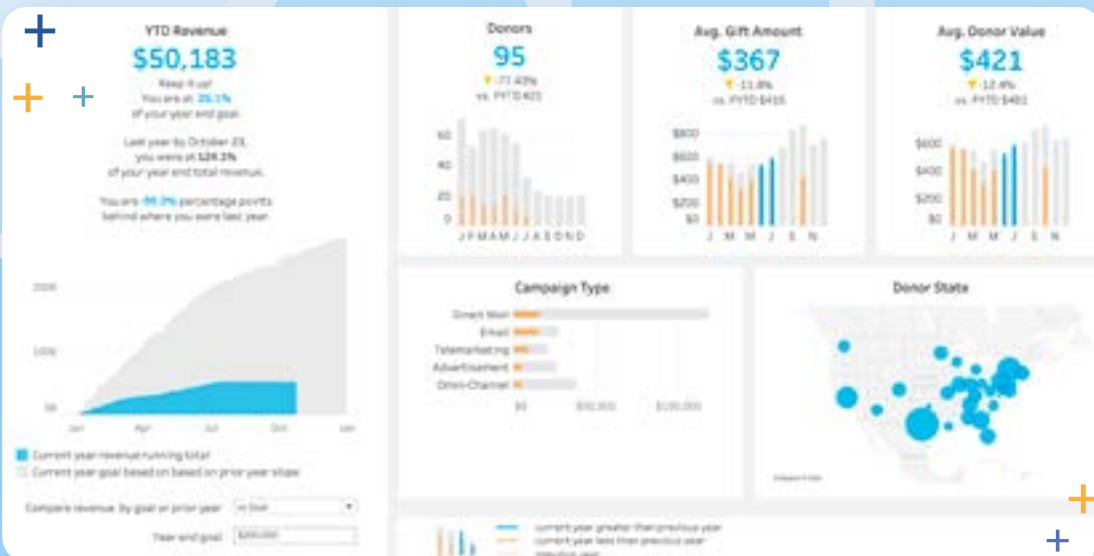




Bring Data Literacy to Your Workforce

Activities and guidance, including a foundational learning path, to help start your own data literacy program.





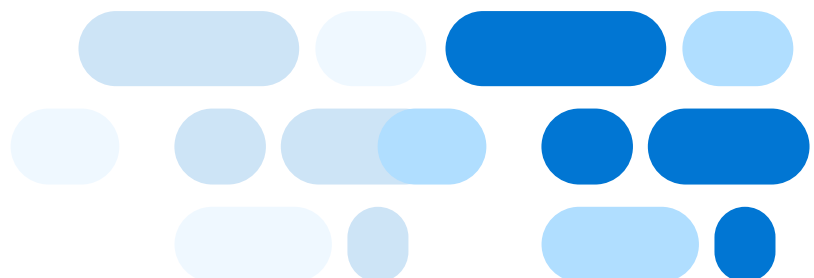
Everyone, regardless of their position or department, must know and embrace the language of data to help their business tackle its difficult problems (e.g., new or developing market trends, customer activity and needs, or unexpected crises)

- [Tableau Blueprint](#)

Empowering employees with data skills is crucial for the success of your business. A Forrester Consulting [study](#) commissioned by Tableau found that “data literacy efforts lead to significant benefits in increased innovation, greater customer and employee experience, and more.” However, companies need to do more to bridge the skills gap. According to the Forrester study, only 40% of employees say their company has provided the data training and development expected of them.

To help fill this gap and contribute to [our mission](#) to build a better future with free data education, we created this guide to provide companies with a framework to inspire and deploy fundamental data skills training at scale. It offers easy-to-use activities and plans, including a foundational data literacy learning path, recommendations for solutions to common challenges, and tips on establishing an ongoing education program.

We intend to provide periodic updates and more advanced topics in the future. We welcome your feedback (see the survey at the end of this document), so we can continue to serve your company’s data literacy needs.



Contents

Essential elements [Page 4](#)

What do those tasked with bringing data skills to their employees need to be successful? How can learners be recognized? How can you overcome challenges?

Data literacy learning path [Page 7](#)

What topics should be covered? What eLearning is available?
Which activities will help learners apply their knowledge to day-to-day tasks?

Keep on learning [Page 13](#)

How do you build community and keep learners engaged after they complete the training?

Resources and further reading [Page 14](#)

How can you explore more about data skills? What are some great books to add to your reading list?

Essential elements

While presenting the appropriate learning path is necessary for implementing an internal education program, other elements are crucial for success.

Sponsorship and support

First, backing from executive leadership is vital to establishing and maintaining a new program. Finding time, financial support, and space to deploy will be much easier with buy-in from executive leadership.

