

Evaluating State Accountability Systems Under ESEA

Module 2B: Indicator Interaction in the State's System of Annual Meaningful Differentiation (AMD)

Under the Elementary and Secondary Education Act of 1965 (ESEA), as amended by the Every Student Succeeds Act (ESSA), a state's system of AMD (i.e., a state's accountability system) must include a minimum number and certain types of *indicators*, which are the data and information used to measure school performance and reflect priorities within each state. The following indicators are required under ESEA:

- **Academic achievement indicator**, as measured by proficiency on the annual reading or language arts and mathematics assessments and at the State's discretion, for each public high school in the State, student growth, as measured by such annual assessments.
- **Other academic indicator**, for elementary and middle schools that are not high schools, where another valid and reliable statewide academic indicator allows for meaningful differentiation.
- **Graduation rate indicator**, for high schools, as measured by the four-year adjusted-cohort graduation rate (ACGR) and, at a state's discretion, one or more extended-year ACGRs.
- **Progress in achieving English-language proficiency (ELP) indicator**, as defined by the state and measured by the statewide ELP assessment.
- At least one **indicator of school quality or student success (SQSS)** that meaningfully differentiates between schools and is valid, reliable, statewide, and comparable.

A state's system of AMD must afford substantial weight to each indicator, where much greater weight is afforded to the academic indicators in aggregate than the SQSS indicator. Likewise, states must describe how these indicators interact within the state's accountability system. In some states, the state's system of AMD is based on an index consisting of the ESEA-required indicators. In other states, the state's system of AMD uses a series of decision rules to identify schools that merit reward or require support to improve outcomes for all students based on these indicators—these states are sometimes described as having a “dashboard” approach. Regardless of whether a state uses a summative (e.g., index) or non-summative (e.g., dashboard) approach, the selection and interaction of indicators should reflect the state's theory of action, the policy objectives of the state's accountability system, and intended outcomes of the state's system of AMD.

This module focuses on the selection and interaction of indicators for the state's accountability system; however, this module also includes a series of optional sub-modules that focus on the individual indicators required under ESEA. To use this module, first complete this main module on the selection and interaction of indicators, which will help you further explore how indicators interact and function within your state's system

This module is part of the [Evaluating State Accountability Systems Under the ESEA tool](#), which is designed to help state educational agency (SEA) staff reflect on how the state's accountability system achieves its intended purposes and build confidence in the state's accountability system design decisions and implementation activities.

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of AMD. In addition, this main module will help you identify whether any specific indicators require additional exploration or examination. After completing this main module, select the sub-modules for the indicators you would like to explore in depth.

Please note that it may be helpful to use the notes generated during Module 1: Theory of Action and Module 2A: State’s System of Annual Meaningful Differentiation (AMD) alongside this module to inform reflection.

This main module includes three sets of self-reflection prompts that are intended to help articulate why decisions were made and how indicators interact within the state’s system of AMD. These three sets of prompts are not intended to be discrete; instead, they are intended to work together to help you answer questions in the next sections of this module. The three sections are described in the following table.

Table 1. Overview of Module 2B: Indicator Interaction in the State’s System of AMD

Section	What is it?	Why is it important?	How should it be used?
Articulate the Rationale for How Indicators Are Combined	A description of why indicator interactions are designed the way they are	It is important to document the reasoning behind how indicators are combined, document how they should interact operationally, and describe the “what” and “why” behind the weighting of the indicators.	The rationale for the indicators asks you to describe the expected policy objective, behavioral intent, and expected results associated with how the indicators are combined in the state’s system of AMD. This rationale can be used as a point of comparison for examining the data within the set of indicators. This will also help you, in the next section, assess the strength of the rationale.

