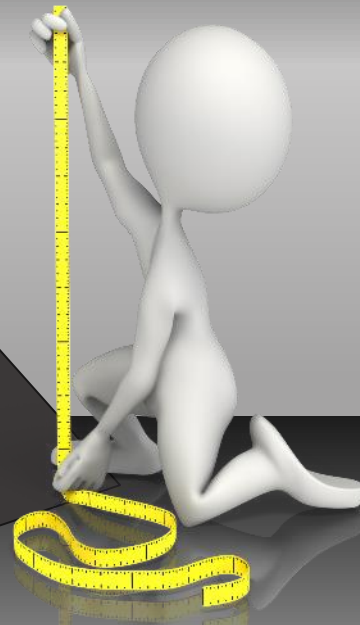
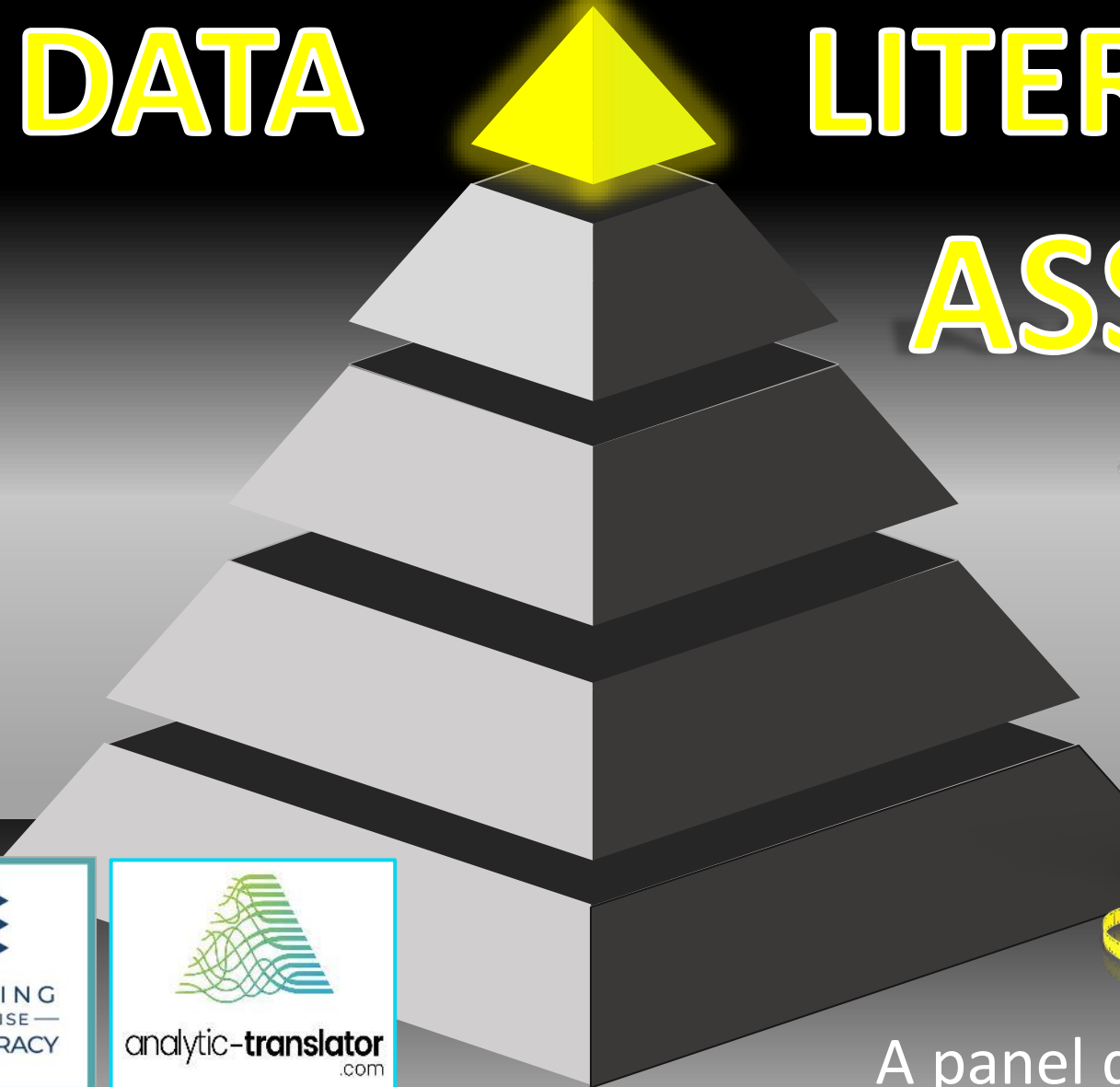


DATA

LITERACY

ASSESSMENT



A panel discussion with Wendy D. Lynch PhD

High Literacy

**Ability to read, write and
convince/argue with data**

**A range of skills from
Collection to interpretation to analysis**

Unaware
Not using data
Misusing
Misinterpreting
Unfamiliar with tools

Low Literacy



High Literacy

Businesses with the highest levels of data mastery (policies, people, technology) have **70% higher revenue** per person.

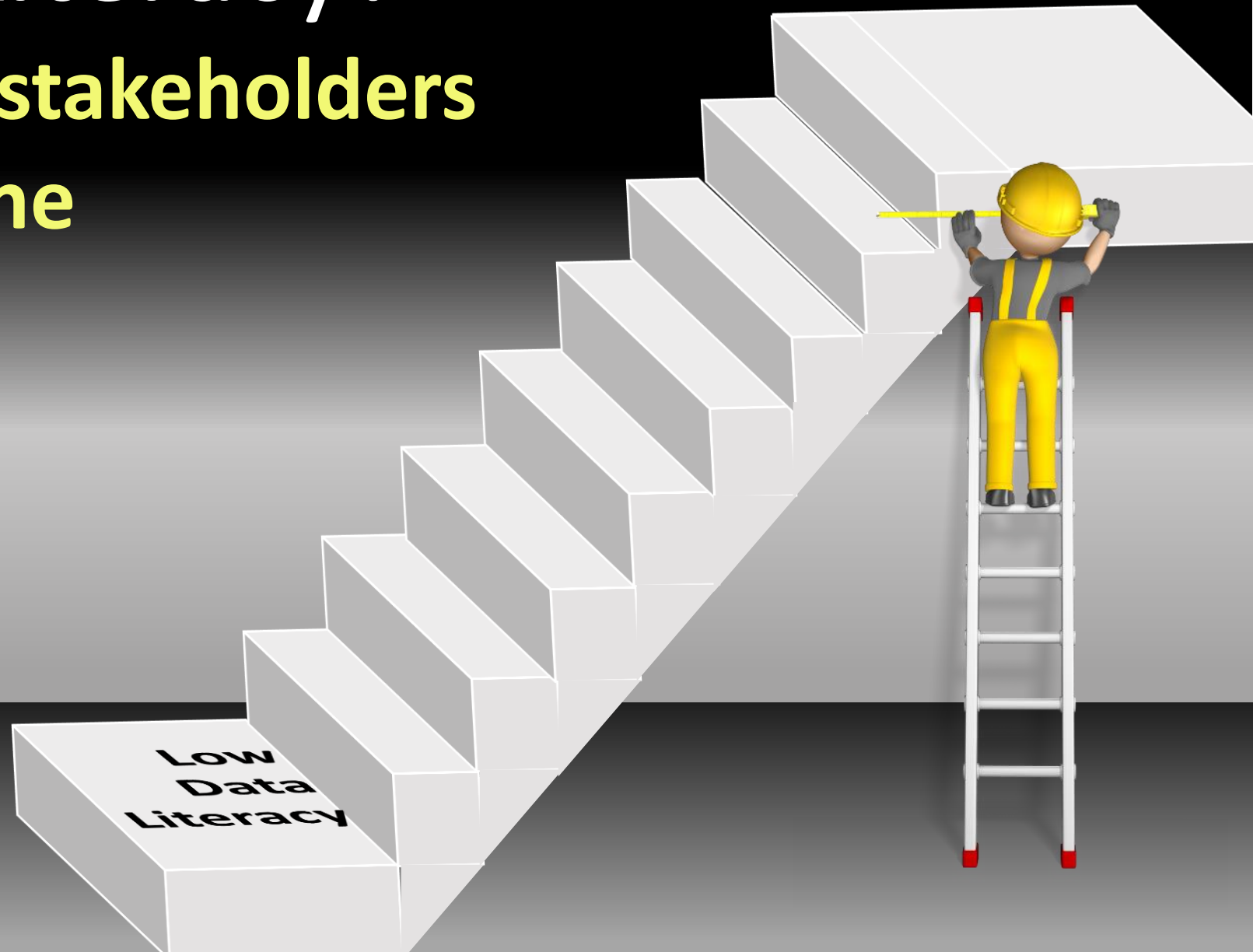
Ninety percent of business leaders believe data literacy will be critical to their success.

