



ANNOTATING INFORMATIONAL TEXT: COLLEGE COMPLETION RATES THROUGH THE GENERATIONS

TEACHER VERSION

Subject Level:

High School English

Grade Level:

11-12

Approx. Time Required:

120 minutes

Learning Objectives:

- Students will be able to effectively annotate a text to better understand it.
- Students will be able to make inferences after reading an informational text.
- Students will be able to determine where a text leaves matters uncertain.

Activity Description

Students will read an informational text about variations in college completion rates for people born in different years. To help students better understand the text, the teacher will model how to annotate the first half. Students will then annotate the second half themselves. After that, students will answer a series of questions about the text, drawing inferences from what they've read and citing textual evidence to support their responses.

Suggested Grade Level:

11-12

Approximate Time Required:

120 minutes

Learning Objectives:

- Students will be able to effectively annotate a text to better understand it.
 - Students will be able to make inferences after reading an informational text.
 - Students will be able to determine where a text leaves matters uncertain.
-

Topics:

- Demographics
- Educational attainment
- Line graphs

Skills Taught:

- Analyzing change over time
 - Analyzing data
 - Annotating text
 - Making inferences
 - Understanding how data are used
 - Using data to support conclusions
-

Materials Required

- The student version of this activity, 4 pages
- Large sheets of paper, such as those in a self-stick easel pad
- Sticky notes
- Teacher computer with Internet access and a projector to display Web sites

Activity Item

The following item is part of this activity. The item and its source appear at the end of this teacher version.

- Item 1: Over the Hill at 25? College Completion at Higher Ages

For more information to help you introduce your students to the U.S. Census Bureau, read "[Census Bureau 101 for Students](#)." This information sheet can be printed and passed out to your students as well.

Standards Addressed

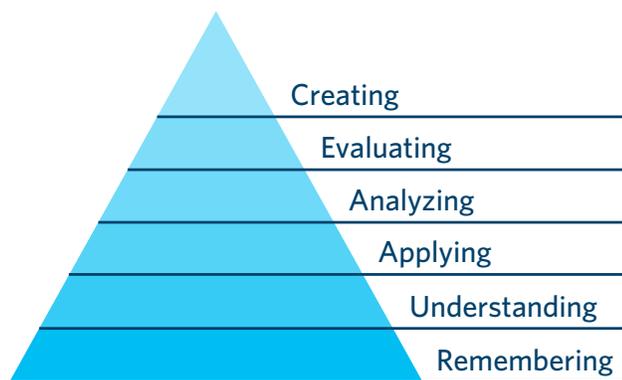
See chart below. For more information, read "[Education Standards and Guidelines Addressed by Statistics in Schools](#)."

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

Standard	Strand	Cluster
CCSS.ELA-LITERACY.RI.11-12.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.	Reading: Informational Text	Key Ideas and Details

Bloom's Taxonomy

Students will be able to *identify* and *analyze* the author's conclusions based on the data presented in the text.



Teacher Notes

Before the Activity

Students must understand the following key term:

- **Point of view** – the author’s position in relation to the story being told (e.g., first person, “I”; second person, “you”; third person, “he,” “she,” and “they”)

Teachers should take the first 10 minutes to lead a brainstorming session that gets students thinking about what they already know and assume about college completion. On large sheets of paper around the room, teachers should write various questions related to the activity topic. Teachers should instruct students to move around the room and respond to the questions on sticky notes (with their name, so teachers can identify which answer belongs to which student). Students should read their classmates’ responses and in turn challenge themselves not to repeat an answer.

Brainstorm questions could include the following:

- Do you think the number of women with a college degree has increased or decreased over time? Why?
- Do you think the number of people earning college degrees has increased or decreased over time? Why?
- We are going to examine data from the Census Bureau. What do you know about the Census Bureau, or what comes to mind when you hear the word “census”?
- How do you think you could use data about trends in educational attainment in real life?

Teachers should introduce (or review) annotating text with students. Teachers may find it helpful to share the following instructions with them:

- Write useful notes in the margins. A good example is “Young adults today are different than a generation ago”; a bad example is “That’s so interesting!”
- Ask meaningful questions in the margins.
- Circle terms you don’t know that you need to know to understand the text.
- Add reaction symbols throughout. For example, an exclamation point means you were surprised to learn that fact, a question mark means “I don’t understand this,” and the letter “C” means you have a connection to that fact.

During the Activity

Displaying **Item 1** on a projector, teachers should model how to annotate the first half of the text (the first four paragraphs and Figure 1) by reading and thinking aloud. Teachers may find it helpful to use the following instructions:

- Circle the term “educational attainment” in the first paragraph and then ask students what it means.