Section	What is it?	Why is it important?	How should it be used?
Stakeholder Perceptions of the Rationale for Combining Indicators	A reflection on whether stakeholders understand the rationale behind how indicators interact and that helps identify possible areas that may be misinterpreted or misunderstood by the stakeholders	Determining what assumptions or design decisions might require more explanation that can help minimize the public's misunderstanding and help prioritize resources to support communication efforts.	The stakeholder perceptions section asks you to think about your rationale as an outsider. To what degree will stakeholders understand this rationale? How public is the rationale or its supporting documentation? How might stakeholders interpret, use, or misinterpret the design and results of the system? This reflection may help you identify what areas may need additional explanation or whether additional communication is necessary
Confidence in Operations and Results of Combining Indicators	Based on your rationale and potential risk, an examination of your level of confidence that design decisions are sound and evidence supports your assumptions	Determining your overall confidence in the state's system of AMD results and presentation can help you determine where to collect evidence, make system revisions, or develop outreach materials.	The confidence in operations and results section will help you identify potential evidence that can help confirm your rationale regarding how indicators are combined and how each indicator is designed. The rationale can also be used as a point of comparison for design decisions, and the strength of rationale can be used to focus attention on key confidence claims.

Evaluating State Accountability Systems Under ESEA
Module 2B: Indicator Interaction in the State’s System of Annual Meaningful Differentiation (AMD)
Section 1. Articulate the Rationale for How Indicators Are Combined

In the first two modules of this tool (**Module 1: Theory of Action** and **Module 2A: State’s System of AMD**), you mapped the overall theory of action for the state’s accountability system and considered the design, signals, and results of the state’s system of AMD and how it supports the overall theory of action. In addition to the overall theory of action for the state’s accountability system, the way in which indicators are expected to interact within the state’s accountability system has its own *component rationale* (or “mini theory of action”). The first section of this module focuses on the component rationale for how the indicators interact; however, for each specific indicator type, there is a sub-module in Modules 3a-3e that includes a component rationale reflection customized for that indicator type.

Consider the following questions regarding the rationale behind how indicators within the state’s system of AMD are intended to interact.

Table 2. Articulate the Rationale for How Indicators Are Combined

Articulate the Rationale for How Indicators Are Combined	
<i>Reflection Questions</i>	<i>Notes</i>
Policy intent: What is the policy objective that you are trying to communicate based on the weighting of indicators or ordering of decision rules? How does this support your overall system theory of action?	
Policy mechanisms or levers: How much should each indicator drive the overall identification of schools? <ul style="list-style-type: none"> Do any of the academic indicators (i.e., academic achievement, other academic, graduation rate, or English language proficiency indicators) intentionally have much greater or less weight than the others? To what degree is the order of decision rules highlighting the intended outcomes of the state’s accountability system? 	
Behavioral intent: What behaviors are you trying to incentivize based on the policy-defined weights or order of decision rules (e.g., focus conversations on closing educational gaps or student growth)? These may include behaviors for policymakers, state staff, district leaders, principals, educators, and the public.	

<i>Reflection Questions</i>	<i>Notes</i>
<p>Expected results: What relationships do you expect to observe between the indicators? These may include intentionally strong or weak relationships between achievement and the other academic indicators, strong alignment between policy and empirical weights, or weak alignment between policy and empirical weights.</p>	

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Module 2B: Indicator Interaction in the State’s System of Annual Meaningful Differentiation (AMD)
Section 2. Stakeholder Perceptions of Rationale for Combining Indicators

Each component of a state’s accountability system should be well understood. The greater the understanding, the less risk there is of indicators being misunderstood or misused (e.g., incorrect interpretations, overemphasis on importance or influence). A state can benefit from reflecting on how its indicators interact within its state’s system of AMD and whether the rationale is (or is likely to be) understood by stakeholders. Based on the responses to the questions below, a state can determine whether design assumptions and sources of evidence are clear to stakeholders or there is a need to create or organize additional documentation, increase transparency, or engage in outreach efforts with stakeholder groups. This section includes recommendations for potential next steps in stakeholder outreach efforts.

Table 3. Stakeholder Perceptions of Rationale for Combining Indicators

Stakeholder Perceptions of Rationale for Combining Indicators			
Perception Reflection	Why is it important?	Reflection Questions	Notes
Stakeholder perceptions of how indicators are combined	Rationales help “connect the dots” of the state’s accountability system. It is important that stakeholders and the public understand the rationale behind your system (as articulated in Section 1 of this module), which might include the mechanisms, connections, and assumptions that inform design decisions and evidence collection.	<ul style="list-style-type: none"> • Can you easily explain the rationale behind the weights for each indicator or the order of decision rules in the state’s system of AMD and how this rationale contributes to your policy objectives? <ul style="list-style-type: none"> – How do stakeholders react to the way in which indicators are weighted or ordered? – Do these reactions differ by audience? • Are the linkages between policy decisions, indicator outputs, and expected behaviors based on state experience or research? <ul style="list-style-type: none"> – How are these linkages presented to the public? – Would the public perceive them as conceptually defensible? • Are the connections between the indicator weights or decision rules clearly communicated with the public? 	

