

Technology Integrated Unit Plan:

Using Excel and Data to Report Test Scores in Education News Stories

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Grade level: JMC 386: Education News

Intermediate elective course in journalism major or minor

Class session times: Online (asynchronous with scheduled synchronous meetings recorded for viewing later)

Unit Goals: Students will apply Excel functions to write an enterprising, analytical or investigative education news story about standardized test scores in Kentucky. The news story also will include an infographic as a sidebar. As students are guided through the basic Excel tasks and apply their knowledge of data reporting, they will focus on how data reporting is essential for the education news “beat.” In the unit, students will be asked to formulate an angle on which to write their news story. In other words, what is the main idea of your education news story? An emphasis will be placed on the application of Excel tasks to address this question. The summative assignments will include the creation of an in-depth news story, an infographic and a student reflection in the form of an online discussion board assignment on the process of using Excel.

Plan for ensuring students can *access* technology: Although this will be an online course, the syllabus will indicate to the student that access to a computer and the internet are required to complete the course successfully. Much of the technology slated for this course is web based. As for access to Excel, the syllabus will provide instructions on how any student registered in my course will be able to obtain a free license to use Excel.

Plan for ensuring students can *use* technology: Each lesson will involve a technology tool likely unfamiliar to the student. The instructor will demonstrate in a recorded video for the student to watch how to access and navigate the tool. For instance, in the first session below about standardized tests, students will watch my video on how to use Google Trends before they begin their practice assignment.

Title	Excel and Data in Education News Stories Unit: Session 1 – Introduction to Standardized Tests
Purpose/ Rationale	To provide a historical background and introduction to standardized testing in Kentucky.
Objectives	By the end of this lesson, a student will be able to do the following: <ul style="list-style-type: none">• Discuss the development of state education policies in standardized tests.• Explore national and state interest in test data using Google Trends.
Agenda	1. Standardized testing: history and laws



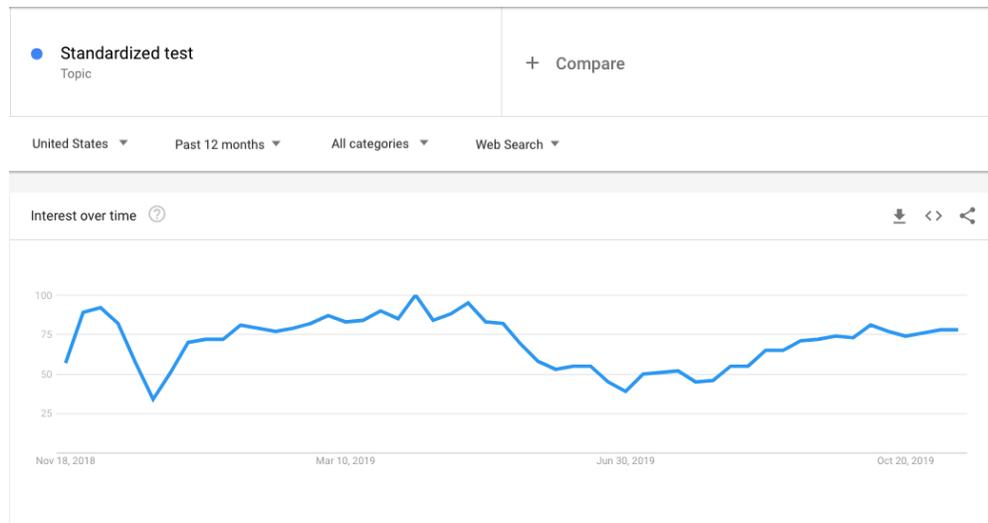
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In a short lecture, a brief history of standardized testing and the federal laws that drive the state assessment policy (Kentucky Education Reform Act, or House Bill 940, and the current Senate Bill 1).

2. Google Trends (trends.google.com)

After a review and navigation of Google Trends, students will enter “standardized test” as a search phrase to see what the national interest over the past year was on this topic. Look at the peaks, and hover over them to see the date range when interest was high.

Possible outcome: High peaks in early April (when testing occurs); also, high peaks in October, November and December (when results are reported in the news media and analyzed in fourth quarter of calendar year). See below image.



