Lesson 4
From Data to Insights: Surveys, Media Analysis, and Interviews

Instructional Time:
50–90 minutes

Objectives

Students will:

- Conduct peer surveys to gather initial perceptions related to their topic.
- Compare social media content across platforms to identify trends and biases.
- Identify gaps in their understanding that can be addressed through interviews or observational research.
- Begin completing their empathy map using audience input.

Skills for the Future

- Adaptability
- Curiosity

Project Word Wall

- Convergent thinking
- Divergent thinking
- Ideation
- Insight
- Problem statement
- Synthesis
- User-centered design

Resources

General

- Teacher Resource Guide
- Lesson 4 teacher presentation
- Student portfolio
- Whiteboard
- Posterboard or digital board (such as Padlet or Mentimeter)

Videos

- Simple Strategies for Turning Data into Insights (5:04)

Lesson Plan Summary: The Five Es

Engage: Activating Prior Knowledge (Go to section)

- Empathy Map Review
- Focus on the four quadrants:
  - Thinking/Feeling, Seeing, Hearing, and Doing
- Team Discussion: Update Empathy Maps
- What do we know for sure?
- What do we assume but haven't yet confirmed?
- What information do we still need?
- Whole-Class Discussion

Explore: Peer Survey and Media Content Analysis (Go to section)

- Design the Survey
- Teams draft three to five questions in Google, Padlet, or on paper
- Guiding prompts for writing strong survey questions:
  - Who are you surveying?
  - What do you want to learn from your audience?
  - How will this data help refine your project?
  - Are your questions clear and unbiased?
- Distribute the Survey
- Teams gather five to ten responses
- Survey Data Analysis
- Guiding prompts:
  - What trends or patterns stand out in your results?
  - Did anything surprise you?
  - How do your findings compare to what you expected?
  - Do your results confirm or challenge any of your previous assumptions?
  - What additional questions do your responses raise?
  - Students summarize in their student portfolios.

- Media Content Analysis
- Teams compare how their topic is discussed on two to three platforms (Instagram, TikTok, YouTube, etc.) using a T-chart
    - Messaging and tone, visuals and format, engagement strategies, audience reactions
- Whole-Class Discussion

Explain: Sharing Initial Findings (Go to section)

- Team Review and Brainstorming (digital whiteboard)
- Guiding questions:
    - What patterns or trends emerged?
    - Were there any surprises in the data?
    - How does media messaging differ across platforms?
    - How do our survey findings compare to what we expected?
- Capture Insights
- Teams screenshot their brainstorms and upload them to their student portfolios
- Individual Reflection in Student Portfolio
- Key takeaways, surprising findings, next steps, and project relevance
- Whole-Class Debrief

Elaborate: Completing the Empathy Map (Go to section)

- Empathy Map Completion
- Teams add new insights
- Whole-Class Discussion

Evaluate: Exit Activity: Turning Data Into Insight (Go to section)

- Watch Videos
- Simple Strategies for Turning Data into Insights (5:04)
- Quick Team Debrief

Introduction

Understanding the true impact of social media requires more than just reading articles and analyzing studies; we must also listen directly to the people who live with these experiences every day. In this lesson, you'll become both a researcher and an investigator, gathering real-world input from your peers and examining how social media platforms shape narratives, trends, and opinions. By collecting survey responses, comparing platform content, and beginning to map your audience's experiences, you'll gain valuable insights that will help your team refine your project focus. This hands-on research will ensure your final project is grounded in authentic voices, experiences, and evidence, helping you design solutions that truly matter. Let's dive in and see what we can uncover together.

Standards and Practices

Common Core Standards: Grades 9–10

- **RI.9–10.7:** Analyze various accounts of a subject in different media formats, noting emphasized details.
- **RI.9–10.8:** Evaluate arguments and claims in texts, assessing reasoning and supporting evidence.
- **W.9–10.7:** Conduct short research projects to answer a question or solve a problem.
- **SL.9–10.1**: Engage in collaborative discussions, building on others' ideas and expressing their own clearly.

