



# The Navy Assessment System: Monitor Specific Learning in Real Time

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# Key Issue Trying to Solve

**Key issue:** Help students and teachers be successful

**Navvy goal:** Support student learning by developing an assessment *for* learning that has 2 key requirements:

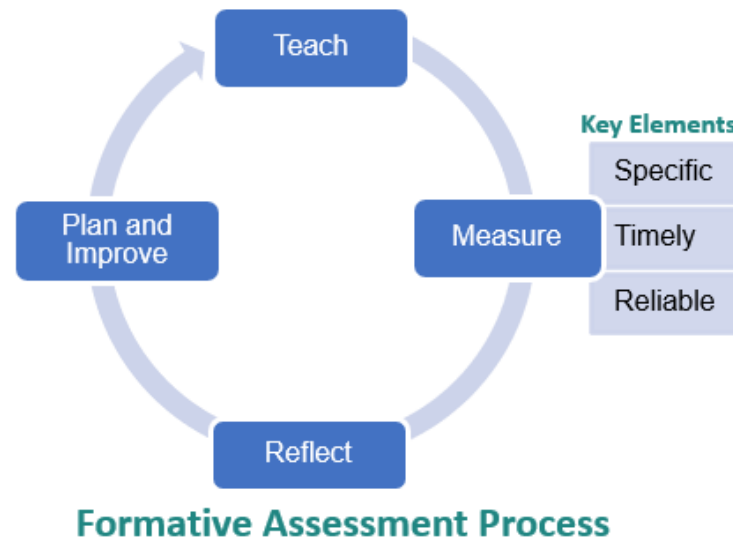
- Be near instruction
- Have validity and reliability evidence

Classroom systems are typically near instruction, but they are not designed to have validity and reliability evidence to support the claims that are instructionally useful in a formative assessment process (e.g., this student needs support on this skill, concept, or standard).

Navvy is designed to be near instruction and have validity and reliability evidence.

# Theory of Action

- Personalized learning is a powerful tool
- Assessment drives personalized learning
  - Key features needed for assessments:
    - Specific
    - Timely
    - Reliable



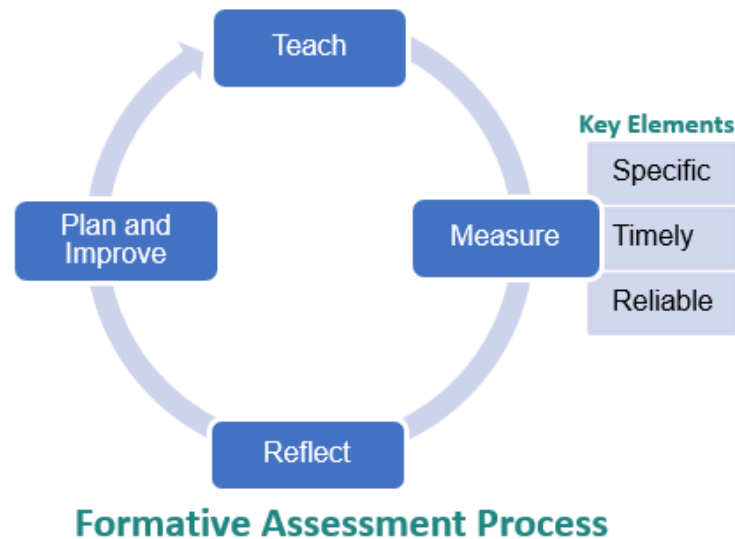
# Key Issue Trying to Solve

Assessment *for* learning:

Navvy is a **classroom-embedded** system used on-demand throughout the year to support a formative assessment process: monitor real-time standard-by-standard, on-going learning to inform instructional support for improving learning

- Designed to do so in a valid and reliable way so the actions we take are helpful for student learning

Districts use Navvy as their common district assessment system



# Why Navvy?

Where we are at the onset of the school year:

- We have standards.
- We have goals for students to learn what the standards require.