Perception Reflection	Why is it important?	Reflection Questions	Notes
Potential misunderstanding of how indicators are combined	Public perceptions are important to increase buy-in for the system. If a state does not consider public perceptions, advocacy groups may not understand how their concerns have been addressed, and stakeholders may not understand why indicators were weighted certain ways.	<ul style="list-style-type: none"> • Which indicator weights or decision rules are most likely to receive public attention? • Would various constituencies understand or question why certain indicators were weighted or ordered in certain ways? • Which indicators may be obscured by others? • Can stakeholders quickly understand from accountability data presentations of indicators which areas of student performance are in the most need of attention? 	

Based on the results of your previous reflections, consider the degree to which you believe the following regarding (1) communication and clarity of your rationale and (2) the risk of the public misunderstanding the rationale.

Table 4. Clarity and Risk of the Indicator Interactions

	No Clarification Needed	Clarification May Be Needed	Additional Clarification Needed	Notes
Communication and Clarity of Rationale	We have clearly stated the rationale behind the weighting of indicators or the order of decision rules, and the rationale reflects the overall objectives for the accountability and state’s system of AMD. These expectations are based on past experience or research and are readily available to the public.	We have stated the rationale behind the weighting of indicators, or the order of decision rules is stated, but the rationale may not clearly reflect the overall objectives for the accountability and support system. These expectations may have some support from previous experience or research. Some of the rationale is available to the public.	We have not clearly stated the rationale behind the weighting of indicators, or the order of decision rules, or the rationale does not reflect the overall objectives for the accountability and support system. These expectations have not been supported with prior experience or research. Supporting materials are not available to the public.	

Risk of Misunderstanding the Rationale	Low	Moderate	High	Notes
	We have identified possible areas of the indicator weighting/decision rules that might be misunderstood by the public. Based on this examination, we have clarified aspects of the system and created clear documentation explaining the system.	We have examined what parts of the indicator weighting/decision rules might be misunderstood by the public but have not clarified them fully. Documentation specifically addressing areas of risk may or may not be available.	We have not examined the indicator weighting/decision rules for areas that could be misunderstood.	

For areas that need additional clarification or those that are high risk, you may need to prioritize future efforts. The potential next steps described below are important to consider as you review the confidence claims in the next section. If the rationale for combining indicators or the order of decision rules needs clarification or the risk for misunderstanding is high, what would you do next? For example, an undocumented rationale *may* increase the risk that indicator weights are not working as intended because of a lack of documentation, or it may be a result of incomplete or less than ideal assumptions. These considerations are intended to help prioritize next steps in supporting stakeholder perceptions of the state’s accountability system.

Table 5. Potential Next Steps Around Stakeholder Perceptions of Indicator Interaction

Area of Exploration	Potential Next Steps
<i>Communication and Clarity of Rationale</i>	<ul style="list-style-type: none"> • Clarify the rationale behind the weights of the indicators, or the ordering of decision rules, that comprise your state’s system of AMD. Ensure they support your overall theory of action. • Clarify what signals each indicator is supposed to send and how they contribute to the state’s conceptualization of school performance. • Document how you have addressed the two bullet points above. Ensure this information is presented, formatted, and available in a way that it can be shared with the public and educators throughout the state.

Area of Exploration	Potential Next Steps
<i>Misunderstanding the Rationale</i>	<ul style="list-style-type: none"> • Clarify what indicators or weights are likely to receive the most public attention. Specify whether there are particular design decisions, measures, or data associated with each indicator that might be controversial or difficult to understand. • Refine messages to make controversial or challenging aspects of each indicator more accessible. Anticipate the types of questions (or engage in additional listening sessions) to highlight the most important issues to address. • Document how you have addressed the two bullet points above. Identify how public perceptions and your reflections can be compiled into a single set of resources. Combine this with other documentation from other modules.