Low Literacy

Why Assess Literacy?

Convince/inform stakeholders

Establish a baseline



Leaders Overestimate Current Levels of Literacy



75% of business leaders believe **most or all** of their workers are data literate

Recent studies find that only 21% of employees are confident in their data skills

Other studies estimate fewer than 10% have high literacy

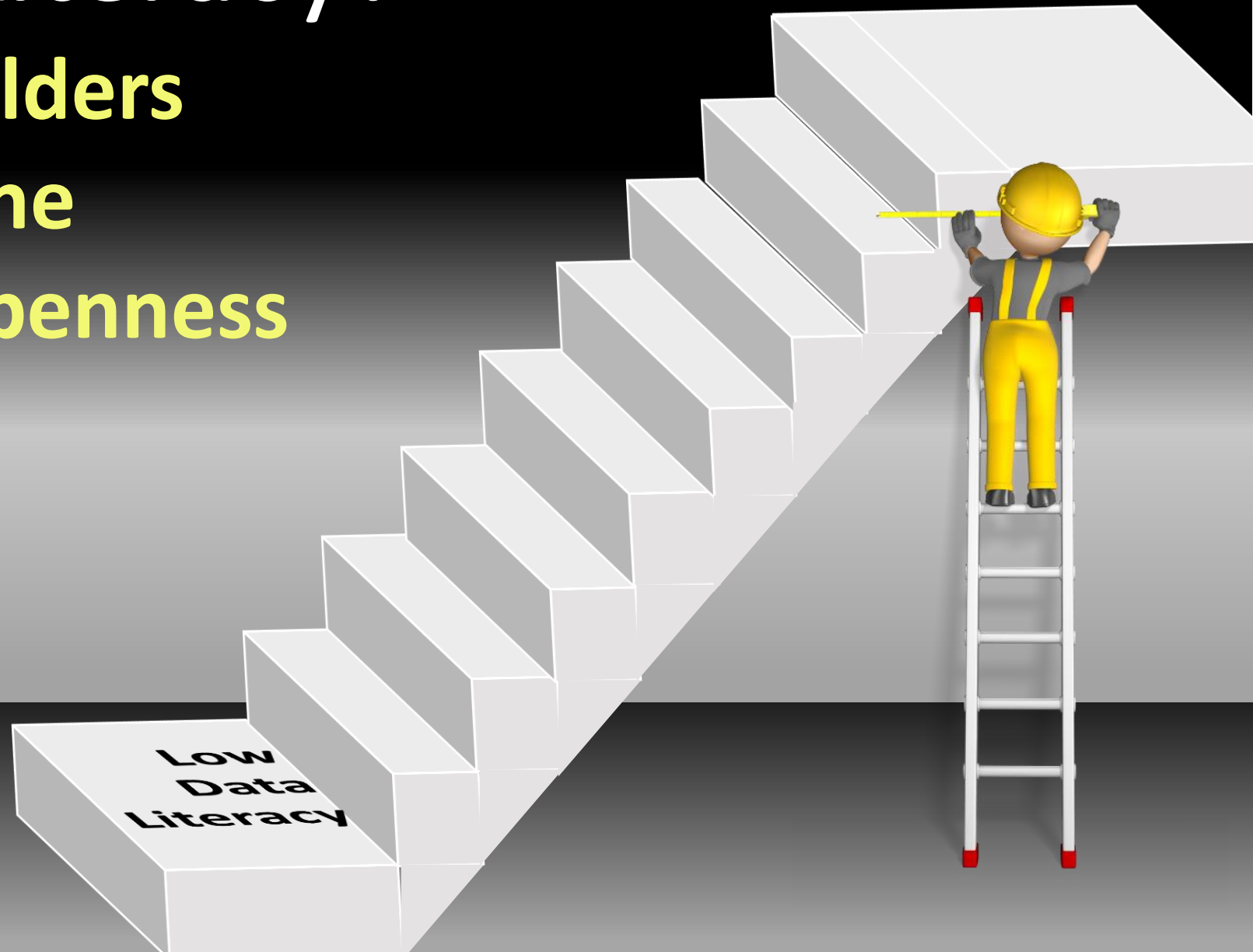


Why Assess Literacy?

Convince stakeholders

Establish a baseline

Gauge interest/openness



Data
science is
easy!



WELCOME TO LITERACY TRAINING!!

More Math = More Fun !!