Common Core Standards: Grades 11–12

- **RI.11–12.7:** Evaluate multiple sources of information in different media formats to address a problem.
- **RI.11–12.8:** Evaluate reasoning in research and arguments, considering strengths and weaknesses.
- **W.11–12.7:** Conduct research to explore a question, synthesizing information from multiple sources.
- **W.11–12.8:** Collect and assess the credibility of digital and print sources for research projects.
- **SL.11–12.1:** Effectively engage in discussions on complex topics, clearly articulating ideas.
- **SL.11–12.3:** Evaluate a speaker's reasoning, use of evidence, and rhetoric to assess argument strength.

Next Generation Science Standards

- **HS-ETS1-1:** Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
- **HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, aesthetics, and social, cultural, and environmental impacts.
- **Science and Engineering Practice:** Analyzing and Interpreting Data: Students evaluate the reliability and accuracy of data from different sources, including surveys, media analysis, and expert interviews.

International Society for Technology in Education

- **Innovative Designer (4a, 4b, 4c, 4d):** Students use a variety of technologies within a design process to solve problems by creating new, useful, or imaginative solutions.

- **Knowledge Constructor (3a, 3b, 3c, 3d):** Students plan and employ effective research strategies to locate information and other resources.

Lesson Objectives

Students will:

- Conduct peer surveys to gather initial perceptions related to their topic.
- Compare social media content across platforms to identify trends and biases.
- Identify gaps in their understanding that can be addressed through interviews or observational research.
- Begin completing their empathy map using audience input.

Teacher Preparation

Preparation

Differentiation Strategies for Grades 9–12

High school students bring diverse levels of experience with digital tools, iterative design, and peer feedback. Use the strategies at the end of this lesson plan to manage cognitive load, scaffold learning, and increase engagement during prototyping.

Building on the Word Wall

- Before each lesson, review existing terms and challenge students to use them in class discussions.
- Encourage students to add relevant key terms from their research and discussions. See the project word wall terms at the end of the lesson for suggestions.
- Add new terms that are integrated into the lesson to your project word wall.

Essential Question: **Why is it important to hear directly from the people affected by a problem, rather than relying only on existing research?**

Engage (Back to summary)

Activating Prior Knowledge

Teacher Script: *In the last lesson, you began exploring credible sources. But great research doesn't stop there; we also need to hear directly from the people who experience these challenges every day. Today, we'll practice gathering that input.*

- Empathy Map Review (2 min.): Set a timer and have student teams silently review their empathy maps, focusing on the four quadrants: Thinking/Feeling, Seeing, Hearing, and Doing.

Note: In Lesson 3, students uploaded an image of their empathy maps to their student portfolios.

- Team Discussion (2 min.): Have teams share their insights and add them to the empathy maps in their student portfolios.

- What do we know for sure? (insights based on research or prior knowledge)
- What do we assume but haven't yet confirmed? (gaps in knowledge or potential biases)
- What information do we still need? (key areas where direct input from peers or outside sources would help)
- Whole-Class Discussion (1 min.): Ask a few students to share new findings from their team discussions and note new themes on the board to share key takeaways from their discussion and note emerging themes on the board.

Explore (Back to summary)

Peer Survey and Media Content Analysis

Peer Survey Design (10 min.)

Teacher Script: *Now that we've identified what we know, what we assume, and what we still need to learn, it's time to hear directly from our audience. One way to do this is through surveys. Effective researchers ask clear, purposeful questions to collect meaningful data. Your team will now design and distribute a short survey to better understand your topic from a peer perspective.*

- Design the Survey
- Instruct teams to draft three to five survey questions in Google Forms, Padlet, or on paper.
    - Guiding prompts for writing strong survey questions:
- Who are you surveying (e.g., high school students, teachers, community members)?
- What do you want to learn from your audience (e.g., opinions, experiences, behaviors)?
- How will this data help refine your project (e.g., confirming assumptions, revealing gaps)?
- Are your questions clear and unbiased (i.e., avoid leading questions such as, "Don't you think social media is harmful?")?
- Once teams have drafted their survey questions, have them share digital or analog copies of the surveys with you. You will distribute the surveys across different classes so that they can receive feedback on their questions.
    - If the students' target audience is outside of the school, encourage them to think of effective ways to engage their audience with the survey. This could include using social media, community bulletin boards, or local events to reach a broader audience and gather more diverse insights.
- Examples of well-designed survey questions *(adjust to the project focus):*

A. **Social Media Usage:**
   i. How much time do you spend on social media daily?
   ii. Which social media platforms do you use the most?
   iii. How do you feel after using social media for an extended period of time?

