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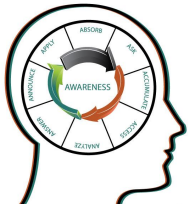


Develop Your Data Mindset

Module 3 - Aligning Answerable Questions With School Initiatives

Part 1 - Aligning Answerable Questions With School Initiatives

By Nathan Anderson, Amy Ova, Wendy Oliver, and Derrick Greer

This material is based upon work supported by the National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, through Grant R372A150042 to North Dakota Department of Public Instruction. The opinions expressed are those of the authors and do not represent the views of the National Center, Institute, or the U.S. Department of Education.

Learning Goals

- Increase knowledge of school initiatives requiring data use

SLDS Data Use Standards

- K.2.D Data context: Knows the circumstances and purposes for which data are collected

Teacher Thought

If I understand different data types and the core purposes they serve, then I can continue to use data effectively even if political initiatives are changed or renamed.

Overview

By now, you're aware of common data types in educational settings, types of inquiry methods that require data, standards for effective data use, and the A+ Inquiry framework for putting standards into action.

In this module, we'll narrow into a focus on school initiatives that require the application of the data utilization standards through an inquiry framework for assessment and/or evaluation purposes.

Activity

Ryan Kelly:
I hope you thoroughly had time to digest what we discussed earlier today, as we will be revisiting some of it. First, please select a dessert as you get settled for the second half of in-service.

What do you call this type of cookie?

- Snookies
- Choco-Rama
- Chocolate Chip Crunchies
- Chocolate Crunch Delights

Activity - Answer

What do you call this type of cookie?

- Snookies
- Choco-Rama
- Chocolate Chip Crunchies
- Chocolate Crunch Delights

Actually, any of these is correct. We have come a long way with the name of this great treat thanks to Tollhouse!

School Initiatives Requiring Data

Ryan Kelly:
Not only have chocolate chips been known by other names, but so have education initiatives. Initiatives such as ESEA, NCLB, and NDMile have all come and gone, but that doesn't mean today's PD session is a band-aid for the newest initiative.

The good news is that data is data no matter what you call it. So, just like when you see the cookie below, you know it is chocolate chip, no matter what it is called, if you know how to recognize data and then interpret and apply it, you don't have to juggle the acronyms.

Although names change, best practices do not. Good instruction is good instruction, and it requires a core understanding of data practices. For example, formative data - no matter what the title, is designed to help you interpret data "for learning," and summative data, no matter whose philosophy is used, is in place to help you understand data "of learning."

School Initiatives Requiring Data

Ryan Kelly:
Not only have chocolate chip cookies been known by other names, but so have a lot of our best practices with data. Remember, ND Mile, RTI, AdvancEd, Positive Behavior Supports (PBS), Positive Behavior Intervention and Supports (PBIS), RTI-Academic (RTI-A), and RTI-Behavior (RTI-B)? Whew – that was a mouthful, but just like the name of America's favorite cookie, they really are all names of initiatives grounded in assessment and evaluation.

So, although some of the names we discuss in this module may not sound familiar to you, the processes or applications will be. And, trust me, just like a cookie by any name, it tastes just as good with milk! Not only that, but for those of you who like a healthier treat for dessert, we will bring in some apples a little later to examine the core of all of our processes.

Either way you fulfill your sweet tooth, during this half of our in-service session we will cover the MOST important concepts that people usually tend to skip (if only I could skip dessert) when learning about or understanding data and how it can apply to improved student outcomes.

Activity

Ryan Kelly:
Data exists to help answer important questions which leads to improved knowledge about something. For example, you had enough data about the chocolate chip cookie just from looking at it, regardless of name, to know that it was a chocolate chip cookie.

If we begin with a question in mind, we set the stage for disciplined inquiry and limit the risk of wasting efforts and resources on things like data hoarding, purposeless analysis, and mindless decision making.

For example, in order to differentiate reading instruction for your students this school-year what is a question you might ask?

- How many students are in my classroom?
- What is each student's reading level?
- Do my students enjoy reading?
- What genre of literature is best for the grade I teach?

Activity - Answer

Ryan Kelly:
For example, in order to differentiate reading instruction for your students this school-year what is a question you might ask?

- How many students are in my classroom?
- What is each student's reading level?
- Do my students enjoy reading?
- What genre of literature is best for the grade I teach?

If you know this, then you can differentiate your instruction to meet individual needs.

School Initiatives Requiring Data

Ryan Kelly:
While it seems like common sense to need to know each student's reading level in order to differentiate instruction, this key piece of data would allow you to assign an article that is available at different reading levels to your students. You could answer the question using data collected through a standardized reading assessment and then assign the appropriate article level to each student.