Evaluating State Accountability Systems Under ESEA
Module 2B: Indicator Interaction in the State’s System of Annual Meaningful Differentiation (AMD)
Section 3. Confidence in the Operations and Results of Combining Indicators

A key part of validating a theory of action is to determine whether evidence confirms the assumptions and links between components that are designed to yield intended outcomes. A state’s accountability system is a measurement instrument that helps the public understand the degree to which schools meet the state’s educational objectives and priorities as well as a policy lever to incentivize actions that help achieve those same objectives and priorities.¹ To what degree is that happening? If a state can identify sufficient evidence that upholds the assumptions associated with indicator interactions, then it can more effectively argue that the results of the state’s system of AMD are valid for identifying schools. The following self-reflection prompts provide an opportunity for a state to consider whether the interactions among the indicators or the decision rules of the state’s system of AMD uphold the underlying rationale, as well as an opportunity to determine whether the SEA can be sufficiently confident that the elements of the state’s system of AMD (i.e., indicator interactions and decision rules) are working as intended.

Respond to the following prompts to engage in the reflection around the way in which indicators interact:

1. Read the claim, consideration, and key evidence checks; then examine the specific evidence available in your state.
2. Reflect on whether you believe you have collected enough evidence to be confident in the claim stated or whether there is a need for further examination.
3. Finally, respond to questions that pose whether you have sufficiently explored the confidence claims below and believe that you have collected enough evidence that these claims can be confirmed.

Some questions may be based on opinion, whereas others will require an examination of data, supplemental analyses, or conversations with other members of your state department.

For non-summative rating systems, please skip to the non-summative rating system reflection prompt section (Table 7). For summative rating systems (e.g., index-based systems), please see the reflection prompts below in Table 6.

¹ For more information, please see [Accountability Identification Is Only the Beginning: Monitoring and Evaluating Accountability Results and Implementation](#) from the Council of Chief State School Officers. Note: The inclusion of links to resources and examples do not reflect their importance, nor is it intended to represent or be an endorsement by the Department of any views expressed, or materials provided. The U.S. Department of Education does not control or guarantee the accuracy, relevance, timeliness, or completeness of any outside information included in this document.

Table 6. Confidence in the Operations and Results of Combining Indicators for Summative Rating Systems Reflection

Claim 1: The indicator weights reflect the state’s theory of action and stakeholder vision, as appropriate.	
<p>The Elementary and Secondary Education Act of 1965 (ESEA), as amended by the Every Student Succeeds Act (ESSA) requires that each state consult with key stakeholder groups that represent the range of constituents across the state when developing their state plans, which include a description of their state’s accountability system. However, some stakeholders’ recommendations may not be appropriate to implement as is, given constraints such as high-stakes use, corruptibility, data access, and data collection. It is important that SEA staff supporting accountability have a clear understanding of how the indicator weights and interactions reflect the state’s theory of action and stakeholder feedback gathered as part of the ESEA consolidated state plan development process.</p> <p><i>For each set of claims, consider the following statements and explore the suggested evidence for index-based systems or non-summative systems.</i></p>	
Consideration 1.1: Indicator weights or decision rules reflect appropriate stakeholder and constituent input.	
Reflection Prompts	Notes
<p>Key questions for the indicator: How were stakeholder groups solicited for feedback? To what extent was this feedback incorporated when developing policy weights for the system?</p>	
<p>Why is it important? Soliciting stakeholder feedback and input is an important design step to ensure representative viewpoints are included. It is important to blend this feedback with the overall policy objective and theory of action for how indicators are weighted. This feedback can also be incorporated to improve the system over time.</p>	

Reflection Prompts	Notes
<p>Key evidence checks:</p> <ul style="list-style-type: none"> • Determine the degree to which a sufficiently representative set of stakeholder groups was identified and consulted. • Determine the degree to which strategic representation was included in design and feedback (e.g., advocacy groups, industry organizations) • Determine the extent to which feedback was incorporated and how it was balanced with operational decisions based on constraints (e.g., available data, data collection efforts, policy constraints) when establishing indicator weights. • Identify how to best reconvene stakeholders to support any redesign or additional buy-in efforts. 	
<p>Potential next steps:</p> <ul style="list-style-type: none"> • Stakeholder groups include both representative and strategic groups that bring role-specific perspectives, concerns, and recommendations. Consider the motivations of each stakeholder group as indicator reporting is designed. If necessary, develop talking points or outreach materials that highlight how feedback was incorporated in light of data or policy constraints. • Stakeholder feedback is a powerful tool to enhance buy-in for the state’s accountability system, which includes how indicators are weighted. Consider reconvening stakeholders after the state’s accountability system is operational to obtain additional feedback to support communications, enhancements in reporting, and potential revisions to the system. 	