Where we are after we start the journey:

- We need to know whether or not the student has learned each standard.
  - We created Navvy to fulfill this need
- Our goal: To **inform teaching and guide learning** by accurately identifying what learning has taken place and what learning needs more support in order to take place

# Teacher Example Dashboard

- Progress monitor learning standard-by-standard in real-time with validity evidence
- Specific (granular), timely (up to date, real-time), reliable (diagnostic measurement)

First	Last	%	IN.1 (Data)	IN.2	IN.3 (Data)	IN.4 (Data)	IN.5 (Data)	IN.6	IN.8 (Data)	IN.9 (Data)
Alexa	Allende	100.00	✓	🔒	✓	✓	✓	🔒	✓	✓
Bobbie	Brass	50.00	✓	🔒	✓	✗	✗	🔒	✓	✗
Cathy	Clarke	66.67	✗	🔒	✓	✓	✓	🔒	✓	✗
Dontarius	Dawson	50.00	✗	🔒	✗	✓	✓	🔒	✓	✗
Eta	Emankum	83.33	✓	🔒	✓	✓	✓	🔒	✗	✓
Frank	Farr	66.67	✓	🔒	✗	✓	✓	🔒	✗	✓
Georgia	Gray	100.00	✓	🔒	✓	✓	✓	🔒	🔒	🔒
Hector	Hernandez	83.33	✓	🔒	✓	✗	✓	🔒	✓	✓
Irma	Ince	83.33	✓	🔒	✓	✓	✓	🔒	✓	✗
Jackson	Jarris	66.67	✓	🔒	✗	✓	✓	🔒	✗	✓
%			80.00	--	70.00	80.00	90.00	--	66.67	55.56

# Teacher Example Dashboard

- Sort columns to identify needs for personalized instruction and meaningful groups for differentiated instruction

First ↑↓	Last ↑↓	% ↑↓	IN.1 (Data) ↑↓	IN.2 ↑↓	IN.3 (Data) ↑↓	IN.4 (Data) ↑↓
Jackson	Jarris	66.67	✓	🔒	✗	✓
Dontarius	Dawson	50.00	✗	🔒	✗	✓
Frank	Farr	66.67	✓	🔒	✗	✓
Bobbie	Brass	50.00	✓	🔒	✓	✗
Cathy	Clarke	66.67	✗	🔒	✓	✓
Eta	Emankum	83.33	✓	🔒	✓	✓
Hector	Hernandez	83.33	✓	🔒	✓	✗
Irma	Ince	83.33	✓	🔒	✓	✓
Alexa	Allende	100.00	✓	🔒	✓	✓
Georgia	Gray	100.00	✓	🔒	✓	✓
%			80.00	--	70.00	80.00

# Teacher Example Dashboard

- Specific action support by Navvy result:
  - Provide personalized or small-group instruction for students on standards where they are not yet reached competency

First	Last	%	IN.1 (Data)	IN.2	IN.3 (Data)	IN.4 (Data)
Jackson	Jarris	66.67	✓	🔒	✗	✓
Dontarius	Dawson	50.00	✗	🔒	✗	✓
Frank	Farr	66.67	✓	🔒	✗	✓
Bobbie	Brass	50.00	✓	🔒	✓	✗
Cathy	Clarke	66.67	✗	🔒	✓	✓
Eta	Emankum	83.33	✓	🔒	✓	✓
Hector	Hernandez	83.33	✓	🔒	✓	✗
Irma	Ince	83.33	✓	🔒	✓	✓
Alexa	Allende	100.00	✓	🔒	✓	✓
Georgia	Gray	100.00	✓	🔒	✓	✓
%			80.00	--	70.00	80.00

First	Last	%	IN.1 (Data)	IN.2	IN.3 (Data)	IN.4 (Data)	IN.5 (Data)	IN.6	IN.8 (Data)	IN.9 (Data)
Cathy	Clarke	66.67	✗	🔒	✓	✓	✓	🔒	✓	✗
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Irma	Ince	83.33	✓	🔒	✓	✓	✓	🔒	✓	✗
Bobbie	Brass	50.00	✓	🔒	✓	✗	✗	🔒	✓	✗
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Eta	Emankum	83.33	✓	🔒	✓	✓	✓	🔒	✗	✓
Frank	Farr	66.67	✓	🔒	✗	✓	✓	🔒	✗	✓
Georgia	Gray	100.00	✓	🔒	✓	✓	✓	🔒	🔒	🔒
%			80.00	--	70.00	80.00	90.00	--	66.67	55.56