B. **Misinformation and Trust:**
   i. How confident are you that the news you see online is accurate?
   ii. Have you ever believed and shared a piece of information online that turned out to be false?

iii. Where do you usually fact-check information online?

C. **Mental Health and Well-Being:**
   i. Have you ever felt pressured to look a certain way because of social media?
   ii. Do you think social media positively or negatively impacts your self-esteem, and why?
   iii. What strategies do you use to manage your mental health when using social media?

D. **Cyberbullying and Online Safety:**
   i. Have you ever witnessed cyberbullying on social media, and how did you respond?
   ii. What online safety strategies do you use to protect yourself?

- Distribute the Survey
- Decide on a Method for Gathering Responses:
  - Google Forms for quick digital collection
  - Padlet for collaborative brainstorming
  - Paper surveys for in-class responses
- Surveying Classmates:
  - Teams should aim to gather at least five to ten responses during class.
  - Encourage teams to extend their survey to students outside of class to gather data from their target audience.
- Analyze and Summarize Survey Data (10 min.)

Teacher Script: *Data is most useful when we can interpret and apply it to our research. Now that you have collected responses, your team will summarize key trends in your student portfolio.*

- Have students analyze their survey responses.
- Guiding Prompts for Analyzing Survey Responses:
  - What trends or patterns stand out in your results?
  - Did anything surprise you?
  - How do your findings compare to what you expected?
  - Do your results confirm or challenge any of your previous assumptions?
  - What additional questions do your responses raise?
- Have students write a one-paragraph summary in their student portfolios addressing:
  - Key findings (e.g., “Most students spend an average of 4+ hours on social media daily.”).
  - Unexpected results (e.g., “Surprisingly, 60% of respondents say social media has improved their mental health rather than harmed it.”).
  - Implications for research **(**e.g., “Our team originally assumed social media was mostly harmful, but these responses suggest a more nuanced perspective.”).

- Next steps (e.g., “We need to conduct interviews to better understand how students define ‘positive’ vs. ‘negative’ experiences on social media.”).

Teacher Script*: Beyond surveys, researchers also analyze media to identify trends, messaging, and audience engagement. Now, your team will compare how your topic is discussed across different platforms. This will help us understand how social media shapes public perception.*

Media Content Analysis (10 min.)

- Have teams compare how their topic is discussed on two different platforms (e.g., Instagram, TikTok, YouTube, etc.).
- Instruct them to use a T-chart to document team differences in their student portfolios:
  - Messaging and tone: How is the topic framed? Positively? Negatively?
  - Visuals and formats: Are posts mainly videos, images, or text? What visuals are used?
  - Engagement strategies: How do influencers or brands encourage interaction?
  - Audience reactions: What are the comments and shares like? What’s the sentiment?
- Facilitate a whole-class discussion, connecting to the survey (2 min)
- Discussion Prompts:
  - Ask teams to share one key insight they found in their survey responses or media analysis.
  - Note common emerging themes on the board or using a digital tool, such as Padlet, to track class-wide patterns.

Explain (Back to summary)

Sharing Initial Findings

Teacher Script: *Now that we’ve gathered input from both peer surveys and media analysis, it’s time to make sense of the data. Researchers don’t just collect information; they analyze patterns, compare perspectives, and ask deeper questions. Let’s look at what we’ve found so far.*

Team Review and Brainstorming (5 min.)

Collaborative Brainstorming

- Have each team open a digital whiteboard (e.g., Figjam, Padlet, or Miro) to visually map out their findings and categorize their data into key themes using sticky notes or mind maps.
- As students analyze, they should consider:
  - What patterns or trends emerge?
  - Were there any surprises in the data?
  - How does media messaging differ across platforms?
  - How do our survey findings compare to what we expected?
  - Are there any gaps in our research that we need to explore further?