Consideration 1.2: Indicator weights are coherent with the policy intent and intended incentivized behaviors for the state’s accountability system.

Reflection Prompts	Notes
Key questions for the indicator: What behaviors or next steps did you intend to promote based on the way in which indicators are weighted?	
Why is it important? An important aspect of a state’s accountability system design is considering how people will interpret, use, and act upon data from the system. It is important to consider how weighting decisions influence changes in awareness and behavior.	
Key evidence checks: <ul style="list-style-type: none"> Review the weights of each indicator and determine whether they prioritize the state objectives as intended. Determine the kinds of behaviors or conversations indicator weighting and reporting should elicit. Identify ways to confirm these assumptions through feedback. 	
Potential next steps: <ul style="list-style-type: none"> The relative weight of a given indicator compared to other indicators may drive focus and awareness to certain reports or performance at the school. For example, achievement and growth may be equally weighted, or growth may be weighted more heavily than achievement. Each of these design decisions should be reflected in communications, resources, and reporting strategies. Consider reconvening stakeholders to determine whether indicator weights promote conversations among data users as intended (e.g., student growth as a new part of the system is weighted heavily, college- and career-readiness measures are weighted enough to warrant attention). If needed, develop additional communications materials or consider revising reports or system weights. 	

Claim 1 Reflection Prompts	Claim 1 Response
Reflecting on your notes above, consider your confidence in responding to the reflection prompts below. If you answer “no” or are not confident in your response, use the notes from your discussion to determine next steps.	
We have sufficiently explored the confidence claims above to understand how our indicator weights reflect the state’s theory of action and stakeholder vision.	Yes/No
We have collected enough evidence to sufficiently address key questions and can confirm that the considerations associated with Claim 1 reflect the state’s theory of action and stakeholder vision, as appropriate.	Yes/No

Claim 2: The empirical indicator weights reflect the intended state priorities and promote valid, fair, and reliable school ratings.

How these indicators are combined in the form of weighting or decision rules plays a major role in how schools are differentiated and identified. Because of the variety of indicators and the diversity of data that may be used in systems of AMD, several technical considerations should be addressed. These might include examining the appropriateness of comparing and contrasting measures, ensuring policy weights are reflected in system operations, or identifying sources of volatility and error within and across indicators.

For each set of claims, consider the following statements. and explore the suggested evidence for summative rating systems or non-summative systems.

Consideration 2.1: Indicators can be compared and contrasted based on technical characteristics of the data.

Reflection Prompts	Notes
Key questions for the indicator: Are the measures and data that comprise each indicator functioning appropriately for use? Are the measures across indicators appropriate for use as part of a state’s system of AMD?	

Reflection Prompts	Notes
<p>Why is it important? These technical characteristics include both the process- and outcome-related characteristics of the data. Process-related characteristics may include things like policies related to data collection, data collection processes, ownership of data, corruptibility of data, and cleanliness of data. Outcome-related characteristics may include things like the shape, skew, range, mean, and mode associated with measures after data are collected and cleaned. Identified concerns associated with process-related characteristics can introduce uncertainty when trying to compare schools in the aggregate. Increasing consistency in policy interpretation, establishing systematic mechanisms for data collection, or increasing training in collaboration with the district can help address data entry and process concerns.</p>	
<p>Key evidence checks:</p> <ul style="list-style-type: none"> • Identify any concerns associated with data-collection burden, points of failure in data entry, and who controls or owns data. • Confirm that measures comprising indicators are not susceptible to corruption or fairness issues. • Examine indicators to determine whether they have similar ranges, shapes, and variability. 	