# Type of Feedback Aligned with Type of Psychometric Model Aligned with Theory of Action

- Standards-level feedback
  - Standards-level psychometrics are needed to give standards-level feedback
    - Primary Result: Competency Diagnosis
      - Competency or non-competency of the standard
- Actionable Feedback
  - The action: Focus learning supports on standards for which students need support
  - Create student groupings for personalized instruction based on competency diagnoses

# Communicating Standards-level Feedback

- Navy results get communicated to different users of the system:
  - Students
  - Teachers
  - School administrators
  - District administrators
  - Regional/state administrators

Who is using the data	For what purpose
Student	Self-regulation or ownership of learning
Teacher	Personalizing learning for students
School administrators	Personalizing support for teachers
District administrators	Personalizing support for schools Identifying external support needs
Regional/State administrators	Personalizing support for districts

# Student Dashboard

- Students collect micro-certs for learning standards
- Our goal is to help students have a healthy learning/growth mindset by improving:
  - Goal-setting and goal-reaching
  - Ownership and agency of learning
  - Motivation for learning

## Progress - Dontarius Dawson



Math Grade 6  
Miller | Grade 6 Math - A  
English Grade 6  
Oster | Grade 6 English - A

Math

English

### Reading Informational 8 Total Badges | 3/6 Badges Earned | 50% Competency



IN.1



IN.2



IN.3



IN.4



IN.5



IN.6



IN.8



IN.9

### Reading Literary 7 Total Badges | 0/0 Badges Earned | --% Competency



RL.1