Capture Insights

- Instruct teams to take a screenshot or photo of their brainstorming board when they finish and upload the images to their student portfolios as part of their research documentation.

Individual Reflection in Student Portfolio (3 min.)

- Have students respond to the following reflection prompts in their portfolios:
  - Key takeaways: What are the two biggest insights from our research so far?
  - Surprising findings: Did anything challenge or change our perspective?
  - Next steps: What additional questions do we need to answer before moving forward?
  - Project relevance: How do these insights inform our approach to solving the problem?

Whole-Class Debrief (2 min.)

- Invite teams to share one insight from their peer responses and one insight from their media analysis.
- Discussion Prompts:
  - What's one interesting trend we noticed in our survey results?
  - Did any team find conflicting data between survey responses and media messages?
  - How does media messaging differ across platforms?
  - What's a next step we should take based on our findings?

Teacher Script: *Great work! You're beginning to see how real-world researchers identify trends and refine their focus. Keep these insights in mind as we move forward—your data will help shape the direction of your project.*

Elaborate (Back to summary)

Completing the Empathy Map

Teacher Script: *Now that we've gathered and analyzed our data, we're going to use it to complete our empathy maps. This will help us better understand how people experience this issue—what they see, hear, think, and do. The more detailed our maps, the better we'll be at designing solutions that truly meet user needs.*

Empathy Map Completion (8 min.)

- Have students revisit the empathy map they completed in Lesson 3 in their student portfolios. Prompt them to complete the following questions in their student portfolios.
- Focus on updating the Hearing, Seeing, and Doing quadrants with:
  - New perspectives from surveys: What did people actually say?
  - Observations from media analysis: How does media influence people's thoughts or actions?
  - Contradictions or gaps: Do people's actions match what they say they believe?

Whole-Class Discussion (2 min.)

- Invite teams to share one key contradiction they found (e.g., “People say social media makes them feel connected, but they also say it makes them feel isolated.”
- Record common themes on the board.

Evaluate (Back to summary)

Exit Activity: Turning Data Into Insight

Teacher Script: *Before we wrap up today, let’s pause and think about the work we’ve done to gather input from the people affected by our project. Designers use user research—things like interviews, surveys, and content analysis—not just to collect data, but to uncover the real problem they need to solve. Let’s watch a quick video that explains how designers move from data to insight and why framing the right problem makes all the difference.*

Watch the video Simple Strategies for Turning Data into Insights (5:04).

After the video, instruct students to respond to the reflection prompts in their student portfolios:

- What’s the difference between raw data and an insight?
- How can talking to real people—our target audience—help us uncover the real root problem we need to solve?
- What’s one key insight your team has uncovered so far from your user research (surveys, interviews, and media analysis)?
- What is one gap or unanswered question your team still has about your topic?

Quick Team Debrief (Optional – 3 minutes)

- Pair teams to share one insight and one remaining question with each other.
- Record key takeaways on the whiteboard, chart paper, or digital board.

Teacher Script: *Today, you practiced something professional designers and researchers do every day—gathering input from the people who are closest to the problem. Remember, the most innovative solutions come from understanding the real problem, not just the surface symptoms. As we move into the next lesson, we’ll use these insights to start brainstorming creative solutions, always keeping our audience at the center of the process.*

Project Word Wall

Introduce key vocabulary to establish a strong foundation for discussion and research. Have students define and discuss the following:

- **Convergent Thinking:** The process of narrowing down many ideas to focus on the strongest, most realistic, or most innovative options.
- **Divergent Thinking:** Brainstorming as many creative ideas as possible without worrying if they are good or realistic and exploring every possibility before narrowing down.

- **Ideation:** The creative process of generating a wide range of possible solutions—from practical to wild ideas—before deciding which ones to explore further.
- **Insight:** A clear, deeper understanding gained from combining multiple pieces of data, personal stories, and observations. Insights help uncover the real root of a problem, not just its surface symptoms.
- **Problem Statement:** A clear, concise description of the specific problem the team will solve, framed to focus on the user's needs and the challenge at hand.
- **Synthesis:** The process of combining ideas, data, and feedback from multiple sources to create a complete picture of the problem. Designers use synthesis to make sense of complex information and find meaningful patterns.
- **User-Centered Design:** An approach to problem-solving that keeps the needs, experiences, and feedback of the target audience (or "end user") at the center of every decision.