Reflection Prompts	Notes
<p>Potential next steps:</p> <ul style="list-style-type: none"> • Data that are subjective or lead to any unintended negative consequences can result in non-representative data, under-representing the construct, or reducing the fairness of comparisons. This may require clarifying the assumptions behind the theory of action, including certain clarifying data, or reducing the weight of certain indicators. • The outcome-related characteristics of data are important for ensuring that composites of measures and comparisons across indicators can and should be made. If indicators—or the measures that comprise them—exhibit sufficiently different data characteristics, composites of indicators can lead to unexpected changes in ratings or rankings and can lead to challenges if compared or combined. Any identified issues should be addressed through transformation of measures, indicators, or composites (e.g., standardizing, norming, or indexing data or indicators). 	
Consideration 2.2: Empirical indicator weights reflect intended policy weights and result in accountability signals as designed and intended.	
Reflection Prompts	Notes
<p>Key questions for the indicator: What empirical evidence is available to show that design decisions for policy weights are reflected in operational weights?</p>	
<p>Why is it important? The ways in which indicators interact affect how the overall state’s system of AMD differentiates and identifies schools. It is important to have a clear understanding of what indicators are most influential in the state’s system of AMD, how changes within indicators affect differentiation over time, and whether any indicators have an unexpected amount of influence on the system.</p>	

Reflection Prompts	Notes
<p>Key evidence checks:</p> <ul style="list-style-type: none"> Examine correlations among indicators to understand interaction among indicators and the stability of interactions year-over-year. Compare policy weights and empirical weights (i.e., those calculated through relevant inferential analyses*) to determine the degree of match.² 	
<p>Potential next steps:</p> <ul style="list-style-type: none"> Correlations can help you understand the overall direction and size of the relationship among indicators. Although a good first step, it should be used as a preliminary technique to determine whether relationships between indicators are too strong or weak. Use the results of correlation analyses to define a baseline for relationships, make comparisons to historical data, and make comparisons to future operational years of the state’s system of AMD. After identifying the indicators that contribute the largest explanation of school rankings or scores using inferential analyses (e.g., regression with commonality analyses, factor analyses), determine whether any indicators contribute to the overall score more than anticipated. This may signal the need to revise weights to better approximate policy weights or transform data to increase or decrease the influence of certain indicators. If weights cannot be revised, it will be important to have materials and documentation that explain how to interpret how changes in indicator performance affect changes in the state’s system of AMD. 	

² Relevant inferential analyses might include variability, commonality, principal components, or discriminant analyses. For examples please see [State Systems of Identification and Support under ESSA: Evaluating Identification Methods and Results in an Accountability System](#) from the Council of Chief State School Officers. Note: The inclusion of links to resources and examples do not reflect their importance, nor is it intended to represent or be an endorsement by the Department of any views expressed, or materials provided. The U.S. Department of Education does not control or guarantee the accuracy, relevance, timeliness, or completeness of any outside information included in this document.

Claim 2 Reflection Prompts	Claim 2 Response
Reflecting on your notes above, consider your confidence in responding to the reflection prompts below. If you answer “no” or are not confident in your response, use the notes from your discussion to determine next steps.	
We have sufficiently explored the confidence claims above to understand whether indicator weights promote valid, fair, and reliable results.	Yes/No
We have collected enough evidence to sufficiently address key questions and can confirm that the considerations associated with Claim 2 reflect the intended policy weights to promote valid, fair, and reliable results.	Yes/No

Table 7. Confidence in the Operations and Results of Combining Indicators for Non-Summative Rating Systems Reflection

Claim 1: The decision rules reflect the state’s theory of action and stakeholder vision, as appropriate.	
<p>The ESEA requires that each state consult with key stakeholder groups that represent the range of constituents across the state when developing the consolidated state plan, which includes a description of the state’s accountability system. However, some stakeholders’ recommendations may not be appropriate to implement as is, given constraints such as high-stakes use, corruptibility, data access, and data collection. It is important for SEA staff supporting accountability to have a clear understanding of how the sequence of decision rules and interactions reflect the state’s theory of action and stakeholder feedback gathered as part of the ESEA consolidated state plan development process.</p> <p><i>For each set of claims, consider the following statements and explore the suggested evidence for index-based systems or non-summative systems.</i></p>	
Consideration 1.1: Decision rules reflect appropriate stakeholder and constituent input.	
Reflection Prompts	Notes
Key questions for the indicator: How were stakeholder groups solicited for feedback? To what extent was this feedback incorporated when developing decision rules for the system?	
Why is it important? Soliciting stakeholder feedback and input is an important design step to ensure that representative viewpoints are included. It is important to blend this feedback with the overall policy objective and theory of action for how decision rules are designed and ordered. This feedback can also be incorporated to improve the system over time.	