- Write a “C” next to the second paragraph and leave a note saying, “I earned my college degree in my early 20s” (if that’s true).
- Draw a line under “traditional assumption” in the third paragraph and write a note in the margin about what this refers to. The note could say, “Students earn a college degree in early adulthood (20s).”
- Write a note in the margin next to the fourth paragraph that summarizes its message. The note could say, “Only 9 percent of women born in 1935 had a bachelor’s degree or higher by their early 30s. When that cohort was around 75, the number increased to 17 percent—almost double.” (If teachers consider this a surprising finding, they could leave an exclamation point next to their note.)
- Write a question next to the graph that says, “What would this graph look like if it included women born in the ‘90s?”

Next, teachers should ask students to annotate the rest of the text on their own or in pairs. If teachers choose the latter option, they could instruct students to have one person in the pair read three to four paragraphs while the other annotates. Students would then pause to discuss the annotations that the listening partner made and give the reading partner the opportunity to add his or her own annotations. Students would swap roles for the remaining three to four paragraphs.

If teachers prefer to split this activity across a couple class periods, it could be appropriate to stop after students annotate the text.

As students read and annotate the text, they may have questions on some of the other vocabulary terms. As needed, teachers should assist students with defining them:

- **Birth cohort*** – a group of individuals born in the same calendar year or group of years
- **Demographics** – characteristics of the human population (e.g., age, race, sex)
- **Educational attainment** – the highest level of education that a person has completed
- **Immigration** – movement of people into a country
- **Mortality** – death, or being subject to death

*Teachers may want to elaborate on the definition of birth cohort. In general, “cohort” is a research term referring to a group of people that share a common factor, such as age or income level. Within each birth cohort, the researchers chose to look at a specific demographic (for example, women). The researchers then followed this demographic cohort (for example, women born in 1965) over time. It’s important to keep in mind that as women born in a particular year moved to the United States, they were added to that birth cohort, so the members of the birth cohort changed (meaning the overall demographics of the cohort also changed). Another factor to consider is that deaths within each birth cohort over time also changed the overall demographics of that group.

After the Activity

As part of a class discussion, teachers should revisit the initial brainstorm questions and answers, asking students if their assumptions or opinions have changed. Then teachers should discuss the activity questions and answers with the class.

Extension Ideas

Teachers could have advanced students review a report that offers more detail on the college completion data featured in the activity. The report, "College Completion by Cohort, Age and Gender, 1967 to 2015," is available at www.census.gov/library/working-papers/2016/demo/SEHSD-WP2016-04.html.

Students could do one of the following tasks:

- Annotate the text. Teachers should reiterate that while it is complicated and they may not understand everything, they can still take some meaning from it by reading carefully.
- Investigate further one of the questions they were asked in the activity. Students could relay their findings to the class in a paper, on a class blog, or in an oral presentation.
- Make conjectures about what the educational attainment of their birth year demographic cohort may look like given the trends analyzed in the text.

Student Activity

Click [here](#) to download a printable version for students.

Activity Item

The following item is part of this activity and appears at the end of this student version.

- Item 1: Over the Hill at 25? College Completion at Higher Ages

Student Learning Objectives

- I will be able to effectively annotate a text to better understand it.
- I will be able to make inferences after reading an informational text.
- I will be able to determine where a text leaves matters uncertain.

Refer to **Item 1: Over the Hill at 25? College Completion at Higher Ages**.

After your teacher has modeled annotating the first half of the text, read and annotate the second half. Then answer the following questions.

1. What is your key takeaway from this text? Summarize in one or two sentences. Cite evidence from the text in your answer.

Student answers will vary, but students could say that the growth of education in this country continues across the lifespan because of the willingness of Americans to continue their education in adulthood and because of the contribution of immigrants who come to this country with higher degrees.

2. The text tells us that when a group of women born in 1935 were in their early 30s (around 1968), 9 percent had a bachelor's degree or higher. By 2010, when this same cohort of women were around 75 years old, 17 percent had a college degree or higher. Explain how immigration and mortality could have contributed to this growth.

There is a large subset of immigrants to the United States with bachelor's and higher degrees, so it is possible that women born in 1935 who immigrated to the United States in their later years caused the percentage of college degree earners in that cohort of women to increase in 2010.

Research shows an established relationship between education and mortality that demonstrates that people with bachelor's degrees live longer. This idea could also explain the increase: At age 75, some of the women with lower education levels might have passed away, resulting in a greater percentage of women with higher education levels at that age.

