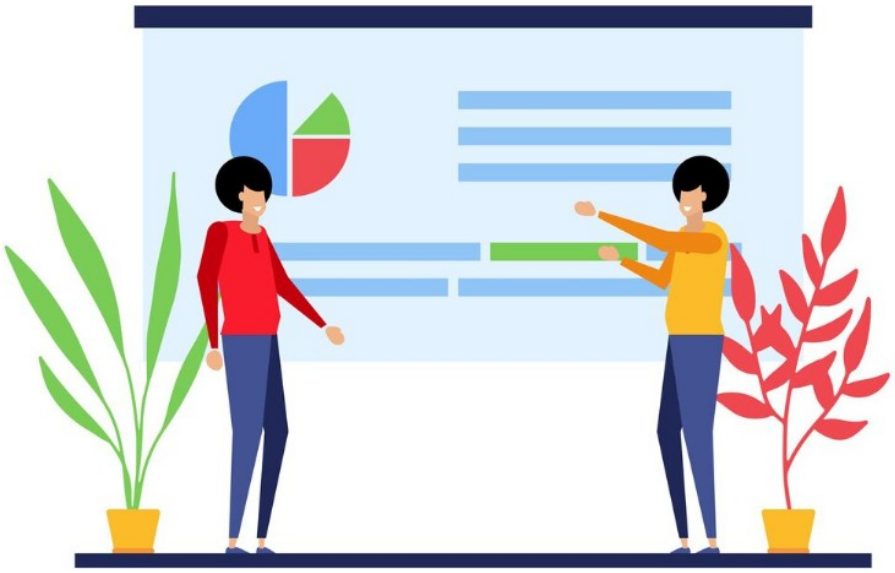

EFFECTIVE DATA STORY TELLING

Professional Certificate in Effective Data Communication

Course Code: M040/25

Duration: 16 Hours

Delivery Format: Hybrid

Target Audience:

This course in digital storytelling is designed for a diverse audience, including data enthusiasts, digital content creators, artists, social advocates, impact measurement professionals, and researchers interested in exploring the intersection of data, storytelling, and social action.

Program Outcomes:

Upon completion of this program, participants will be able to:

- Craft compelling data narratives.
- Analyze data effectively using various tools.
- Create data-driven stories using a mix of digital and analog tools.
- Apply artistic and rhetorical techniques to data narratives.
- Connect data stories to social initiatives.
- Evaluate the impact of data storytelling.
- Understand audience demographics and behaviors.
- Enhance presentation skills.
- Use video and audio elements in storytelling.

Detailed Syllabus

Module 1: Why Data Storytelling

Outcome: Participants will understand the fundamental reasons why data storytelling is crucial for effective communication and decision-making.

Topics:

- The importance of data storytelling in a data-rich world
- Engaging audiences
- Making data easy to understand
- Driving action

Activities:

- Interactive discussions on the impact of well-told data stories.
- Analysis of examples showcasing the power of data storytelling.

Assessments:

- Short reflection on the importance of data storytelling in their own work context

Module 2: Explore or Explain

Outcome: Participants will be able to differentiate between exploratory and explanatory data analysis and recognize when an explanatory approach is necessary for effective communication.

Topics:

- Understanding the difference between exploratory and explanatory data analysis
- The importance of the explanatory approach for storytelling

Activities:

- Case studies illustrating exploratory vs. explanatory analysis.
- Exercises in identifying the primary goal (explore or explain) of different data scenarios.

Assessments:

- Identifying whether a given scenario requires an exploratory or explanatory approach

Module 3: Who, What, How

Outcome: Participants will be able to identify and define the key elements of their data story: audience, message, and narrative.

Topics:

- The three key ingredients for crafting a data story: the audience (Who), the core message (What), and the narrative structure (How)

Activities:

- Audience profiling exercises.
- Techniques for formulating a clear and concise core message.

Assessments:

- Outline of the "Who, What, How" for a hypothetical data scenario

Module 4: Insights & The Big Idea

Outcome: Participants will be able to derive meaningful insights from data analysis and formulate a central "Big Idea" to drive their data story.

Topics:

- Transforming analysis into insights
- Identifying the "Big Idea" that the data supports
- Building a consistent narrative around this idea

Activities:

- Exercises in identifying insights from sample datasets.
- Developing "Big Idea" statements based on analyzed data.