Reflection Prompts	Notes
<p>Key evidence checks:</p> <ul style="list-style-type: none"> • Determine the degree to which a sufficiently representative set of stakeholder groups was identified and consulted. • Determine the degree to which strategic representation was included in design and feedback (e.g., advocacy groups, industry organizations). • Determine the extent to which feedback was incorporated and how it was balanced with operational decisions based on constraints (e.g., available data, data collection efforts, policy constraints) when ordering decision rules. • Identify how to best reconvene stakeholders to support any redesign or additional buy-in efforts. 	
<p>Potential next steps:</p> <ul style="list-style-type: none"> • Stakeholder groups include both representative and strategic groups that bring role-specific perspectives, concerns, and recommendations. Consider the motivations of each stakeholder group as indicator reporting is designed. If necessary, develop talking points or outreach materials that highlight how feedback was incorporated in light of data or policy constraints. • Stakeholder feedback is a powerful tool to enhance buy-in for the state's accountability system, which includes how decision rules are ordered. Consider reconvening stakeholders after the state's accountability system is operational to obtain additional feedback to support communications, enhancements in reporting, and potential revisions to the system. 	
<p>Consideration 1.2: <u>Decision rules are coherent with the policy intent and intended incentivized behaviors for the state's accountability system.</u></p>	
Reflection Prompts	Notes
<p>Key questions for the indicator: What behaviors or next steps did you intend to promote based on the way in which decision rules are ordered?</p>	

Reflection Prompts	Notes
<p>Why is it important? An important aspect of accountability-system design is considering how people will interpret, use, and act upon data from the system. It is important to consider how design decisions around the order of decision rules facilitate changes in awareness and behavior.</p>	
<p>Key evidence checks:</p> <ul style="list-style-type: none"> • Review the order of decision rules and the relative impact of each round of decisions and determine whether they prioritize the indicators as intended. • Determine the kinds of behaviors or conversations decision rules and reporting should elicit. Identify ways to confirm these assumptions through feedback. 	
<p>Potential next steps:</p> <ul style="list-style-type: none"> • The order or influence of certain decision rules may drive focus and awareness to certain reports or performance at the school or district. For example, achievement and growth may be the first indicators used to group elementary schools, followed by progress in achieving English language proficiency, and then college- and career-readiness indicators or other school quality/student success indicators. Ensure that each of these design decisions are reflected in communications, resources, and reporting strategies. • Consider reconvening stakeholders to determine whether the order and impact of decision rules promote conversations among data users as intended (e.g., student growth is the first filter and student achievement is the second; graduation rate and achievement are the main drivers of high school identification). If needed, develop additional communications materials or consider revising reports or the order of decision rules if appropriate. 	

Claim 1 Reflection Prompts	Claim 1 Response
Reflecting on your notes above, consider your confidence in responding to the reflection prompts below. If you answer “no” or are not confident in your response, use the notes from your discussion to determine next steps.	
We have sufficiently explored the confidence claims above to understand how our decision rules reflect the state’s theory of action and stakeholder vision.	Yes/No
We have collected enough evidence to sufficiently address key questions and can confirm that the considerations associated with Claim 1 reflect the state’s theory of action and stakeholder vision, as appropriate.	Yes/No

Claim 2: The empirical results of decision-rule implementation reflect the intended sequencing of decision rules to promote valid, fair, and reliable school results.

How these indicators are combined in the form of decision rules plays a major role in how schools are differentiated and identified. Because of the variety of indicators and the diversity of data that may be used in systems of AMD, several technical considerations should be made. These might include examining the appropriateness of comparing and contrasting measures, ensuring whether decision rules are appropriately reflected in system operations, or identifying sources of volatility and error within and across indicators.

For each set of claims, consider the following statements and explore the suggested evidence for summative rating systems or non-summative systems.

Consideration 2.1: Indicators can be compared and contrasted based on technical characteristics of the data.