Using the Google Trends tool can be helpful in observing patterns and the overall online interest in standardized testing, supporting the idea that education journalists must analyze test data to find stories that should be told. Students also will use Google Trends to explore the interest in Kentucky. They will discuss what they see as they continue to filter the criteria in Google Trends. I will explain that using Google Tools and similar interpretive tools help to provide context for news stories.

Title	Excel and Data in Education News Stories Unit: Session 2 — Introduction to Data Reporting
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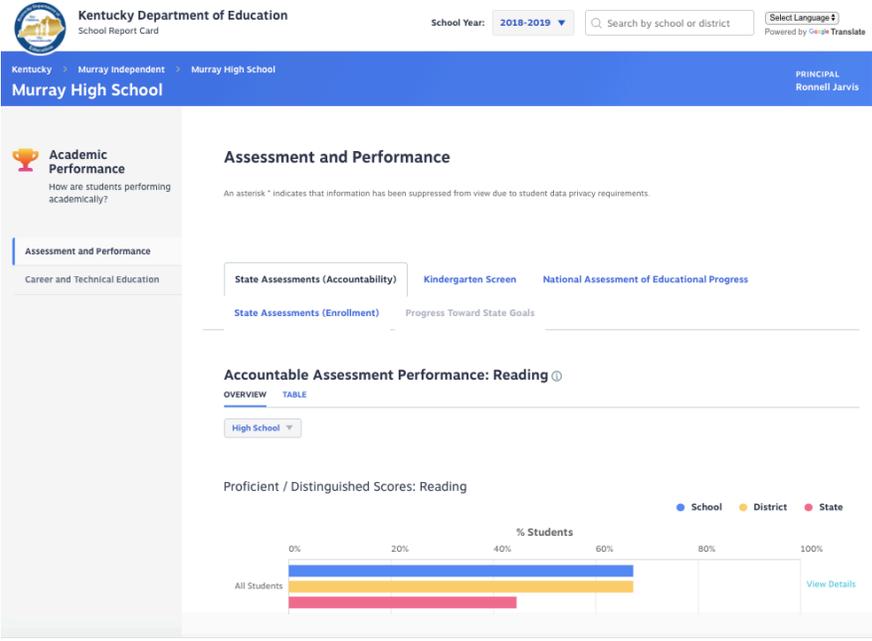


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Purpose/ Rationale	To provide an overview of data reporting and explain how numbers help to tell a story. This will be beneficial before the next lesson on using Excel and the last lesson on data visualization.
Objectives	By the end of this lesson, a student will be able to do the following: <ul style="list-style-type: none"> • Recognize the range and distribution of a data set. • Determine the difference among mean, median and mode. • Calculate percentage change and rate.
Agenda	<p>1. Data reporting basics</p> <p>In a short lecture, data reporting basics (range, distribution, mean, median, mode, percentage change, rate) will be explained. I also will guide the students through scenarios requiring calculations. The calculations will be done manually.</p> <p>2. Google Docs</p> <p>An overview of Google Docs will be given for students not familiar with the Google app. This will be helpful for the below assignment.</p>
Assessment	Students will be given access to a Google Doc to work through examples and scenarios of data reporting in education news settings. They then will use the numbers and calculations to explain in a Canvas assignment text field how the story would be angled.

Title	Excel and Data in Education News Stories Unit: Session 3 — Introduction to Test Data
Purpose/ Rationale	To explore standardized test data in Kentucky to plan an education news story.
Objectives	By the end of this lesson, a student will be able to do the following: <ul style="list-style-type: none"> • Examine overall test scores for an identified school of his or her choice using the Kentucky School Report Card. • Discuss at least three observations that could lead to news stories. • Plan an education news story using one of the observations identified.
Agenda	<p>1. Kentucky standardized tests: Kentucky School Report Card website (kyschoolreportcard.com)</p> <p>Students will be guided through the website. Metrics (e.g., academic performance, transition readiness) will be explained. I will use a local school as an example, such as the screenshot shown below for Murray High School. (This is one part of the website that I would show students.)</p>



	 <p>Students then will be grouped to choose a public school. They will review the data together and discuss it among themselves, and later the entire class in a recorded Zoom session, the story ideas they would pursue based on the test data. Students then will work individually to do the same process and complete an assignment.</p>
Assessment	<p>Students will complete a discussion board assignment to include these elements:</p> <ul style="list-style-type: none"> • Three observations discussed from a school’s data reported in the Kentucky School Report Card website that could lead to news stories. • A plan on how the student would construct an education news story using one of the observations discussed. This would include the sources the student would interview and other documents or content that would be needed.