Assessments:

- Formulating a "Big Idea" based on a provided dataset and analysis

Module 5: Storyboarding Stories

Outcome: Participants will be able to structure their data stories logically using storyboarding techniques for improved clarity and impact.

Topics:

- Techniques for organizing information into a logical flow

- Structuring data stories for clarity
- Using a storyboard approach

Activities:

- Introduction to different storyboarding methods.
- Hands-on exercises in creating storyboards for data presentations.

Assessments:

- Creation of a storyboard for a data-driven presentation

Module 6: Graphical Integrity

Outcome: Participants will understand the importance of ethical data visualization and be able to create accurate and non-misleading visuals.

Topics:

- Avoiding misleading visuals
- Ethical considerations in data representation
- Protecting credibility through graphical integrity

Activities:

- Analysis of examples of misleading and ethical data visualizations.
- Discussions on ethical guidelines for data representation.

Assessments:

- Identifying instances of graphical integrity issues in given visuals

Module 7: Graphical Perception

Outcome: Participants will understand the principles of graphical perception and apply them to design more effective data visualizations.

Topics:

- How the human eye processes visual information
- Design principles that leverage visual perception for effective communication

Activities:

- Interactive sessions on how different visual cues are perceived.
- Applying graphical perception principles to improve existing charts.

Assessments:

- Redesigning a chart to improve its graphical perception

Module 8: Choosing a Visual

Outcome: Participants will be able to select the most suitable visual representations for their data and avoid common mistakes in chart selection.

Topics:

- Selecting appropriate chart types (bar graphs, line charts, pie charts, etc.) for different types of data and messages
- Common pitfalls to avoid

Activities:

- Overview of different chart types and their applications.
- Exercises in choosing the right chart for various data scenarios.

Assessments:

- Selecting the appropriate visual for a given dataset and communication goal

Module 9: Gestalt Principles of Visual Grouping

Outcome: Participants will be able to apply Gestalt principles to visually group data elements and enhance understanding.

Topics:

- Using Gestalt principles (proximity, similarity, closure, etc.) to create visual order and highlight relationships in data.

Activities:

- Illustrations and examples of Gestalt principles in data visualization.
- Exercises in applying these principles to organize data visually.

Assessments:

- Improving a visualization by applying Gestalt principles of grouping

Module 10: Visual Hierarchy

Outcome: Participants will be able to design charts with a clear visual hierarchy, guiding the audience to key information effectively.

Topics:

- Designing a hierarchy of information on charts

- Using pre-attentive attributes to guide the audience's eye
- Incorporating supporting chart elements

Activities:

- Analyzing examples of strong and weak visual hierarchies in charts.
- Applying pre-attentive attributes (color, size, etc.) to emphasize data points.

Assessments:

- Redesigning a chart to improve its visual hierarchy

Module 11: Chart Junk

Outcome: Participants will be able to recognize and remove chart junk to create cleaner and more effective data visualizations.

Topics:

- Identifying and eliminating unnecessary visual clutter ("chart junk") that hinders data understanding.

Activities:

- Identifying elements of chart junk in various visuals.
- Practicing the simplification of charts by removing unnecessary elements.

Assessments:

- Identifying and removing chart junk from a given visualization

Module 12: Dissecting Model Visuals & Chart Redesign

Outcome: Participants will be able to critically evaluate data visualizations and apply learned principles to redesign them for better communication.

Topics:

- Analyzing effective data storytelling visuals
- Applying learned principles to critique and redesign existing charts

Activities:

- In-depth analysis of exemplary data visualizations.
- Group critiques of existing charts, identifying areas for improvement.

Assessments:

- Redesigning a poorly designed chart based on learned principles

Module 13: Data Thinking

Outcome: Participants will be able to make informed decisions about data formatting and color choices to optimize data comprehension.

Topics:

- Using data formats and colors strategically to enhance understanding and minimize cognitive load.

Activities:

- Exploring the impact of different data formats on readability.
- Understanding the psychological effects of color in data visualization.

Assessments:

- Justifying formatting and color choices for a given dataset

Module 14: Presentation Tips & Tricks

Outcome: Participants will be equipped with practical tips and tricks to deliver their data stories effectively and confidently.

Topics:

- Preparing for impactful presentations
- Dos and don'ts of presenting data
- Ensuring presence and connecting with the audience

Activities:

- Discussions on effective presentation strategies.
- Role-playing presentation scenarios.

Assessments:

- Short data presentation incorporating learned tips and tricks