Reflection Prompts	Notes
Key questions for the indicator: Are the measures that comprise the indicator appropriate for use? Are the measures across indicators functioning appropriately for use as part of a state’s system of AMD?	
Why is it important? The technical characteristics of measures reflected within and across indicators are important to consider. These technical characteristics include both the process- and outcome-related characteristics of the data. Process-related characteristics may include things like policies related to data collection, data collection processes, ownership of data, corruptibility of data, and cleanliness of data. Outcome-related characteristics may include things like the shape, skew, range, mean, and mode associated with measures after data are collected and cleaned.	

Reflection Prompts	Notes
<p>Key evidence checks:</p> <ul style="list-style-type: none"> • Identify any issues that may exist around level of data collection burden, points of failure in data entry, and who controls or owns data. • Confirm that measures comprising indicators are not susceptible to corruption or fairness issues. • Examine indicators to determine whether they have similar ranges, shapes, and variability. 	
<p>Potential next steps:</p> <ul style="list-style-type: none"> • Identified issues associated with process-related characteristics introduce uncertainty when trying to compare schools in the aggregate. Increase consistency in policy interpretation, establish systematic mechanisms for data collection, or increase training in collaboration with districts to help address data entry and process concerns. • In addition to logistical process characteristics, data that are subjective or lead to any unintended negative consequences can result in non-representative data, under-representing the construct or reducing the fairness of comparisons. This may require a revision to the theory of action, inclusion of certain data, or changing the order of decision rules based on indicator priority. • The outcome-related characteristics of data are important to ensuring composites of measures and comparisons across indicators can and should be made. If indicators—or the measures that comprise them—exhibit sufficiently different data characteristics, this can lead to unexpected changes in ratings or rankings. Address any identified issues through transformation of measures, indicators, or composites (e.g., standardizing, norming, or indexing data or indicators) and potential revision of decision rules or the ordering of indicators in decisions. 	

Consideration 2.2: Empirical decision rules reflect intended policy weights and result in accountability signals as designed and intended.

Reflection Prompts	Notes
Key questions for the indicator: What empirical evidence is available to show that design decisions for decision rules correspond to the predictive power of indicators?	
Why is it important? The way in which indicators interact affects how the overall state’s system of AMD identifies schools. It is important to have a clear understanding of what indicators are contributing the most influence in the state’s system of AMD, how changes within indicators affect differentiation over time, and whether any indicators have an unexpected amount of influence on the system.	
Key evidence checks: <ul style="list-style-type: none">• Examine correlations among indicators to understand interaction among indicators and the stability of interactions year over year.• Determine whether the order of decision rules influences the identification of CSI, TSI, and ATSI schools as intended, based on the predictive power of indicators on school identification.	

Reflection Prompts	Notes
<p>Potential next steps:</p> <ul style="list-style-type: none"> Correlations are intended to help you understand the overall direction and size of the relationship among indicators. Although a good first step, it should be used as a preliminary technique to determine whether relationships between indicators are too strong or weak. Use the results of correlation analyses to define a baseline for relationships, allow comparisons to historical data, and compare relationships to future operational years of your state’s system of AMD. Consider the predictive power of indicators on school identification rates through the use of empirical analyses* that test the amount of influence each indicator has on school results (e.g., logistic regression). After identifying the indicators that have the strongest influence on school identification, determine whether any indicators contribute to the decision rules more than anticipated. This may signal the need to revise the order of rules, transform data, or supplement decisions with additional data. If decision rules cannot be revised, it will be important to have materials and documentation that explain how to interpret how changes in indicator performance affect changes in the state’s system of AMD. <p>* For examples, please see State Systems of Identification and Support under ESSA: Evaluating Identification Methods and Results in an Accountability System from the Council of Chief State School Officers.</p>	
Claim 2 Reflection Prompts	Claim 2 Response
Reflecting on your notes above, consider your confidence in responding to the reflection prompts below. If you answer “no” or are not confident in your response, use the notes from your discussion to determine next steps.	
We have sufficiently explored the confidence claims above to understand whether the order of decision rules promote valid, fair, and reliable school results.	Yes/No
We have collected enough evidence to sufficiently address key questions and can confirm that the state’s system of AMD reflects the intended policy weights or intended sequencing of decision rules to promote valid, fair, and reliable school results.	Yes/No