Title	Excel and Data in Education News Stories Unit: Session 4 — Excel Applications
Purpose/ Rationale	To use Excel in a standardized test spreadsheet to make observations from the data.
Objectives	<p>By the end of this lesson, a student will be able to do the following:</p> <ul style="list-style-type: none"> • Apply basic Excel tasks to manipulate test data in a spreadsheet. • Examine test scores for an identified school of his or her choice using a database from the Kentucky School Report Card website.



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	<ul style="list-style-type: none"> • Write a draft of an education news story based on the examination of test data.
Performance Criteria/ Assessment	<p>Students will write a draft of a news story based on the Excel tasks in the test data spreadsheet. The assignment will include these elements as part of the submission:</p> <ul style="list-style-type: none"> • An Excel spreadsheet that shows how they used at least three basic Excel tasks to navigate/manipulate the spreadsheet/data. • Word document containing the news story. <p>A rubric will used.</p>
Agenda	<p>Excel applications will be demonstrated in a Zoom session. Students will practice in Excel, with directions provided via video tutorials:</p> <p>https://screencast-o-matic.com/u/QLXD/ExcelVideos</p>
Readings / Homework	<p>Students will download a dataset (research data) from the Kentucky School Report Card website (https://openhouse.education.ky.gov/Home/SRCData) to use to write an education news story about standardized tests that addresses the main idea.</p> <p>Students will upload their Excel work and Word document of their draft news story in Canvas. In a discussion board assignment, students will discuss the main idea of their story and reflect on using Excel. Students will use instructor-provided feedback to revise their stories.</p>

Title	Excel and Data in Education News Stories Unit: Session 5 — Data Visualization
Purpose/ Rationale	To provide an overview of the data visualization tools PiktoChart and Canva and create an infographic to serve as a sidebar to the education news stories that students wrote and revised.
Objectives	<p>By the end of this lesson, a student will be able to do the following:</p> <ul style="list-style-type: none"> • Determine appropriate data and images for an infographic. • Create an infographic that reflects the data in his or her education news stories by using either PiktoChart or Canva.
Performance Criteria/ Assessment	<p>Students will use either PiktoChart or Canva to create an infographic reflecting the data used in their education news stories on standardized tests. The assignment will include these elements as part of the submission:</p> <ul style="list-style-type: none"> • A PDF or JPEG of the infographic. • Word document containing the revised news story.



	<ul style="list-style-type: none"> • Discussion board assignment in which students comment on peers' posts. <p>A rubric will used.</p>
Agenda	In a Zoom meeting, the students will discuss the process they followed to decide which data to highlight in their infographics.
Assessment	<p>In a discussion board, the students will post their infographics by a deadline and review the work of their peers.</p> <p>In their initial posts, students will address the prompt: Explain the process you followed to decide which data to highlight in your infographic. They also will discuss the difficulties and challenges they might have encountered in the process of reporting test data in their news stories and creating their infographic.</p>

Main assessment: Test data story using Excel

Purpose: This assignment is designed for you to apply basic Excel functions to ease data navigation in your story construction to report standardized test scores and to help you build confidence in using Excel. This a common technological tool that journalists use when they receive databases from an open records request or when they build a database.

Task: Use the dataset from the Kentucky School Report Card website to complete the assignment.

<https://openhouse.education.ky.gov/Home/SRCData>

Write an education news story about standardized tests that addresses the main idea. You may approach this from any angle. For instance, you might focus on a school that increased its reading scores by more than 20 percentage points. Another example is examining why a school's performance in reducing the number of students scoring novice declined in mathematics.

You must interview at least two individuals as sources for your story. Other research might be necessary to provide context to your story.

For submission, upload two documents:

1. A Word document that will contain your story.
2. Excel spreadsheet showing your work.



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Criteria for success: After completing this assignment, you will be able to use Excel to assist in your news gathering and news writing efforts. A rubric is provided.