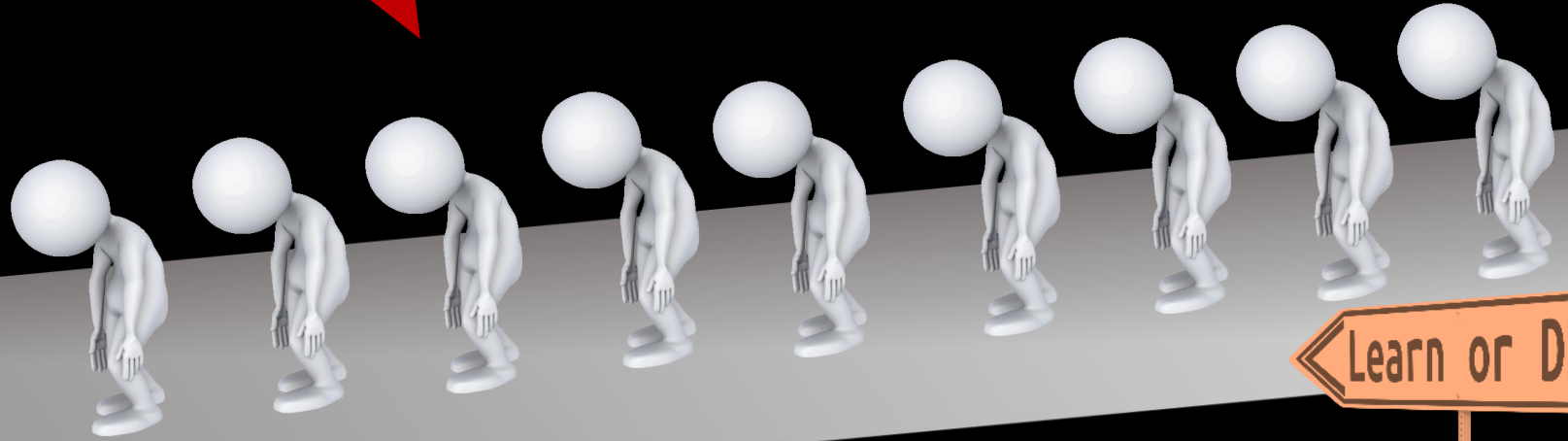


Literacy Training

This Way



MATH AHEAD



Learn or Die

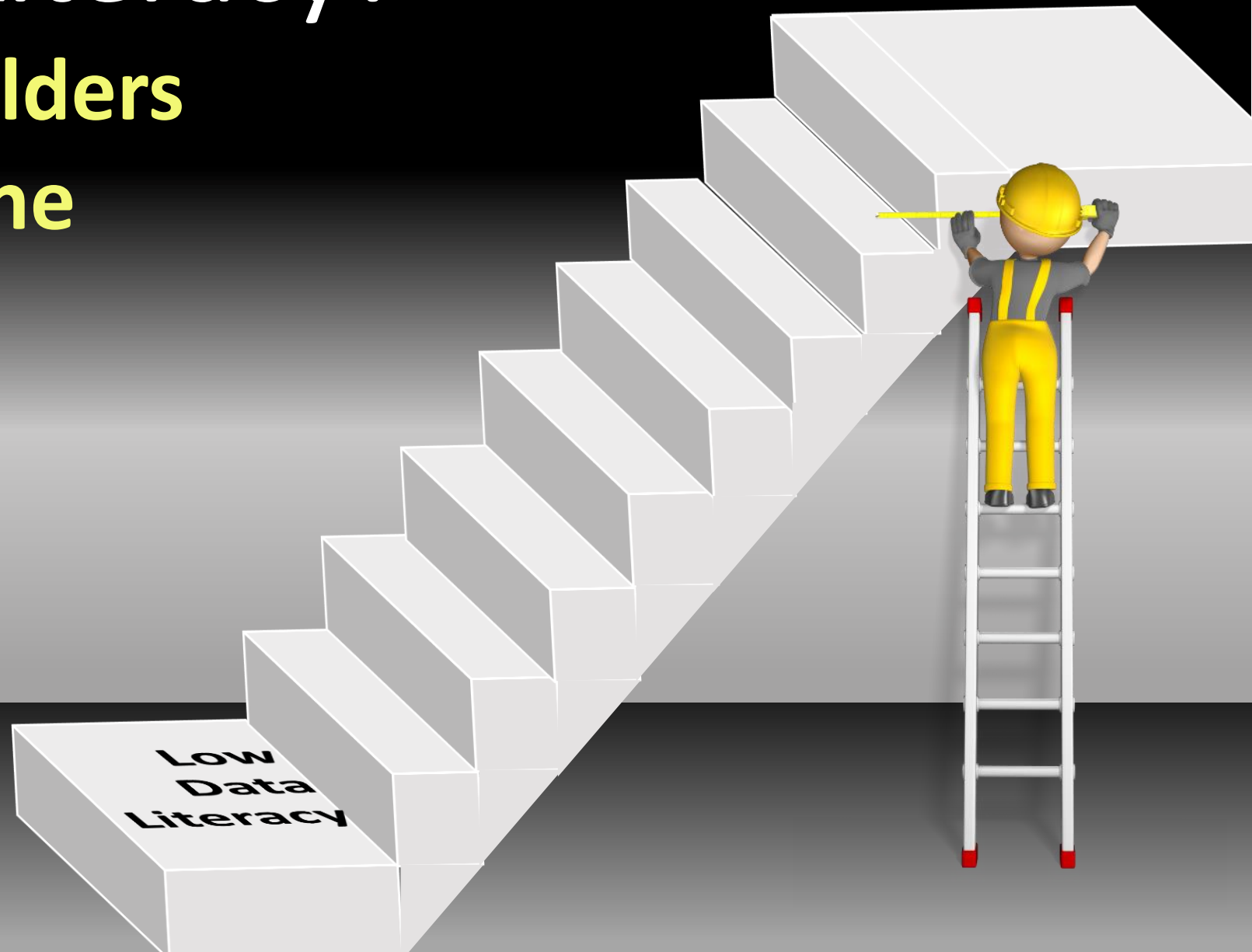
Why Assess Literacy?

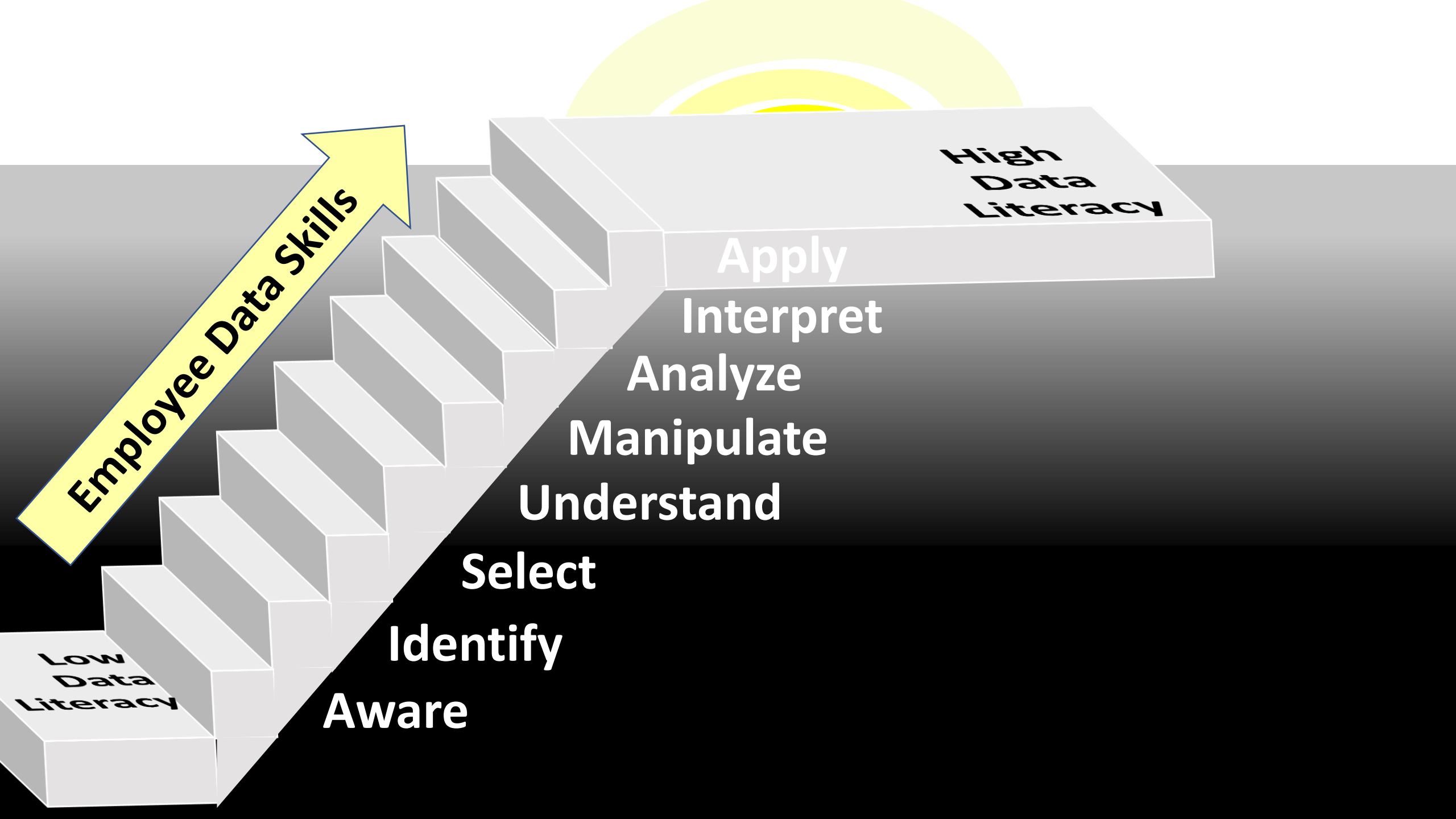
Convince stakeholders

Establish a baseline

Gauge interest

Prioritize skills





Why Assess Literacy?