And for that you get a cookie!

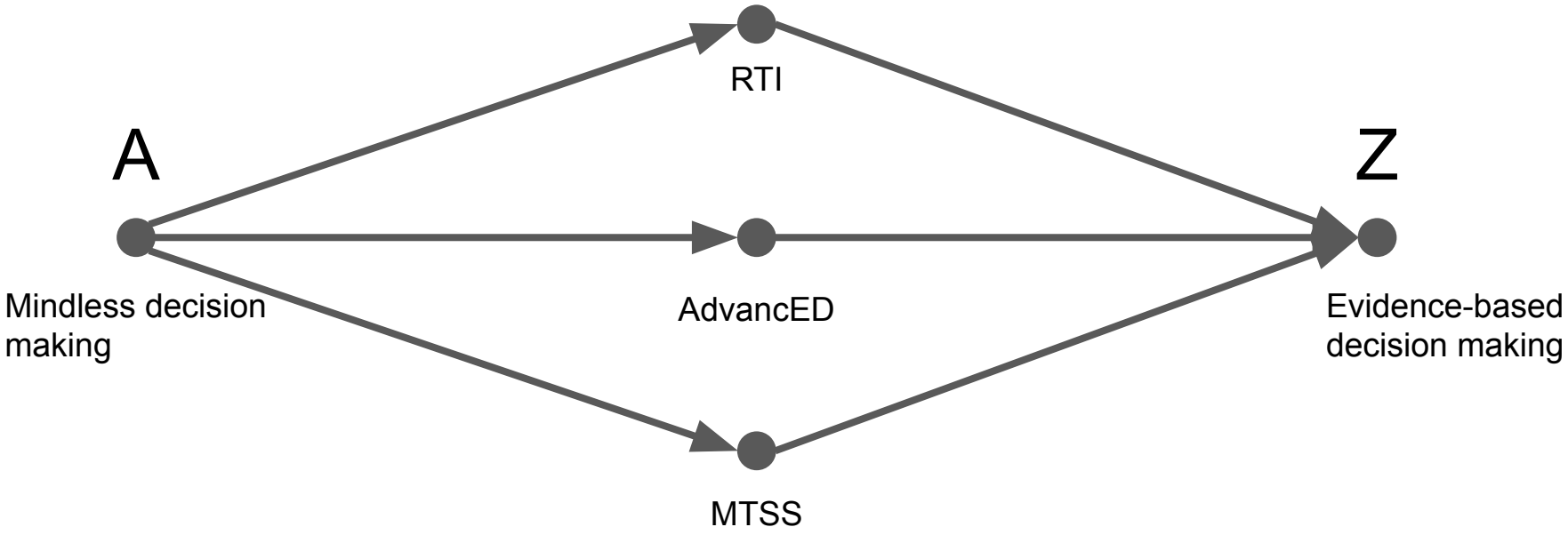
You quickly identified the need to know more about student performance and found the answer to your question. You took efficient action based on an evidence based decision instead of an arbitrary, mindless decision.

But, how do we move from mindless decision making to evidence-based decision making throughout the classroom and the school?

School Initiatives Requiring Data

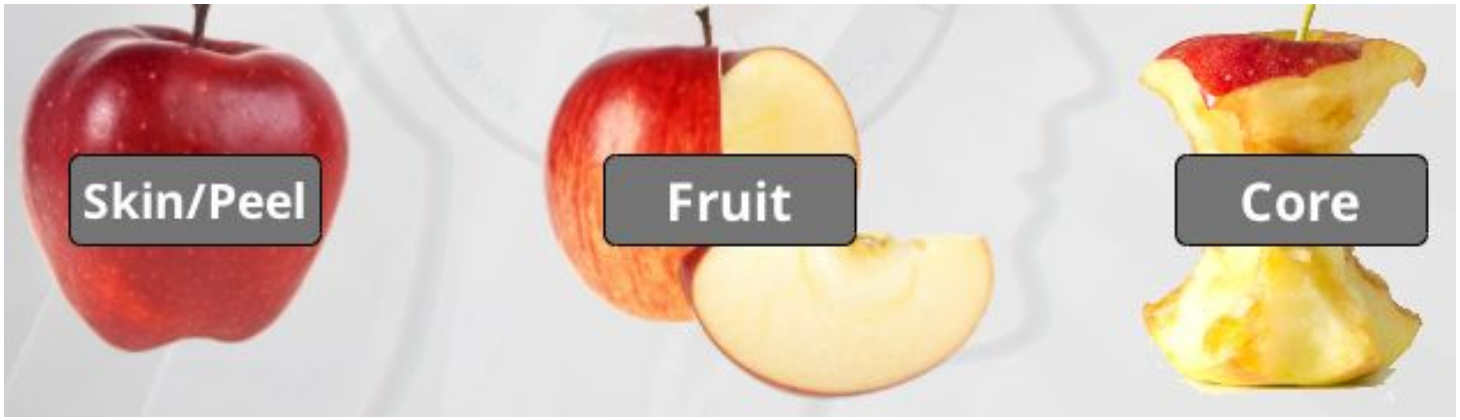
Ryan Kelly:
But how did we get from identifying the need to know more about student performance to finding the answer to our question, allowing us to take action so quickly?