Rubric: Test data story using Excel

Data Reporting   				
Criteria	Ratings			Pts
<p>Use of Data Student used data accurately to tell the news story. Terms were explained for the reader.</p>	<p>4 pts Excellent The student used data accurately. Any terms were explained for the reader.</p>	<p>2 pts Satisfactory The student used data and/or terms, but errors were noticed in some areas.</p>	<p>0 pts Needs Work Data was not used to support the story. The student is encouraged to revisit the module and materials specified by the instructor.</p>	4 pts
<p>Quality of Lede Sentence Student wrote an effective news lede, either hard or soft news lede, that reflected the angle of the news story.</p>	<p>2 pts Excellent The news lede effectively reflected the angle of the news story.</p>	<p>2 pts Satisfactory Student wrote a news lede that is written satisfactorily, but the purpose of the story is not clear.</p>	<p>0 pts Needs Work The lede sentence did not reflect the purpose of the news story or did not angle the story effectively. The student is encouraged to seek guidance from the instructor as to how to improve knowledge and skill in this criterion.</p>	2 pts
<p>Story Structure The student followed an appropriate news story structure (inverted pyramid, Wall Street Journal formula, sections technique, etc.) that features a logical organization, short graf, and proper quotations and attribution.</p>	<p>2 pts Excellent The student followed an appropriate news story structure that included a logical organization, short graf, and proper quotations and attribution.</p>	<p>2 pts Satisfactory The student followed an appropriate news story structure, but errors were observed in organization, graf, and/or quotations and attribution.</p>	<p>0 pts Needs Work The structure lacks an appropriate organization of content and/or contains large graf of text. The student is encouraged to seek guidance from the instructor on how to improve knowledge and skill in this criterion.</p>	2 pts
<p>Mechanics The student used correctly AP style guidelines, grammar, spelling, punctuation, syntax and other writing mechanics.</p>	<p>2 pts Excellent The student used correctly AP style guidelines, grammar, spelling, punctuation, syntax and other writing mechanics.</p>	<p>1 pts Satisfactory A few errors in AP style guidelines, grammar, spelling, punctuation, syntax and/or other writing mechanics were observed.</p>	<p>0 pts Needs Work Several errors in AP style, grammar, spelling, punctuation and/or syntax were observed. The student is encouraged to seek guidance from the instructor as to how to improve knowledge and skill in this criterion.</p>	2 pts
Total Points: 10				



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Melony Shemberger: Self-reflection

When designing the lessons in this unit, I followed mostly Bruce Levin’s framework of technology use, although the levels of SAMR can be observed in the lessons. In addition, the TPACK model also is crucial here, especially as it relates to the technological knowledge. I must have knowledge of the various technologies — Excel, the Kentucky School Report Card, Google Trends, Google Docs, Canva, PiktoChart, etc. — to teach students effectively the content of data reporting in the context of education news.

Briefly, here is how the four subcategories of the Dewey taxonomy as proposed by Bruce Levin influenced my lesson planning:

1. *Inquiry*. Dewey described this category as “the natural impulses to find out things,” but this term is synonymous with a love of learning for a scholar or a passion to seek knowledge. How would technology as media help to advance inquiry? In the Education News course that I will teach in the summer, students are introduced to data reporting to help them inquire about an angle to plan and pursue an in-depth news story regarding standardized test data. Data reporting often is intimidating for journalism students. In Lesson 4, I guide them through basic Excel tasks in a series of tutorials. By learning how to manipulate data in Excel, students are able to advance their own inquiry through the data they explore in an efficient manner.
2. *Communication*. Under Dewey’s taxonomy, communication is the use of language in a social setting. Through technology as media, a message is conveyed through written or oral form and shared with others. In this course, I use Zoom and Screencast-O-Matic to record brief lectures and tutorials for students. The students also would communicate with me and each other in Zoom and Canvas.
3. *Construction*. Building or making things is how Dewey framed the category of construction. Shaping an experience through technology as media would be my framework for construction, especially as it relates to my journalism students. For example, students in this course would use an Excel database to manipulate data that would lead to the construction of an education news story.
4. *Expression*. Conveying feelings and ideas is the foundation of this category under Dewey’s model. The outcome, end product or manner in which feelings and ideas is demonstrated would be the emphasis in my role as a journalism educator for the category of expression. For example, students in this course would write a news story reflecting the main idea or news angle. They also would express the data from their news stories in an infographic.

As for the SAMR model, the lessons in this unit reflected the ladder to an extent. For the first two lessons, the students and I would operate at the substitution and augmentation levels with Google Trends and Google Doc. At the modification level, the use of Excel would help students to create an in-depth news story. The redefinition level would be reached with the infographic as a final news story product to tell the education news story in another way.