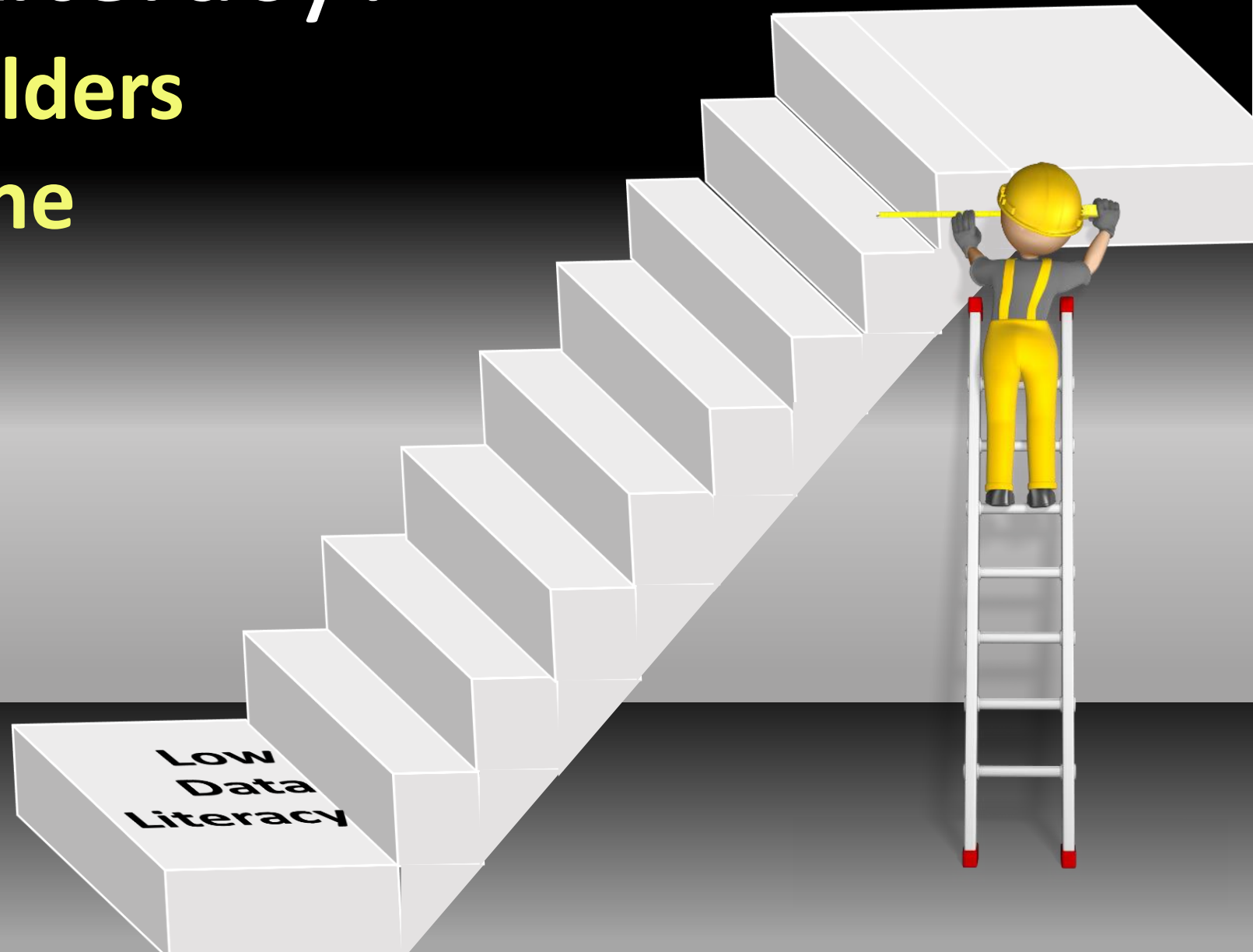
Convince stakeholders

Establish a baseline

Gauge interest

Prioritize skills

Target education



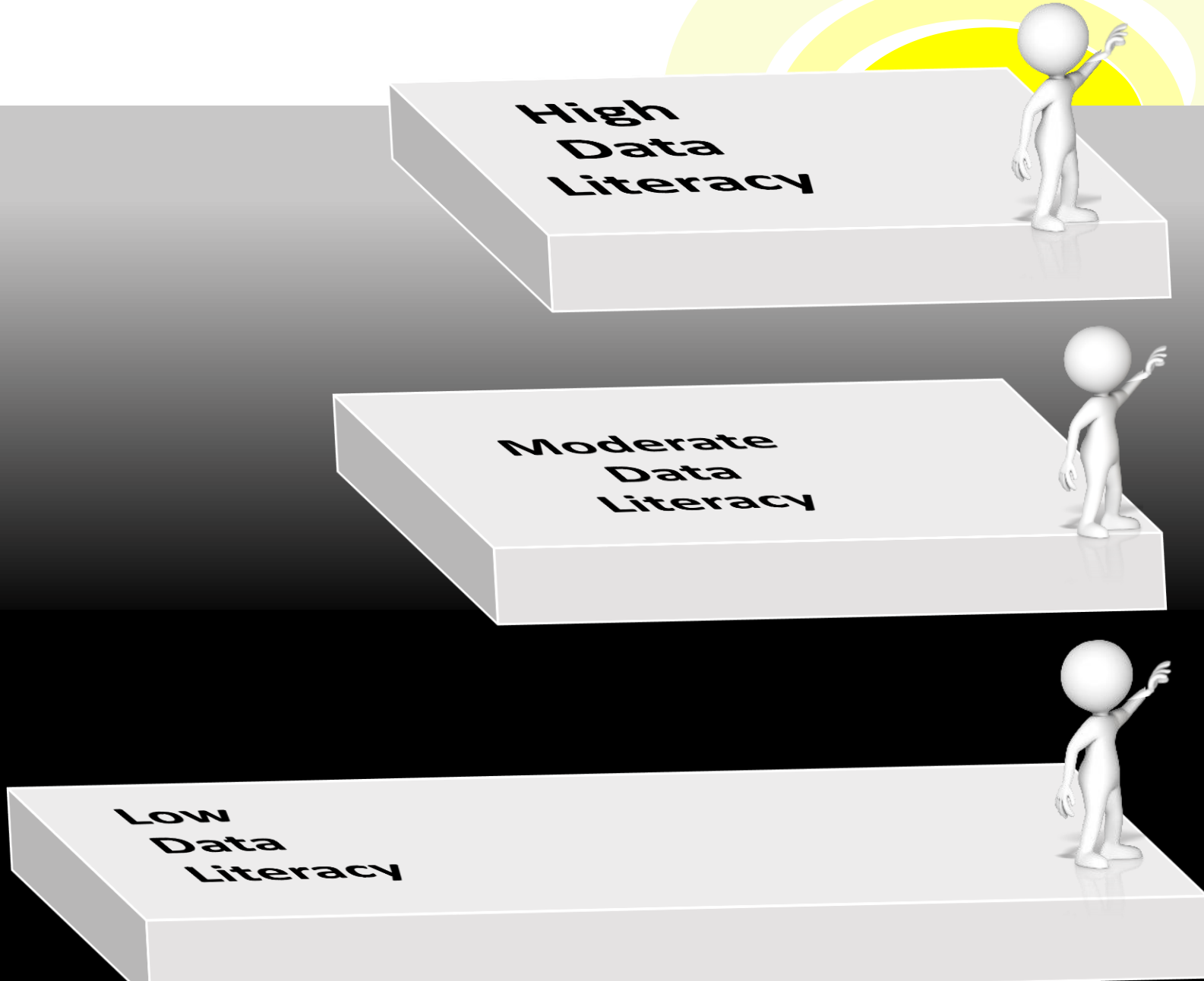
What will it take?