In other words, how do we get from point A to point Z?



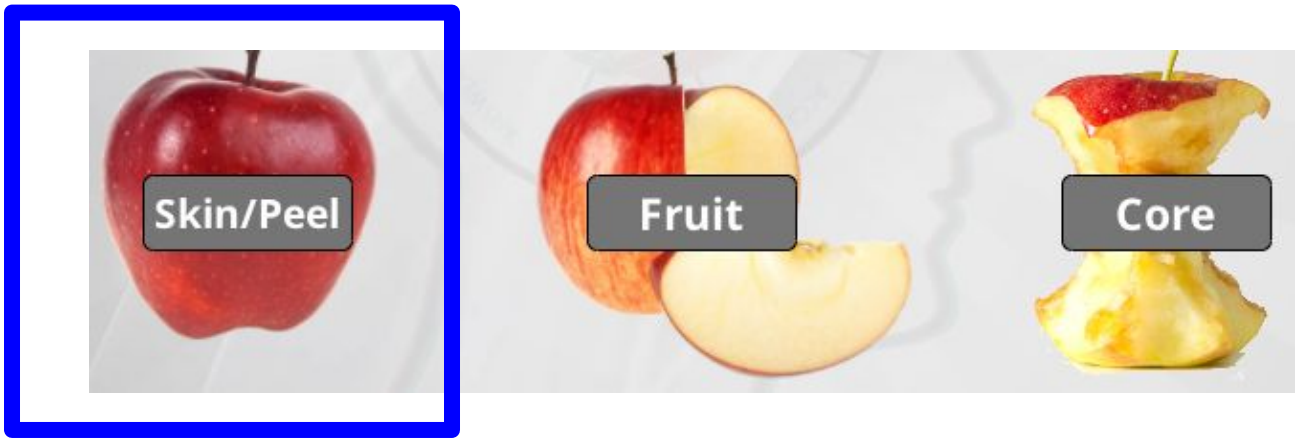
School Initiatives Requiring Data

Ryan Kelly:
While you get a cookie for determining how to find out the answer to individualizing instruction for your students so quickly, there are actually several steps in place that we follow in order to answer our data questions or in the case to identify the RTI. For those of you who prefer a sweeter dessert, having data is icing on the cake.



NDMTSS

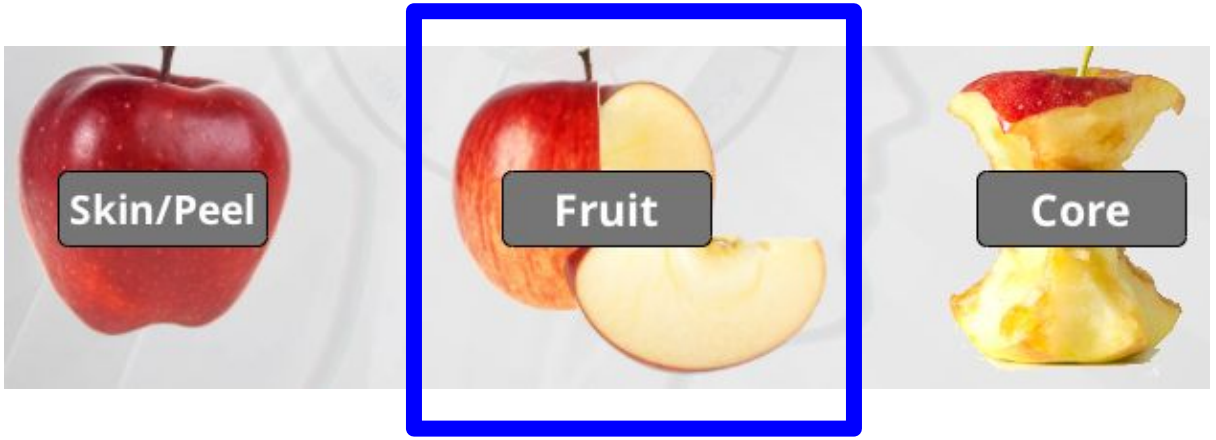
Ryan Kelly:
NDMTSS is the skin. **NDMTSS** stands for **North Dakota Multi-Tier System of Supports**. It includes the elements of RTI, but it also emphasizes making data-based decisions within a school setting for an array of assessment and evaluation purposes that extend beyond the scope of RTI. The NDMTSS framework ensures schools have adequate infrastructure and support mechanisms in place to carry out necessary work with data.



