in to reach our data use goals?	*What resources can we use?*	*Who will be involved in achieving this action step? Who will monitor progress?*	*How long will it take to complete this action step?*	*How will we know we have completed this action step?*	*What challenges do we anticipate or have we encountered in achieving this action step?*

Acknowledgments

The development of this Early Childhood Data Use Assessment Tool would not have been possible without the support and contributions of Joshua Stewart, Trudy Cherasaro, Kerry Friedman, and Judi Stevenson-Garcia. The authors would also like to thank early childhood staff from Minot Head Start and Dickinson Public Schools in North Dakota, Glenwood R-8 School District in Missouri, and the Colorado Department of Education.

REL 2021–067

March 2021

This report was prepared for the Institute of Education Sciences (IES) under Contract ED-IES-17-C-0005 by the Regional Educational Laboratory Central administered by Marzano Research. The content of the publication does not necessarily reflect the views or policies of IES or the U.S. Department of Education, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

Germeroth, G., Joyce, J., Kelleman, B., & Bopp, L. (2021). *Early Childhood Data Use Assessment Tool* (REL 2021–067). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Central. http://ies.ed.gov/ncee/edlabs.

This resource is available on the Regional Educational Laboratory website at http://ies.ed.gov/ncee/edlabs.