Is it realistic?

For every organization?

For every employee?





Why Assess Literacy?

Convince stakeholders

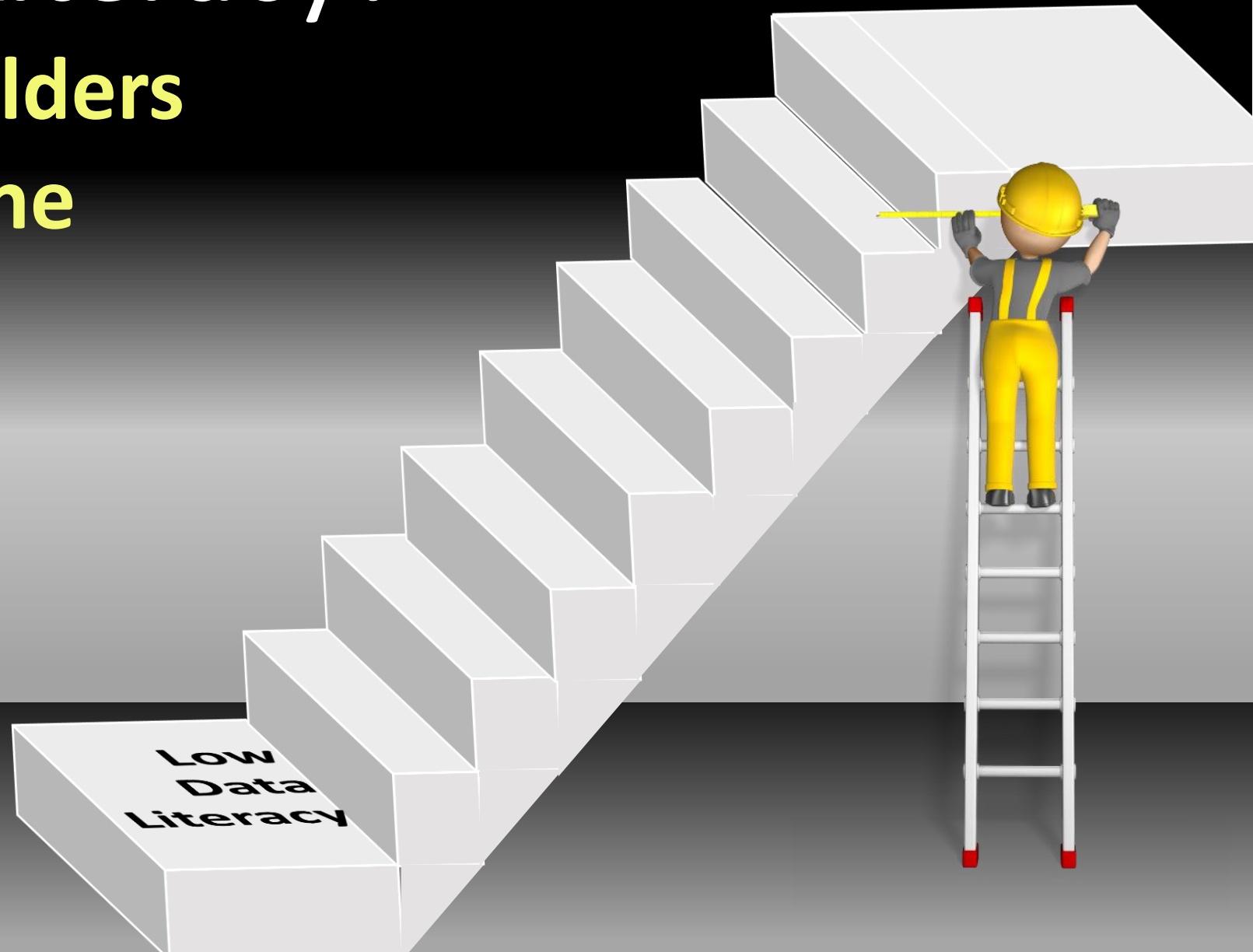
Establish a baseline

Gauge interest

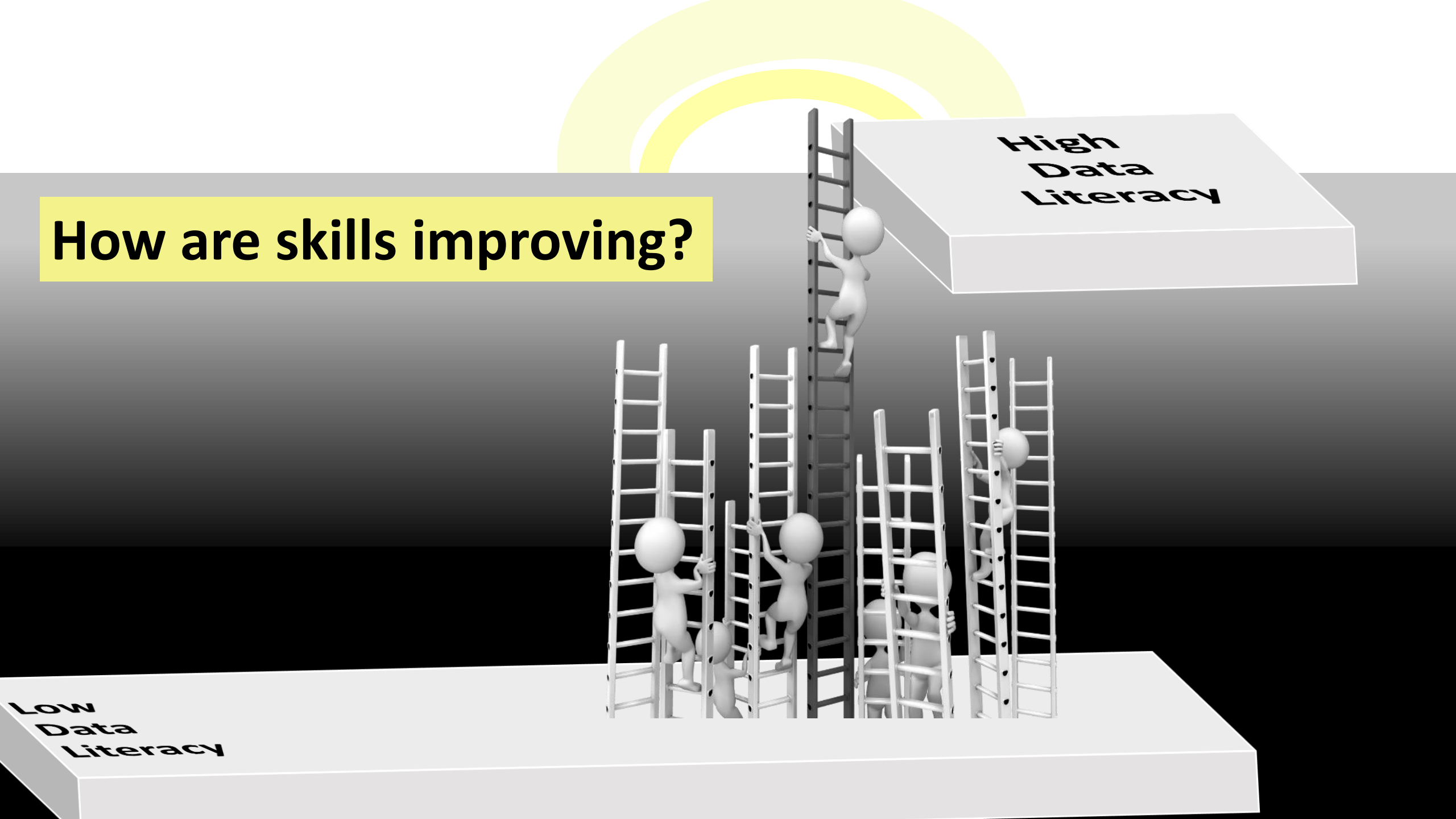
Prioritize skills

Target education

Track progress



How are skills improving?



Types of Assessments

High Literacy

Skill demonstration

Grades

Calculation and Interpretation

Scores

Knowledge of concepts

Self-Rating: Skills

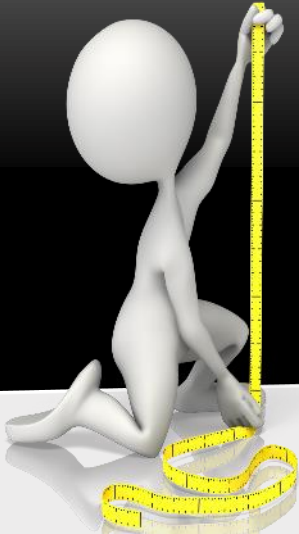
**Portions
in each
group or
persona**

Self-Rating: Needs

Self-Rating: Comfort/ Familiarity

Activity: Utilization of tools

Rates



Low Literacy

A heavy lift?



Dataversity focus group results

Panel Discussion



Host: Wendy Lynch, PhD

**Founder
analytic-translator.com**



Heather Wilson

**Business Analyst -
Evergreen Health System**



Jane Croft

**Founder and CEO –
Data To The People**

Panel Discussion

- ❖ What drove your initial interest in assessment?
- ❖ What were the goals of assessment?
- ❖ How did you decide what to assess?
- ❖ Tell us what you have learned in the process?

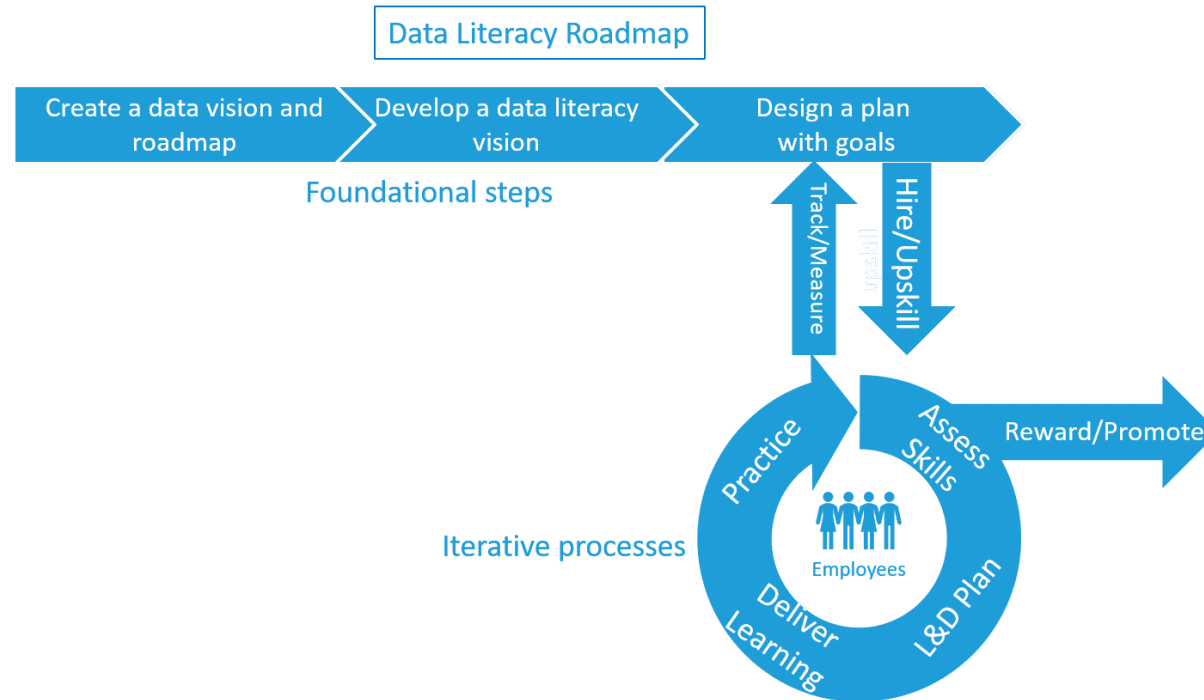


EvergreenHealth
UNCONDITIONAL.

Data Engagement Assessment

By Heather Wilson, Business Analyst

Developing a Data Literacy Program



[Quanthub: A Roadmap for creating a Data Literacy Program by Matthew Howell](#)



Goals of Assessment

- When we paused and asked ourselves the goal of our assessment, this was when we really started to have structure for our questions. (Don't forget to ask yourselves this - It's easy to get caught in the weeds.)
- Goal: To create Data Literacy Learning Pathways successfully