AdvancED

Ryan Kelly:
AdvancED is a school improvement framework or process required by ALL districts in The State of North Dakota that focuses on using data to inform decisions; therefore, it aligns well with NDMTSS' focus on making data-based decisions. Through the AdvancED process, schools conduct an internal review using student learning data, self assessment data, and stakeholder perception survey data to create a quality improvement plan.

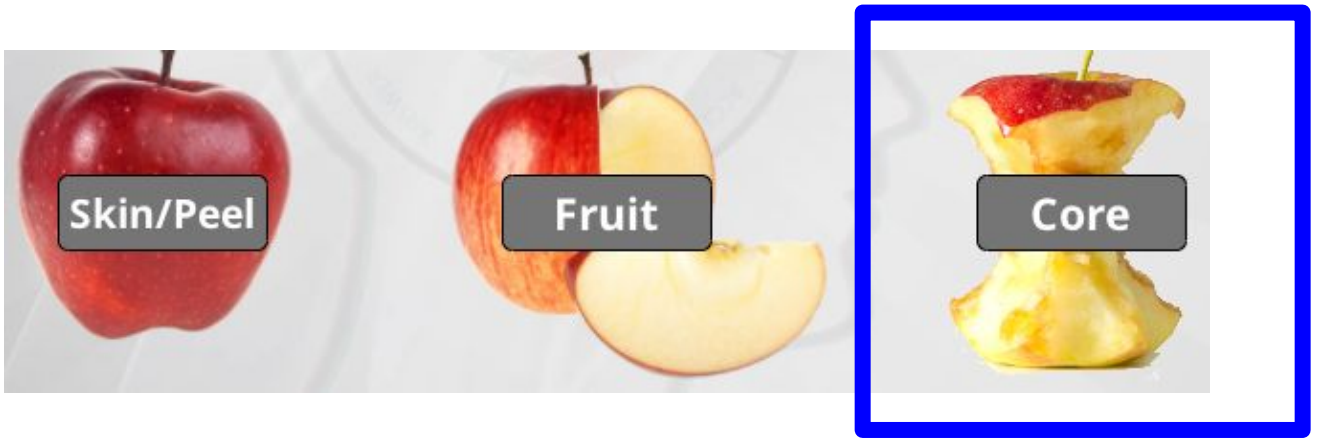
Specifically, the AdvancED framework requires schools to use data from a variety of sources for purposes of identifying needs, setting goals, and implementing strategies and other actions to make improvements.



RTI

Ryan Kelly:
RTI stands for **Response to Intervention**. The core of our work with data is to determine how to differentiate instruction for students based on their individual needs. This allows teachers to personalize instruction, ultimately improving student outcomes. RTI is a framework for identifying and supporting students with academic or behavior needs. In the RTI process, all students go through universal screening, which helps identify those who may be at risk for poor learning or behavior outcomes. Students are assessed, progress monitored and an intervention is put into place for students who are confirmed “at risk.”

RTI fits within the NDMTSS framework.



Assessment and Evaluation

Ryan Kelly:
The core of everything we will be focusing on over this school year and today, even, is grounded in *evaluation* and *assessment*. The common questions we are going to focus on are aligned with the NDMTSS, RTI, and AdvancED “brands.” Although there are several different types of data in school settings -- such as demographic, student learning, perception, school process, and behavior data -- given the scope of our time, we will focus primarily on the use of student learning data. Student learning, or academic, data are accumulated through assessments like the reading assessment you suggested that would allow you to differentiate instruction by providing different levels of the same article to your students.

Assessment

Ryan Kelly:
Assessment is discussed in terms of three approaches: assessment of learning, assessment for learning, and assessment as learning (Earl, 2013).

Assessment of learning measures student performance against a defined set of standards and usually occurs at the end of something. Examples include an end of unit test, the state assessment administered at the end of the year, and the ACT administered toward the end of a student's high school career. Assessment of learning is also known as summative assessment.

Assessment for learning provides teachers with information that helps them differentiate instruction and adapt activities to meet the learning needs of their students. This type of assessment guides instruction in a classroom setting. It is meant to measure a student's current learning; it is not meant to result in a grade or be a final assessment of student learning. Assessment for learning is also known as **formative assessment**. "For"mative assessment is "for" learning.