RL.2



RL.3



RL.4



RL.5



RL.6



RL.9

### Writing 3 Total Badges | 0/0 Badges Earned | --% Competency



W.1



W.2



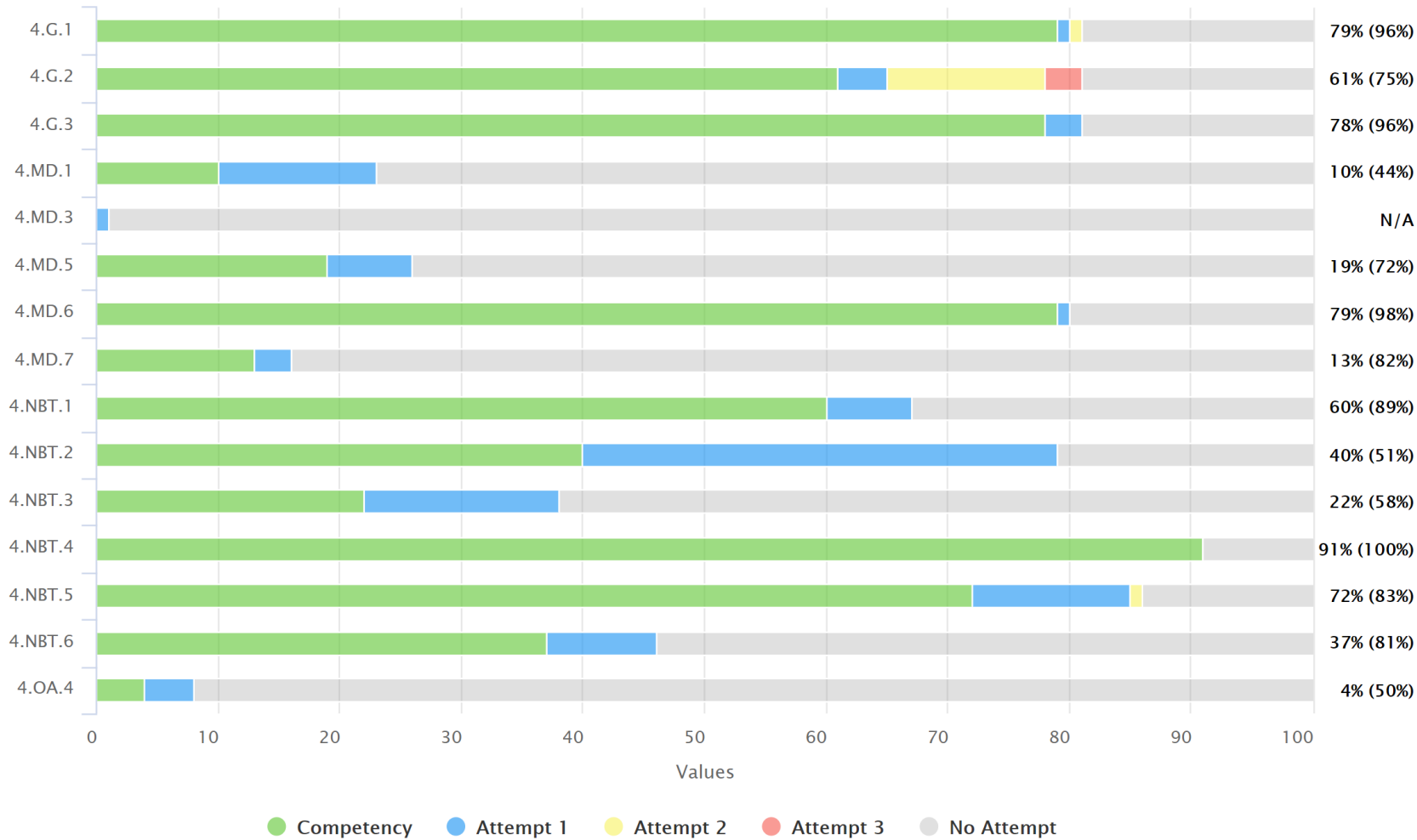
W.3

# Student Learning Map

- Track competencies of standards
  - Within grade
  - Across grades
- Unfinished learning (sometimes called “gaps” in learning) is being monitored in real time as part of everyday assessment practice using Navvy
  - We have disruptions to learning (sometimes called “learning loss”) pinpointed, as part of regular assessment practice with Navvy

3	4	5	6	7	8	Alg	Geo
✓ 3.NBT.1	🔒 4.MD.8	🔒 5.NBT.2	6.G.2	7.NS.1	8.F.3	A.REI.4	G.GMD.4
✓ 3.NBT.2	✓ 4.NBT.1	✓ 5.NBT.3	6.G.3	7.NS.2	8.F.4	A.REI.6	G.GPE.1
✓ 3.NBT.3	✓ 4.NBT.2	✓ 5.NBT.4	6.G.4	7.NS.3	8.F.5	A.SSE.3	G.GPE.4
✓ 3.NF.1	●●● 4.NBT.3	✓ 5.NBT.5	6.NS.1	7.RP.1	8.G.1	F.BF.2-E	G.GPE.5
●○○ 3.NF.2	✓ 4.NBT.4	✓ 5.NBT.6	6.NS.2	7.RP.2	8.G.2	F.BF.2-L	G.GPE.7
●○○ 3.NF.3	✓ 4.NBT.5	🔒 5.NBT.7	6.NS.3	7.RP.3	8.G.3	F.IF.1	G.SRT.2
✓ 3.OA.1	✓ 4.NBT.6	🔒 5.NF.1	6.NS.4	7.SP.1	8.G.4	F.IF.2-L&E	G.SRT.4
✓ 3.OA.2	✓ 4.NF.1	🔒 5.NF.2	6.NS.5	7.SP.2	8.G.5	F.IF.2-Q	G.SRT.5
✓ 3.OA.3	🔒 4.NF.2	🔒 5.NF.3	6.NS.6	7.SP.3	8.G.6	F.IF.4-E	G.SRT.7
✓ 3.OA.4	✓ 4.NF.3	🔒 5.NF.4	6.NS.7	7.SP.4	8.G.7	F.IF.4-L	G.SRT.8
✓ 3.OA.5	●○○ 4.NF.4	🔒 5.NF.5	6.NS.8	7.SP.5	8.G.8	F.IF.4-Q	

# School or District Level Reporting



Which 3 standards in 4<sup>th</sup> grade math are most challenging for our students to learn?

- What instructional supports or PL can we provide for teachers on those standards?
- Which schools/teachers are performing well on these standards? Can they provide PL for other teachers?