- Show how much need for data literacy resources to create Leadership support and show the need to leadership of further investment in our Data Literacy initiatives
- Understand people's engagement with data – which includes but is not only literacy
- Determining our Data Literacy Maturity was secondary to determining the needs of our organization.



What to assess

- We wanted the Assessment (as an Arm of our Data Engagement initiatives) to be accessible. We knew we did not want questions like the Data Literacy Project assessment which asks about ideas like central tendency, or what outliers are.
- We wanted to understand how people were interacting with data, so that we could develop tools that would support them in that
- We knew self reporting on Data Literacy is tough, so we tried to approach this cautiously
- We wanted to be able to send the survey out annually and use it as a measure of success of our Data Literacy initiatives.



3 Main types of questions

- What are people's roles in data(learning pathways/need)?
- What are peoples' experiences in data (literacy/engagement)?
- Understand the systems most people were working with, so we could focus on these areas.



Defined Terms

- **Novice** – new/inexperienced at it
- **Aspiring** – learning in this area / ambitious towards getting better at this
- **Inclined** – you have a tendency to work with this and have skills in it. It is part of your routine.
- **Focused** – you pay particular attention to this area and are able to gain insight from it.
- **Wise** – you have experience, knowledge, and good judgement in this area.



Experience with Data

Which of these most represents your experience working with Data?