Assessment

Ryan Kelly:
Assessment as learning focuses on students assessing themselves. This type of assessment occurs when students adapt their approaches to learning based on self-monitoring and critical reflections of what they have learned. Assessment as learning is a subset of assessment for learning; therefore, it could also be classified as a formative assessment.

Assessment

Ryan Kelly:
When we start looking at assessment through the lenses of RTI and NDMTSS, a few additional terms get thrown into the mix. For example RTI defines 3 types of assessment: formative assessments, summative assessments, and diagnostic assessments (National Center on Response to Intervention, 2012 June). RTI specifies that formative assessments can be formal or informal.

Formal formative assessments may be standardized measures used for universal screening to identify at risk students and for progress monitoring to measure student rates of improvement across time. They may also be used to guide instructional or curricular decisions or evaluate the effectiveness of programs, strategies, or interventions.

Informal formative assessments may exist as teacher-made rubrics or observations. Summative assessment through an RTI lens are defined in much the same way as **summative assessment** -- or assessment of learning.

Assessment

Ryan Kelly:
Diagnostic assessments are formative and are administered to illuminate detailed strengths and skill deficits so an appropriate learning program can be developed to meet the specific needs of students. This is because they are administered “for learning” to inform the development of differentiated instruction that meets the specific needs of students.

Because assessment “as learning” is a subset of assessment “for learning,” it would likely fit into RTI’s category of formative assessment.

Assessment

Ryan Kelly:
NDMTSS, on the other hand, describes four purposes of assessment: universal screening, diagnostic, progress monitoring, and outcome.

Outcome assessment, according to NDMTSS is essentially a different name for summative assessment according to RTI. Diagnostic assessment has the same meaning for both NDMTSS and RTI.

The universal screening and progress monitoring assessment purposes described by NDMTSS are discussed in RTI literature as two subtypes of formal formative assessment.

Assessment Language - A Lot to Juggle

- NDMTSS (universal screening, diagnostic, outcome, progress monitoring)
- RTI (formative, summative, diagnostic)
- Formative (universal screening progress monitoring, diagnostic)
- Summative (of learning, outcome)
- Diagnostic (formative)
- Formal formative (standardized, universal screening, progress monitoring)
- Informal formative (teacher made rubric)

Interim Assessment

Ryan Kelly:
We've talked quite a bit about formative and summative assessments and also touched on universal screening, progress monitoring, and diagnostic assessments, but we haven't said anything yet about interim assessments.

Interim assessments are assessments that are administered more frequently than summative assessments, but less frequently than classroom formative assessments (Perie, Marion, & Gong, 2009). Kind of wormy, huh?

Interim Assessment

Ryan Kelly:
They serve three primary purposes:

- *Instructional*, which focuses on making instructional and curriculum adjustments to better meet the needs of students;
- *Predictive*, which focuses on identifying students who may be at risk for poor learning outcomes on an end-of-year test;
- *Evaluative*, which focuses on making a judgement about the effectiveness of an instructional program.

These purposes imply that interim assessments may be used for summative purposes, such as making a judgment about learning at the end of a learning period, or they may be used for formative purposes, such as to inform instructional and curriculum decisions at the classroom, school, and district level; however, these formative purposes are vastly different than the formative purposes served by classroom formative assessments, which are embedded in the delivery of daily lessons. An example of an interim assessment would be a universal screening benchmark assessment, such as NWEA MAP or Renaissance STAR, administered in the fall and winter for universal screening purposes to identify students who may be at risk for poor learning.

Assessment

Ryan Kelly:
The key to understanding these assessment types and how they help us to improve student outcomes is similar to the human body, which is why we have been focusing on nutrition! Coach Smith, can you explain this analogy for us?

Coach Smith:
I'll give it a try. So from what I understand so far, like I tell my students, you are what you eat, and I'm glad an apple is an option! Basically, just like the body needs to be measured in different ways to assess the health of the body, a student's knowledge needs to be measured in a variety of ways to assess the health of the student's knowledge (outcomes). If one isn't working, then all are impacted. So, if you don't understand one type of data, then you could miss something with personalizing learning. I wouldn't want to go to a general medicine doctor who hadn't studied the cardiovascular system during school. I want my doctor to understand my all the systems and how they work together.

Assessment

Ryan Kelly:
You nailed it! Now, we all know selecting an apple was a better choice than a cookie, but who knew this would end up being an example in studying data! It seems like an everyday choice. Let's look at some more everyday choices that, at their core, stem from RTI, NDMTSS, and AdvancED. These questions, while seemingly surface level, actually drive data and assessment. They are crucial for the process.

Coach Smith:
Your ribs seem important, they protect the heart (keep heart the core) and lungs, which breathe life into you. I can see that these questions are the livelihood of assessment. Much like the ribs, they are the infrastructure and support for data-based decision making.