# Doubling as an Accountability System

# Navy Consortium Members

- Committed to assessing competencies at the standards level and focusing local accountability on gaining competencies of the standards
  - Syncs with competency-based education or learning model
  - Flexibility allows personalized learning and pacing
- Aim for state accountability to be aligned with this model: aggregate, or summarize, standards-level competencies to create accountability metrics without additional testing

# Meeting IADA Requirements

Expected requirements are comprised of nine elements:

1. meeting or exceeding all the requirements of section 1111(b)(2)(B)

Navvy provides “timely information about student attainment of [State academic] standards” (clause ii) and “individual diagnostic reports” (clause x) that are “valid and reliable, consistent with relevant, nationally recognized professional and technical testing standards” (clause iii) in order to “understand and address the specific academic needs of students” (clause x)

2. aligning with the depth and breadth of the challenging State academic standards
3. identifying proficiency on state standards
4. providing **valid, reliable, and comparable** annual proficiency determinations
5. providing for the participation of all students
6. measuring participation rates
7. generating an **annual summative determination of achievement**
8. providing timely, disaggregated results for stakeholders
9. providing an unbiased, rational, and consistent determination of progress toward the State’s long-term goals for academic achievement



# Creating Annual Summative Determinations

- Navy standards-level competency results will form the basis for categorizing students into Achievement Levels
  - In Georgia, there are currently 4 levels: Beginning Learner, Developing Learning, Proficient Learner, and Distinguished Learner
- Ways to describe Navy results for accountability purposes
  - Multivariate competency profile
    - Which patterns of competency correspond to each achievement level?
  - Aggregate numerical result
    - Learning what proportion of the standards corresponds to each achievement level?

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# Key Issues Trying to Solve

Assessment for learning *and* accountability purposes:

## Keys to serving both needs

- Put learning first
- Provide multiple opportunities to show what competencies you have gained
- Report current learning status at the time accountability data is required
  - This does not mark the end of the learning process
  - On-going learning supported by formative assessment may continue after this period, but for reporting purposes there is a time to take a snapshot of where we are

# Student Learning Map

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✓ 3.NBT.2	✓ 4.NBT.1	✓ 5.NBT.3	6.G.3	7.NS.2	8.F.4	A.REI.6	G.GPE.1
✓ 3.NBT.3	✓ 4.NBT.2	✓ 5.NBT.4	6.G.4	7.NS.3	8.F.5	A.SSE.3	G.GPE.4
✓ 3.NF.1	●●● 4.NBT.3	✓ 5.NBT.5	6.NS.1	7.RP.1	8.G.1	F.BF.2-E	G.GPE.5
●○○ 3.NF.2	✓ 4.NBT.4	✓ 5.NBT.6	6.NS.2	7.RP.2	8.G.2	F.BF.2-L	G.GPE.7
●○○ 3.NF.3	✓ 4.NBT.5	🔒 5.NBT.7	6.NS.3	7.RP.3	8.G.3	F.IF.1	G.SRT.2
✓ 3.OA.1	✓ 4.NBT.6	🔒 5.NF.1	6.NS.4	7.SP.1	8.G.4	F.IF.2-L&E	G.SRT.4
✓ 3.OA.2	✓ 4.NF.1	🔒 5.NF.2	6.NS.5	7.SP.2	8.G.5	F.IF.2-Q	G.SRT.5
✓ 3.OA.3	🔒 4.NF.2	🔒 5.NF.3	6.NS.6	7.SP.3	8.G.6	F.IF.4-E	G.SRT.7
✓ 3.OA.4	✓ 4.NF.3	🔒 5.NF.4	6.NS.7	7.SP.4	8.G.7	F.IF.4-L	G.SRT.8
✓ 3.OA.5	●○○ 4.NF.4	🔒 5.NF.5	6.NS.8	7.SP.5	8.G.8	F.IF.4-Q	

# Framing in terms of Aims

- Aims:
  - Assessment useful for informing teaching and learning
    - Specific (granular)
    - Timely
    - Reliable
  - Measurement improvement for accountability
    - Better representation of standards
    - Clear identification of what students understand, know, and can do
    - Remove unwanted factors associated with cumulative final exams, such as test anxiety
    - Encourage desired factors associated with healthy learning mindsets, such as goal setting, ownership of learning, and motivation for learning
  - Create opportunities for greater future flexibility
    - Competency-based progression through learning vs grade level progression

# Framing in terms of Intended Uses

- Intended Uses
  - Assessment useful for informing teaching and learning
    - Identify standard by standard learning
  - Assessment useful for accountability
    - Summarize and describe standard by standard learning

**N A V V Y**  
E D U C A T I O N

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