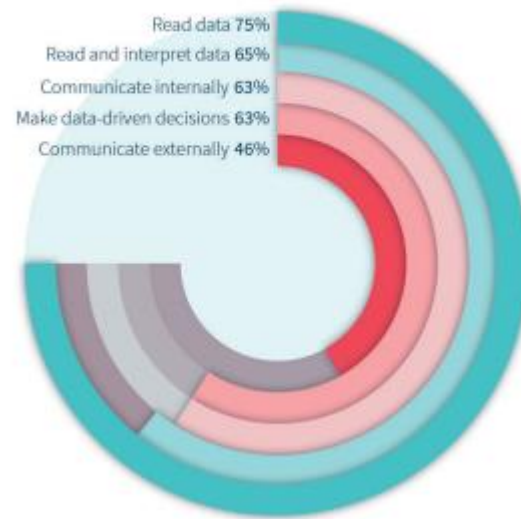
- Data Novice – 4/64 – 6%
- Data Aspiring – 7/64 – 10%
- Data Inclined – 22/64 – 34%
- Data Focused – 19/64 – 30%
- Data Wise – 13/64 – 20%

(these style questions were not used to determine learning pathways)



Show how data impacts us all (Data Roles)

HOW EMPLOYEES USE DATA



[Qlik Report: The Human Impact of Data Literacy](#)

(2020)



Data Roles

For your role, please select all answers that represent what you might use data in your day to day work: (please check all that apply):

- Collect data - **Data Foundations** - **43/64** ---- 67%
- Enter data - **Data Foundations** - **42/64** --- 65%
- Read data - **Data Foundations** - **55/64** 85%
- Read & interpret data - **Data Reporter**, **Data Problem Solver** **52/64** 80%
- Communicate internally about data - **Data Storyteller (communicate)**, **Data Reporter** --- **53/64** 81%
- Make data-driven decisions - **Data Problem Solver** --- **39/64** 60%
- Lead data initiatives internally - **Data Leadership** --- **20/64** 31%
- Communicate externally with the media/community/other in the field about data - **Data Storyteller (communicate)** - **19/64** 29%

I then used this format to ask questions about dashboards, data visualizations, presenting on data, and reporting on data to help understand HOW Evergreen employees interact with their data and help us assess which Learning Pathway would be right for them.



Systems & other questions

- What systems do you use? (for data entry, dashboards)
- Would you benefit from further Excel training? (80% yes)
- Challenges around data entry? (time and entering the same data in multiple systems were the top answers)
- Which do you fit: Data Leader, Custodian, Steward, Owner, Consumer, End User
- (Optional) Name, email, job title (people could also answer job title without giving name)



What did we learn along the way?

- 96% of people who answered this survey answered that they read or read & interpret data.
- 80% said they'd benefit from more Excel training.
- 48% of the people who answered with their job title were mid-level management or Executives, 33% Patient facing, 18% another Admin role
- 34% of people consider Dashboards an integral part of their job – goal to raise this
(Dashboard Roles)
- 33% of people are confident in the processes around data quality in their Dpt, 36% are empowered to take care of data quality issues – goal to raise this
(Data Quality Roles)
- Very few people who answered design dashboards and data visualizations, but we should have asked more “data designer” questions



What did we learn along the way?

- Do it – make the mistakes. You'll never develop the perfect assessment or the perfect literacy program. Whatever you have will be better than what you had before (which was nothing)
- Learning about people at the organization is the most important thing.
- Be a Data Literacy learner to be a Data Literacy teacher.



Learning Pathways (for reference)

- **Data Foundations**
- **Data Investigator**
- **Data Problem Solver**
- **Data Reporter**
- **Data Designer - Visual Data Storyteller**
- **Data Communicator – Presentation Data Storyteller**
- **Data Leadership**



Databilities®

Elevating Enterprise Data Literacy
Data Literacy Assessments



The problem...

Leading organizations recognize the urgent need to build the data literacy of their workforce,

but many are unsure what this actually means.

... continued

There is no common definition or standard by which to measure and benchmark data literacy.

It's pretty hard to build something if you don't know what it is you're supposed to be building!

The Solution

Databilities®

The world's first data literacy
competency framework

Foundations of Databilities®



Data Literacy: A Multidisciplinary Synthesis of the Literature

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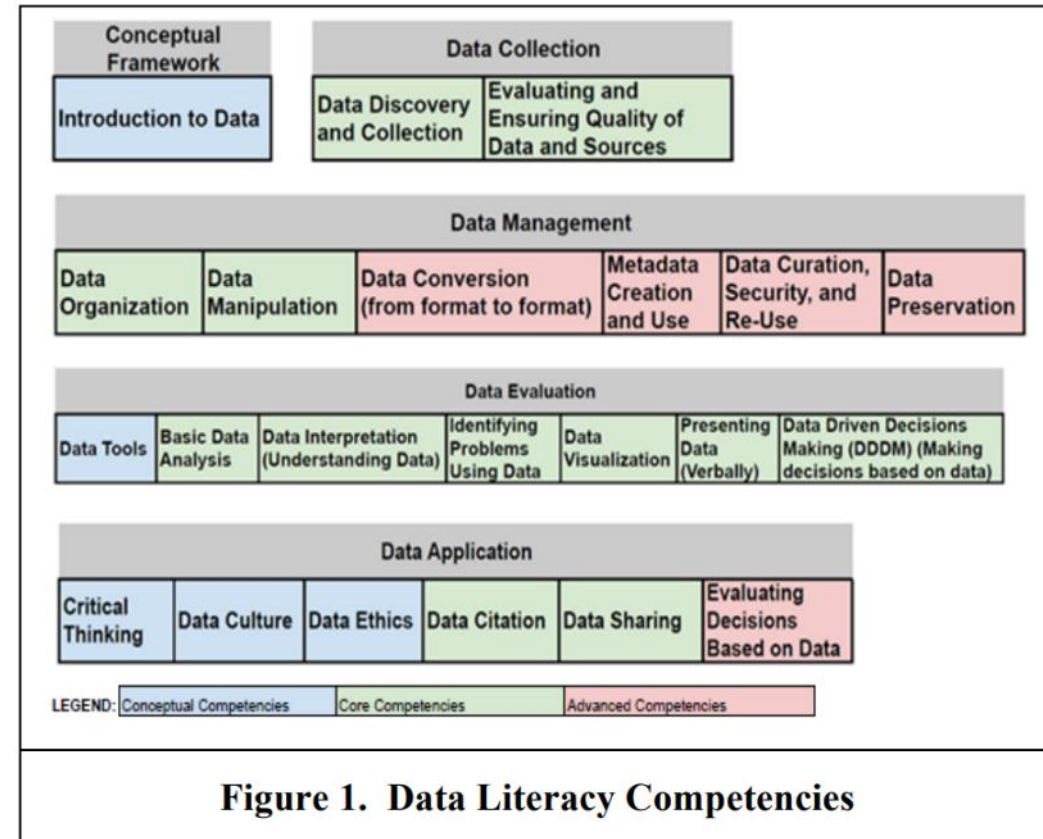
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The secret recipe

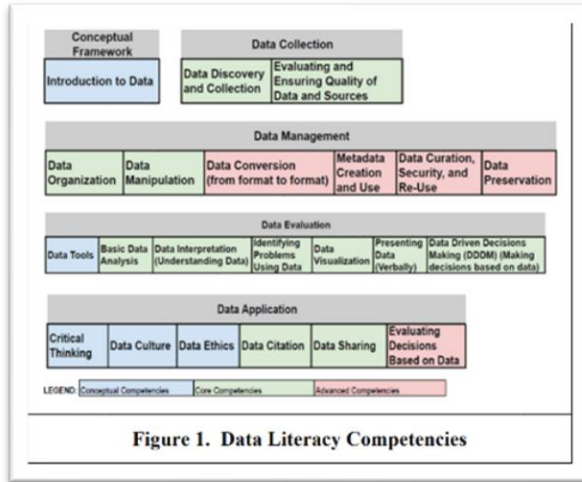


Figure 1. Data Literacy Competencies



Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
An individual can complete simple tasks with instruction.	An individual can complete simple tasks on their own, with guidance where needed.	An individual can complete well defined tasks on their own.	An individual can complete well defined problems and tasks on their own.	An individual can guide and assist others to complete simple tasks and problems.	An individual can guide and assist others to complete complex problem and tasks.