Ask Answerable Questions

- Which students are at risk for poor learning or need enrichment?
- Is a student progressing toward an end-of-year goal?
- Which areas represent a student's strengths and skill deficits?
- Which students know or do not know what needs to be known relevant to the current lesson?
- Is a student performing at/above/below the expected level of performance at the end?
- Is a program/strategy/intervention reaching the intended audience?
- Is a program/strategy/intervention implemented as planned?
- Does a class know what needs to be known relevant to the current lesson?
- What is the performance level for a group of students?
- Which areas are above/below the expected level of performance for a group?
- Which areas show a positive/negative trend in performance for a group?
- Which areas indicate the overall highest/lowest levels of performance for a group?
- Which subgroup(s) show a trend toward increasing/decreasing performance?
- Between which subgroup(s) is the achievement gap closing/ becoming greater?

Data-Based Decision Making

Ryan Kelly:
Who says PE Teachers don't need to know data! Coach Smith, you really have this down pat. Has anyone ever had Pneumonia? When the doctor evaluates your oxygen levels, it is usually low. This awareness comes from evaluating your oxygen levels.

Many people think teachers should be paid like doctors, well, here is more information to prove it! Likely your doctor has read quite a bit of literature on lungs and Pneumonia, and she would do many tests to evaluate your wellness, possibly including bloodwork, X-rays of your lungs, and a test of your oxygen level. All of these tests, a balanced assessment approach, will give your doctor the data needed to determine if you have Pneumonia. Without these data points, the fidelity of her diagnosis would be compromised.