Champions are also important for leveraging data and promoting data skills education. These internal advocates are typically willing to emphasize the importance of data-driven decisions and can be called upon to mentor others and help facilitate learning.

In addition to buy-in from executive leadership and champions, technical and non-technical support is critical. Support from Information Technology (IT) and analytics teams is needed to gain access to data and related platforms and help navigate governance standards. From a non-technical perspective, management needs to advocate to their leaders for the importance of data skills education and the value it brings to the company. They should also provide financial support to incentivize learners and address operational needs that arise.

Last, leaders, facilitators, and end-users need time. Without committed time, success is unlikely for all but the most self-motivated. This time must be carved out and protected by managers, or warring priorities will consume it. Extending the length of an employee's day is not a substitute for modifying expectations for everyday work to accommodate the time necessary to complete training. The amount of time given should match the expectation of when the company would like to see completion. For example, rapid results require more time at regular intervals. If there is a longer window for execution, less time at regular intervals will be sufficient.

Incentives and recognition

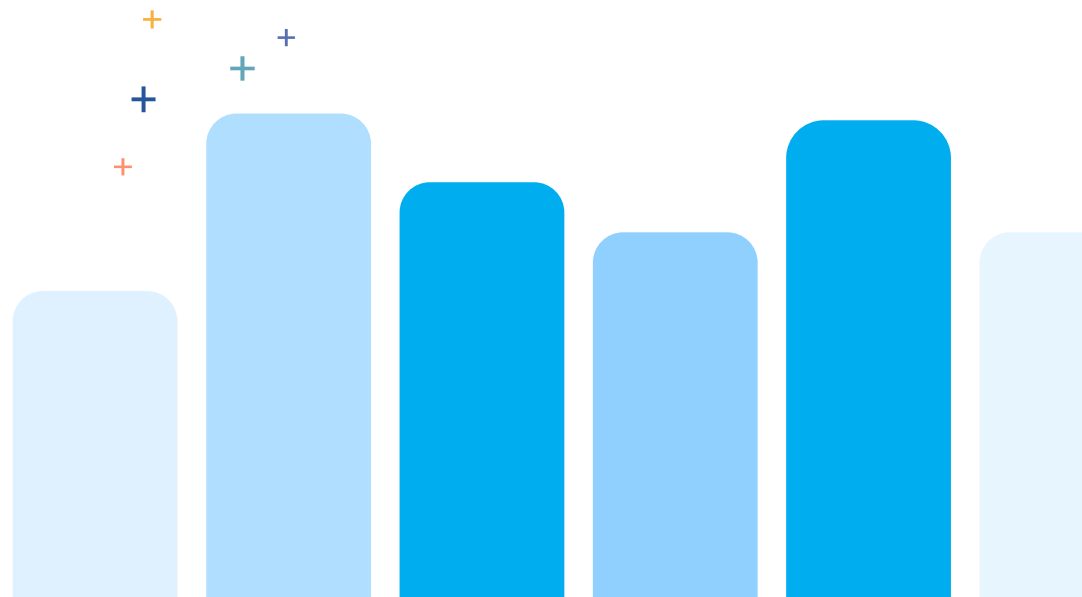
Learning data skills requires a commitment of time and energy amidst an already full work schedule. Incentives and recognition are key ingredients for a successful program.

A learning path with badges that reward completion can help keep employees engaged and committed. Planning incentives, providing prizes, and introducing healthy competition can also bring fun and interest to the program.

Inspiring continued participation can take time and effort. To mitigate training fatigue, make goals attainable. Set midway or milestone goals, where the learner is rewarded partway through the process with small incentives that make it just enticing enough to keep going rather than having no recognition until the very end. Where the budget is available, purchase small incentives for reaching incremental goals (coffee card or similar) and larger incentives (t-shirts, lunch vouchers, etc.) for full completions.

Community

Learning can be challenging, and learning alone can be even more so. A data community provides a safe space for support and sharing. [Tableau](#) and [Tableau Blueprint](#) provide guidance on how to start an internal community at your company. External communities such as the [Tableau Community](#) are additional resources to help you succeed. They are a place to ask questions, accelerate learning, connect with others, and get inspired.



Overcoming challenges and barriers

Even with all the necessary elements mentioned above, establishing a data literacy training program can pose challenges.