Presenting Data (Verbally)					Comprehension	
Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	
<i>With guidance</i> , I can verbally describe key points of interest in data provided to me .	I can verbally describe key points of interest in data provided to me .	I can verbally describe simple datasets and data visualisations.	I can verbally describe a range of data sources and data visualisations.	I can assist others to verbally describe provided data sources and data visualisations.	I can teach and assist others to verbally describe a range of data sources and data visualisations.	
Data Driven Decision Making						
Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	
<i>With guidance</i> , I can use data provided to me to support my decision-making process.	I can use data provided to me to inform my decision-making process.	I can use data to inform my decision-making process.	I can use data to analyse and inform my decision-making process.	I can assist others to use provided data sources to analyse and inform their decision-making process.	I can teach and assist others to use data to analyse and inform their decision-making process.	
	I can identify key actions to take based on data provided to me .	I can identify key actions to take based on various data sources.	I can use a range of data sources to prepare and communicate actionable information.	I can assist others to use provided data sources to prepare and communicate actionable information.	I can teach and assist others to use a range of data sources to prepare and communicate actionable information.	
Databilities® CC BY-NC-ND 4.0						
						data to the people

Databilities®

- Databilities® is recognised as the most comprehensive assessment tool of individual data literacy in the world, and is now available in both English and French.
- The original framework outlined 15 core competencies across the dimensions of reading, writing and comprehension, Databilities® 2.0 released in December 2020 includes additional competencies around data culture, data ethics and data stewardship (increasing to 18 core competencies).
- For each competency within the Databilities® framework, there are up to 6 levels of progression:

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
At this level of competency, an individual can complete simple tasks with instruction .	At this level of competency, an individual can complete simple tasks on their own, with guidance where needed .	At this level of competency, an individual can complete well defined tasks on their own .	At this level of competency, an individual can complete complex problems and tasks on their own .	At this level of competency, an individual can assist others to complete simple tasks and problems .	At this level of competency, an individual can teach and assist others to complete complex problems and tasks .

Databilities[®] 2.0

- Data Foundations

- Data Culture
- Data Ethics

- Reading

- Data Discovery
- Evaluating and Ensuring Quality of Data

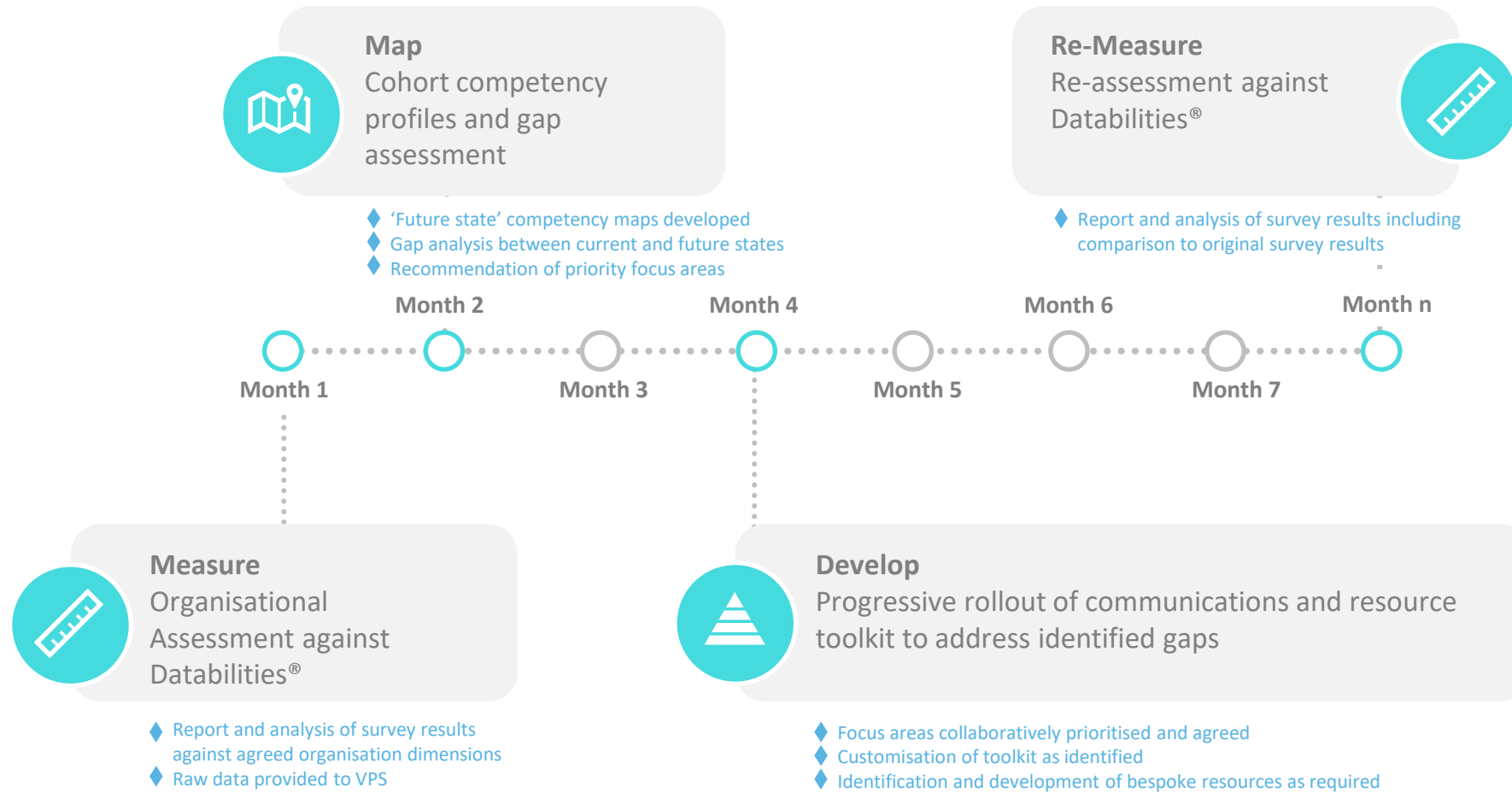
- Writing

- Data Collection
- Data Management and Organisation
- Data Manipulation
- Data Curation and Reuse
- Metadata Creation and Use
- Data Conversion (Format to Format)
- Data Stewardship

Comprehension

- ▶ Data Analysis
- ▶ Data Interpretation (Understanding Data)
- ▶ Identifying Problems Using Data
- ▶ Data Visualisation
- ▶ Presenting Data (Verbally)
- ▶ Data Driven Decision Making
- ▶ Evaluating Decisions / Conclusions Based on Data

How it works



The journey so far

- Demand for organisational assessments is growing. Fast!
- Organisations are increasingly looking for a comparison to their peers and industry groups
- Communication is key to gaining employee engagement and participation
- Assessment very quickly leads to the question: “so, what’s next?”
- Broader program must have a multidisciplinary focus

Jane Crofts

Data To The People

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