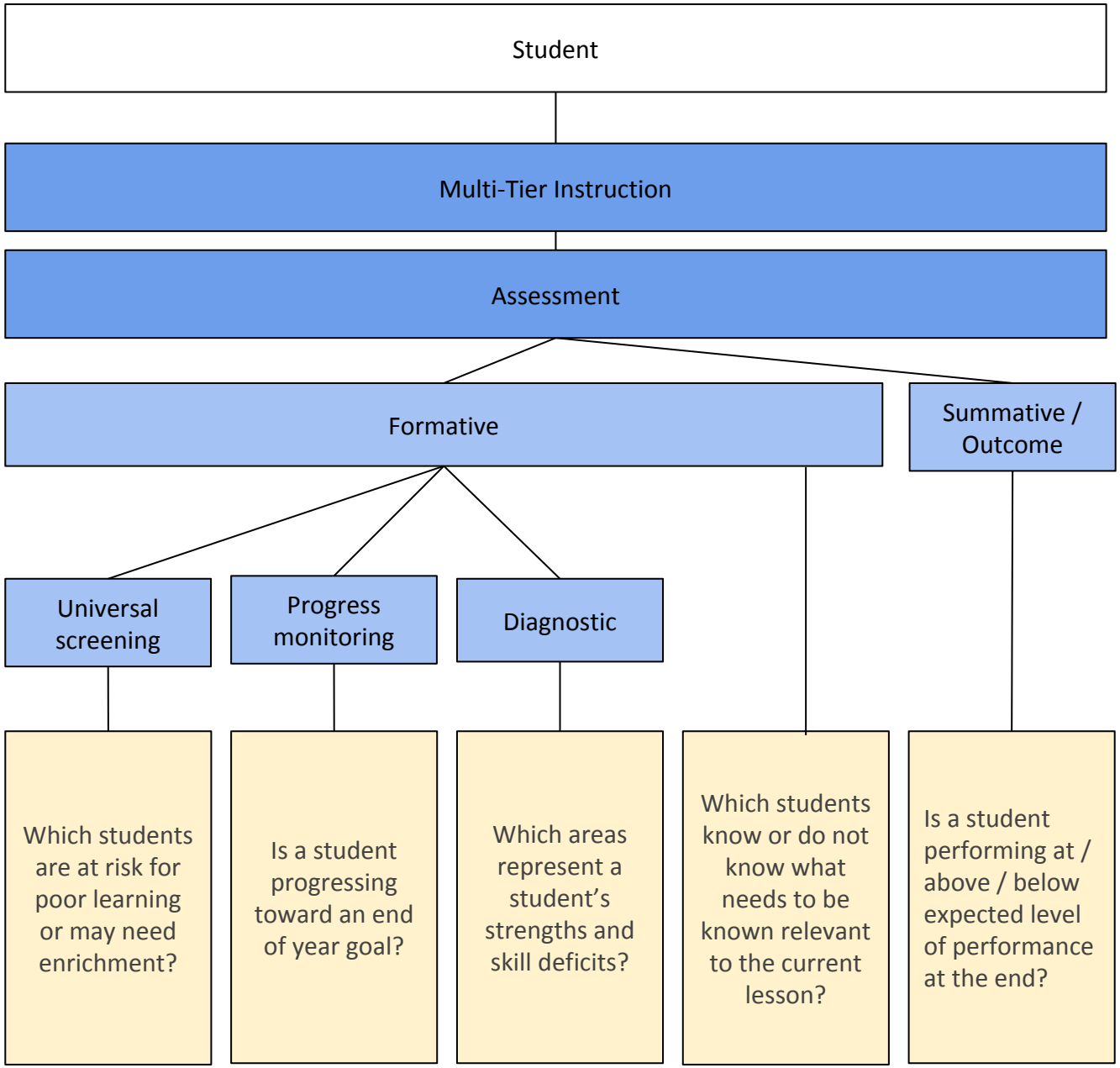
Data-Based Decision Making

Ryan Kelly:
In education, we implement a **balanced assessment system** to collect different types of student learning data for a variety of formative and summative purposes. This balanced approach can be compared to your doctor's multiple assessment points. Just like with your medical diagnosis, fidelity of your decision making for students improves with multiple data points.

Data-Based Decision Making

Carolyn Ross:
Data Coach, your analogy is really cute, but what does this have to do with my classroom or this course?

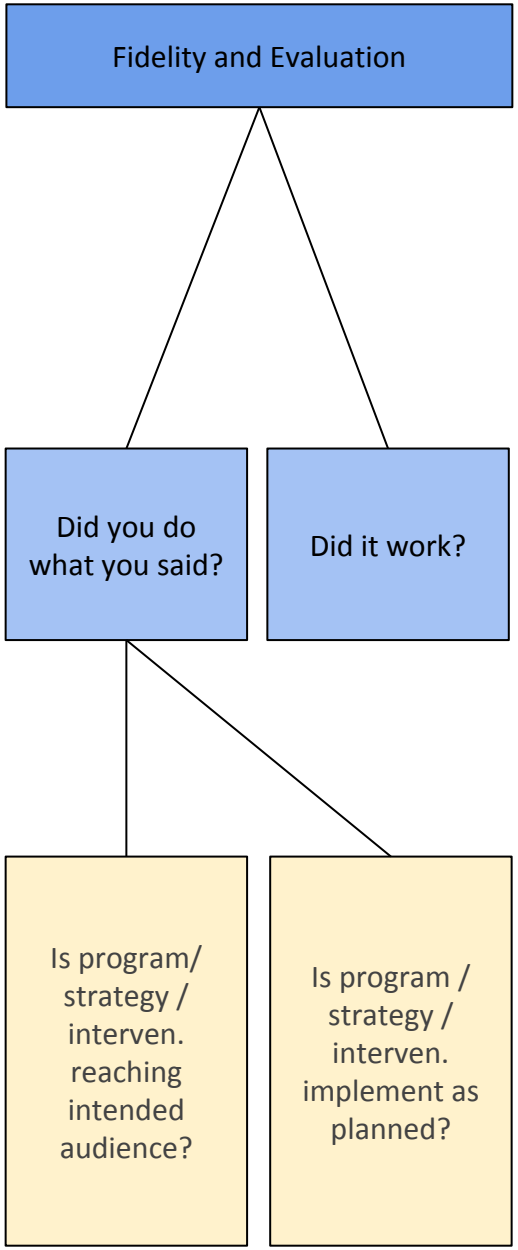
Blood-work
Oxygen level
X-Rays
Formative
Summative


Student
Multi-Tier Instruction
Assessment
Formative
Summative / Outcome
Universal screening
Progress monitoring
Diagnostic
Which students are at risk for poor learning or may need enrichment?
Is a student progressing toward an end of year goal?
Which areas represent a student's strengths and skill deficits?
Which students know or do not know what needs to be known relevant to the current lesson?
Is a student performing at / above / below expected level of performance at the end?

Data-Based Decision Making

Ryan Kelly:
So, now that I've made you paranoid you will get Pneumonia since we are back from the summer, let's talk about how your doctor would have treated you. You probably were given a Z Pack and told to rest. Did it work? Did you do what the doctor said?