Common challenges	Tips to overcome
Lack of engagement	<p>Provide prizes or incentives. Simple gamification can encourage engagement.</p> <p>Give learners a voice. Ask for feedback during the program and respond to their needs.</p>
Fear and apprehension	<p>Use activities to foster encouragement and collaboration (see examples in the learning path below).</p> <p>To prevent people from clamming up for fear of looking unqualified, acknowledge that these aren't skills that everyone inherently has.</p>
Lack of time	<p>Use bite-sized learning that requires short time commitments.</p> <p>Maintain leadership support to protect dedicated employee learning time.</p>
Not connecting to the content or struggling to apply their learnings	<p>Provide peer mentorship to help employees solve problems they currently face in their work.</p>

Data literacy learning path



This learning path covers foundational data literacy concepts and includes suggested eLearning modules, readings, videos, exercises to aid learning, and activities to practice and apply the concepts. This learning path can serve as a prerequisite for more advanced topics such as data analytics, data governance, decision making with Artificial Intelligence (AI), or change management topics to create a data culture.

Commit to learning

Business leaders and employees must commit to data literacy education, giving the proper time and space to achieve their learning goals. Allow approximately fourteen to eighteen hours to complete the entire learning path with a pace of about two to three hours per week for six weeks. The timing can be consolidated or stretched to accommodate variable schedules. While eLearning, readings, and activities can be done asynchronously (estimated time requirements on page 11), planning at least one in-person or virtual meeting allows employees to engage and build relationships with each other.

How to learn

Some workers may have apprehension about signing up for a new data literacy program. Facilitators need to provide a safe space for employees to share and practice. Participants need to feel connected to and believe in the importance of data skills. The first step in creating this connection is to have them reflect on their personal experiences and needs.

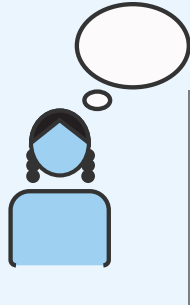
TIP

The “Where are you on your data journey” activity is a great first meeting activity to help your learners reflect, engage, and build relationships.

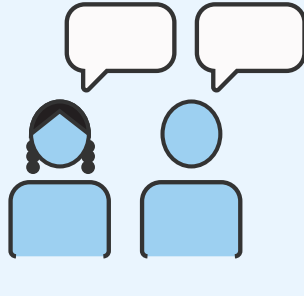
ACTIVITY

Where are you on your data journey?

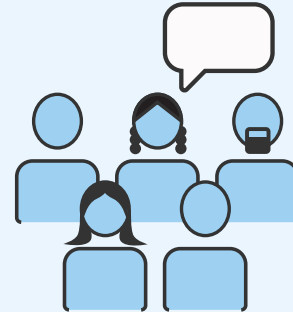
(allow about 45-90 minutes)



THINK



PAIR



SHARE

1. Have participants reflect on their experiences with data and answer the following questions:

- What types of information would you consider to be data?
- Share a moment in the past when having supporting information would have made a decision easier.
- What blockers are preventing you from learning more about how to use your day-to-day data?
- What areas in your current role could you use data to improve a process or outcome?

2. After completion, have participants share in pairs (or small groups).

3. Discuss with the larger group or class.

Facilitator notes:

– For adaptation to a virtual setting, consider assigning paired video meetings or journal writing activities.

– When learning settings allow, the activity can be used as an opportunity to enable learners to reflect on positive or negative learning experiences. Questions such as “What are your positive and negative experiences with data from home, work, volunteering, or school?”, “How can the learning experience be improved?”, “Are there any attitudes or beliefs that may be barriers to learning?”, or “How can peers be supportive of each other?” can be added to the above questions. This exercise allows you to address any fear or anxiety that learners may have.

ACTIVITY

Data learning journal

(5 minutes after each learning session)

When learning new concepts, remembering and applying these concepts after the education program is completed can be challenging. To deepen learning and help apply the concepts, ask participants to record at least one example from their daily lives the same day that they engage in the content. This activity can be a 'data learning journal' that also helps them reflect on their progress and discover ways to help improve their own work and the work of their teams.

ACTIVITY

Peer mentorship

(60-90 minutes)

Success stories from people who have completed (or are on) the journey of learning data skills can promote an encouraging environment. Provide time and space for those who have begun or completed the training program to share their experiences with new learners. Ask them to share the challenges that they overcame and how they applied the learning in their work.



**Data
topics**

Data literacy is the ability to explore, understand, and communicate with data. The objective-based learning plan covers fundamental concepts and allows learners to adapt them to their specific needs.



If I had an hour to solve a problem and my life depended on it, I would use the first 55 minutes determining the proper questions to ask.

- Albert Einstein



TRAILHEAD

The plan includes the [Build Your Data Literacy Trail](#) on [Trailhead](#), a free and fun online learning platform from Salesforce, and a variety of articles and videos.

TIP

Since the Build Your Data Literacy Trail covers many learning objectives, completing the trail can be a milestone for employees to achieve mid-way through the program.