Integrate Skills for the Future

Before each lesson, add the durable skills students will develop and encourage reflection on how they apply these skills in their project work.

- **Adaptability:** Working effectively in uncertain situations with shifting priorities by modifying one's actions or learning new skills in light of changing tasks and goals.
- **Curiosity:** The drive to investigate novel stimuli, including situations, people, and bodies of knowledge.

Differentiation Strategies (Back to top)

Differentiation Strategies for Grades 9–12

Students across high school grades have varying levels of experience with research, data analysis, and user-centered inquiry**.** Use the following strategies to adjust cognitive load, scaffold learning, and encourage deeper engagement.

Grade 9: Building Research Foundations

Cognitive Focus: Understanding how to collect and analyze data to refine a research question.
Objective: Help students build confidence in conducting surveys, analyzing peer input, and recognizing patterns in data.

- **Guided Survey Design:** Provide sentence starters for survey questions (e.g., "How often do you...?" or "Have you ever experienced...?").
- **Media Content Scaffolding:** Offer a template for recording social media trends across platforms, with guiding prompts like "What is the message?" and "Who is the target audience?"
- **Visual Data Interpretation:** Use color-coding or graphic organizers (like a T-chart or Venn diagram) to help students categorize and compare findings.
- **Empathy Mapping Support:** Model how to add insights from surveys and media analysis to the empathy map with a class example.
- **Reflection and Next Steps:** Exit ticket summarizing one surprising insight and one question that remains unanswered.

Grade 10: Strengthening Inquiry and Analysis

Cognitive Focus: Developing critical thinking by identifying bias, synthesizing research findings, and refining research questions.

Objective: Support students in making connections between survey responses, media narratives, and their project focus.

- **Expanding the Survey Scope:** Encourage students to distribute surveys beyond classmates (e.g., asking family members or online communities).
- **Comparing Media Messages:** Have students track tone, engagement, and bias across multiple platforms (e.g., Instagram vs. TikTok vs. YouTube).
- **Challenging Assumptions:** Facilitate a whole-class discussion on discrepancies between peer responses and media representations.
- **Empathy Map Refinement:** Have students highlight areas where real user input challenges or validates their initial assumptions.
- **Synthesis Discussion:** In small groups, students articulate their research in a single sentence, summarizing the biggest insight they've uncovered.

Grade 11: Critical Analysis and Independent Research

Cognitive Focus: Drawing evidence-based conclusions by synthesizing multiple sources, assessing real-world implications, and questioning existing narratives.

Objective: Challenge students to think about power structures, algorithmic influence, and gaps in research.

- **Advanced Survey Analysis:** Introduce quantitative vs. qualitative survey data. Have students create simple graphs to visualize trends.
- **Bias and Algorithmic Influence:** Task students with analyzing social media algorithms. Who benefits from the content being shared? Who is left out?
- **Comparative Media Analysis:** Assign different platforms to teams and have them debate how audience demographics shape content.
- **Refining the Empathy Map:** Have students identify contradictions. Where does self-reported behavior differ from real-world actions?
- **Research Gaps and Next Steps:** Have students write a short analysis explaining what additional information they need before moving into ideation.

Grade 12: Independent Inquiry and Real-World Application

Cognitive Focus: Applying research to develop innovative solutions, using authentic data collection methods and recognizing systemic influences on social media narratives.

Objective: Prepare students for real-world problem-solving by integrating user feedback into their project approach.

- **Beyond Peer Surveys:** Encourage students to interview an expert, influencer, or policymaker on their topic.

- **Critical Media Dissection:** Require teams to fact-check a viral post related to their topic, analyzing its spread, impact, and accuracy.
- **Advanced Empathy Mapping:** Introduce the Persona Method, where students create a fictionalized but data-driven user profile based on their research.
- **Pitching Research Findings:** Have students prepare a 3-minute verbal summary of their findings, practicing how to communicate insights to an external audience.
- **Next Steps Planning:** Instruct students to outline three concrete ways their findings will inform their project's direction.