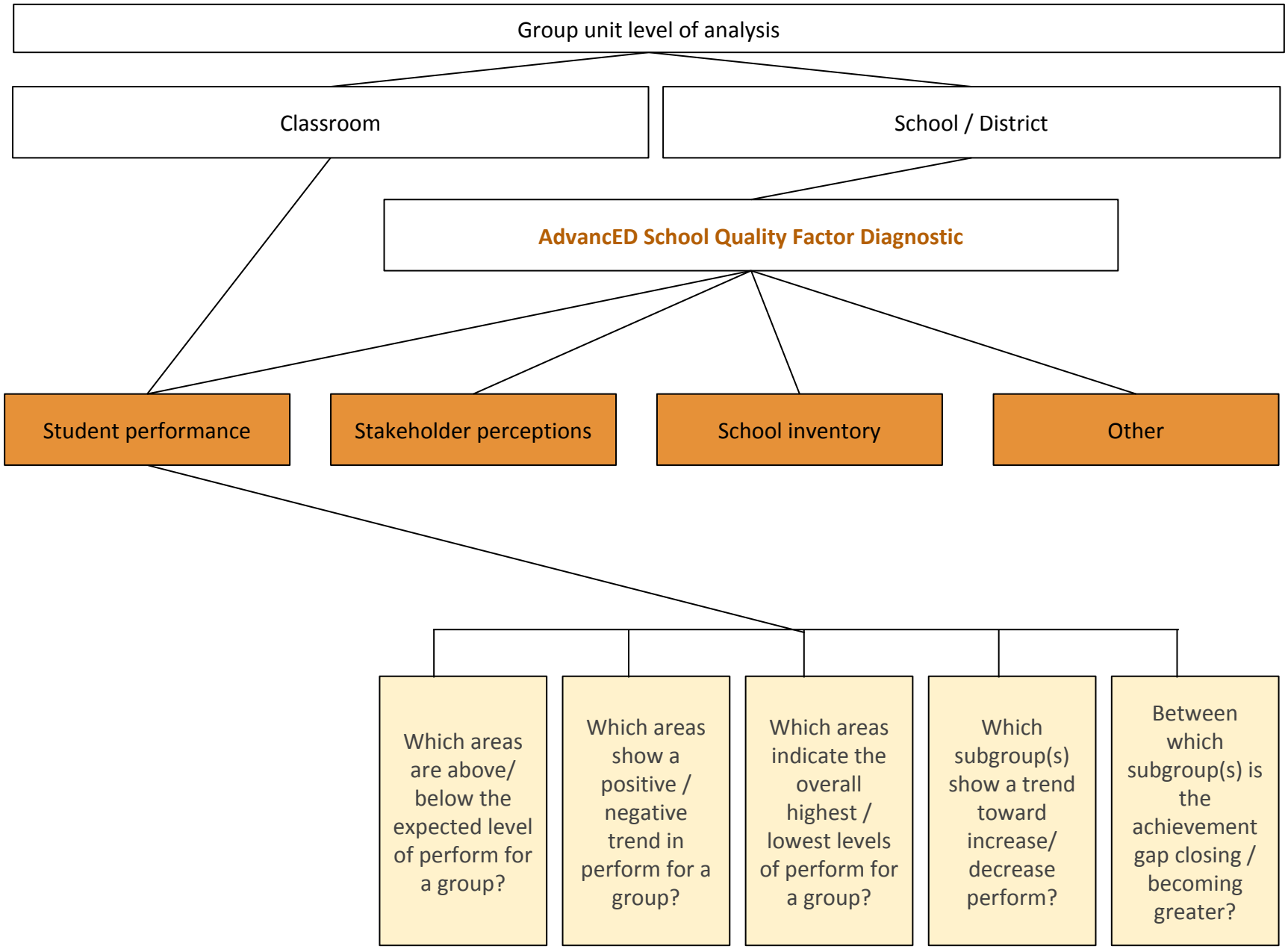
This is the same for data-based decision making in education and NDMTSS. You have to evaluate the fidelity of your strategies to determine if they are working.


Fidelity and Evaluation
Did you do what you said?
Did it work?
Is program/ strategy / interven. reaching intended audience?
Is program / strategy / interven. implement as planned?

Data-Based Decision Making

Ryan Kelly:
Your doctor at AdvancED Hospital performed some specific diagnostics, right? Remember? As an educator, what AdvancED diagnostics would you perform?

Blood-work
Oxygen
X-Rays
School Inventory
Stakeholder Perceptions
Student Performance
AWARENESS


Group unit level of analysis
Classroom
School / District
AdvancED School Quality Factor Diagnostic
Student performance
Stakeholder perceptions
School inventory
Other
Which areas are above/ below the expected level of perform for a group?
Which areas show a positive / negative trend in perform for a group?
Which areas indicate the overall highest / lowest levels of perform for a group?
Which subgroup(s) show a trend toward increase/ decrease perform?
Between which subgroup(s) is the achievement gap closing / becoming greater?

Indicate the extent to which you agree or disagree

	Strongly disagree	Disagree	Agree	Strongly Agree
This module part increased my knowledge of school initiatives requiring data use				

Well Done

You have completed this module part. You can begin the next lesson when you are ready.