Data topics learning plan

Data literacy fundamentals	
Learning objective	eLearning, articles, and videos
Define data literacy	eLearning: Data Literacy Basics (30 minutes)
Ask great questions	
Describe how data is collected and types of data sources	
Describe ethical implications of collecting and using data	Article: Data Ethics for Business (7 minutes) Video: Do No Harm Guide (7 minutes)
Understanding with data	
Learning objective	eLearning, articles, and videos
Understand how data is structured and organized	eLearning: Well-structured Data (30 minutes)
Identify types of data	eLearning: Variables and Field Types (20 minutes)
Learn how different levels of granularity reveal data insights in visualizations	eLearning: Aggregation and Granularity (20 minutes)
Understand distributions of data	eLearning: Distributions (35 minutes)
Make comparisons with data	eLearning: Data Literacy Basics review (10 min) eLearning: Variation and Comparisons (40 minutes)
Make decisions using data	eLearning: Correlation and Regression (20 minutes) Article: Cycle of Visual Analysis (7 minutes)
Communicating with data	
Learning objective	eLearning, articles, and videos
Understand best practices for interpreting or creating visualizations	Articles: A Guide to Charts (45-60 minutes) Interactive Dashboard: Visual Vocabulary (60 minutes)
Identify misleading charts	eLearning: Guidelines to Recognize Misleading Charts (20 minutes)
Interact with data visualizations	Article: Benefits of Interactive Visualization (4 minutes) Activity: Practice Escape Room (30 minutes)
Understand best practices for data stories	Article: Best practices for telling great stories (10 minutes)



Practice

An essential step in learning data skills is to practice using them. This can be the most challenging to implement. The following activities will help people apply these concepts in their daily work.

ACTIVITY**Good chart/deficient chart** (or that need help or improvement) .

(allow 90-180 minutes)

Part I Find chart

With the data literacy concepts that you are learning in mind, find at least one good and one deficient or misleading chart in your day-to-day life. Look for charts in presentations you encounter in your work, news sources you read, social media posts, or any media that interests you.

Part II Critique charts

Describe why your 'good chart' is good and why your 'deficient chart' is deficient or misleading, referring to specific data literacy concepts. Share your critiques with a peer (in person or via an online discussion board).

Part III Peer review

Give feedback on your peer's critiques. Guidance in giving feedback:

- Ask a question and support why you asked the question.
- Validate their critique by sharing your experiences or other examples.
- Share an insight you've made by reading their critique.
- Expand on the critique.

Facilitator Note:

This exercise can be done in an in-person classroom or via an online discussion board.



ACTIVITY

Internal Case Studies

(allow 90-180 minutes)

Create an internal case study and apply concepts using data from your company.

TIP

Discovering the right use case when beginning a program can take time and effort. In the How to Learn section, learners are encouraged to keep a data learning journal and record how the concepts apply to their day-to-day activities. Encourage them to share their stories and reflections. These stories can provide great examples for use in future courses as case studies. Often, the best examples are right in front of us.

Assessment

Trailhead badge completions can serve as assessments.
(Note: more badges covering listed topics coming soon!)

Completion of the chart critique activity can serve as an assessment for remaining learning objectives.

Keep on learning

After employees complete the learning path, encourage and incentivize them to stay involved. Giving graduates of the program opportunities to be mentors can grow their careers while allowing facilitators to reach more learners. Their involvement will help build and maintain a thriving internal community.

The [Tableau Community](#) and the [Trailblazer Community](#) offer many opportunities to share and learn from people around the world and give back.



Resources and references

[A Guide to Charts](#)

[Benefits of Interactive Visualization](#)

[Best practices for telling great stories](#)

[Build Your Data Literacy Trail eLearning](#)

[Building Data Literacy Forrester study](#)

[Cycle of Visual Analysis](#)

[Data Ethics for Business](#)

[Data Literacy for All eLearning](#)

[Do No Harm Guide](#)

[Interactivity Practice Escape Room](#)

[Misleading Axes on Graphs](#)

[Tableau Blueprint](#)

[Tableau Community](#)

[Trailblazer Community](#)

[Visual Vocabulary](#)

For further reading:

The Big Picture

Steve Wexler, 2021,
McGraw Hill

Now You See It

Second Edition
Stephen Few, 2020,
Analytics Press

Data Literacy Fundamentals

Ben Jones, 2020,
Data Literacy Press

How Charts Lie

Alberto Cairo, 2019, W.W.
Norton and Company

Contact us:

This guide was created by the Data Skills 10 Million curriculum team.

For more information, contact dataliteracy@tableau.com.

We welcome your feedback. Please fill out this

[short survey](#) to help us better serve you.