3. Predict why people with higher education levels have lower mortality rates.

Student answers will vary, but students might say that more educated people have better access to health care, are more likely to be insured, and are less likely to engage in behaviors like smoking that are detrimental to their health.

4. Where does the text leave matters uncertain? What questions do you still have?

Student answers will vary, but students may wonder how other factors, like financial independence, affect educational attainment. Teachers may want to point out that this text is connected to a longer piece about college completion.

5. Think back to what this text tells us overall. What societal problems could occur in the future as a result?

Student answers will vary, but students could say that as more people attain college degrees, it may become increasingly difficult to fill positions that do not require a college education.

6. How does annotating a text help you better understand what it's saying?

Student answers will vary, but students should understand that by engaging and interacting with a text through annotation, they become active readers. Annotation also helps students stay focused while reading a text.

7. How effective was the author's style in meeting his purpose? Consider what the purpose of the text is, as well as the point of view and style (narrative nonfiction).

Student answers will vary, but students could say that the purpose of the piece is to challenge people's assumptions about education and explain the influences behind trends in education. They might suggest that the first-person narrative approach of the text makes it easier to read and digest such complicated data.

8. Reflection: Make inferences as to why individuals may return to college at older ages and/or why people might not go right from high school into college.

Student answers will vary, but students could say that a person may not have had the opportunity to attend college immediately after high school because he or she didn't have the money or wasn't academically prepared. Students could also say that the opportunity for college may not have been available to someone living in a different country, but that the individual may have been presented with more options upon immigrating to the United States as an older adult.

Item 1: Over the Hill at 25? College Completion at Higher Ages

Over the Hill at 25? College Completion at Higher Ages

Thu Mar 31 2016

Written by: Kurt Bauman, Education and Social Stratification Branch

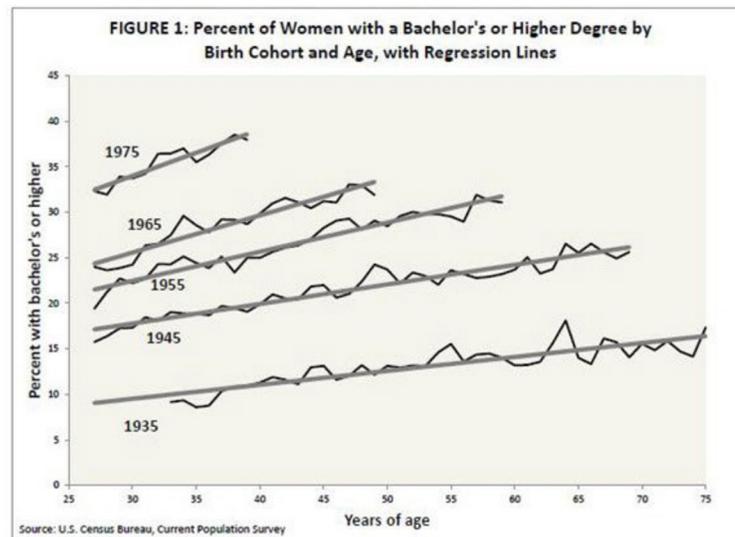


For many years (since 1942 to be exact) when the U.S. Census Bureau has reported educational attainment, it has focused on the population age 25 and older. The reason for this practice was that, "The statistics made available today relate only to persons 25 years old and over, those who may generally be considered as having completed their formal education."

Since then, few have questioned this practice and logic, and researchers have remained comfortable with the assumption that "most people get their schooling during their childhood, teens and 20s ..."

Thinking about education as being "fixed" through most of adulthood makes things easier for researchers who want to examine trends in education. But in recent years, there have been hints that this traditional assumption is breaking down. To look more closely, I took advantage of the large collection of data from the Current Population Survey from 1967 to 2015. I was able to follow age groups across a large portion of their lives to see how education patterns evolved as they got older.

Figure 1 shows trends in the percentage of women who had a bachelor's degree or higher for several birth cohorts (women who were born in the same group of years). Those born around 1935 are at the bottom, having lower education than women who were born later in the century. When the group was in their early 30s (around 1968), 9 percent of the group had a bachelor's degree or higher. By 2010, when the group was around 75, 17 percent had a bachelor's degree or higher.



A similar pattern can be observed for younger groups of women (born in later years). They have increasingly higher levels of college completion at age 25 and continue to gain as they move from 25 to older ages. As for men, the story is pretty much the same, although shifts from one cohort to the next are not as smooth as they are for women (not shown).

What can we make of the pattern of growth in college completion that takes place across the lives of a group of people? Are we seeing the result of lots of people who delayed college graduation until later in life? Are other forces at work?

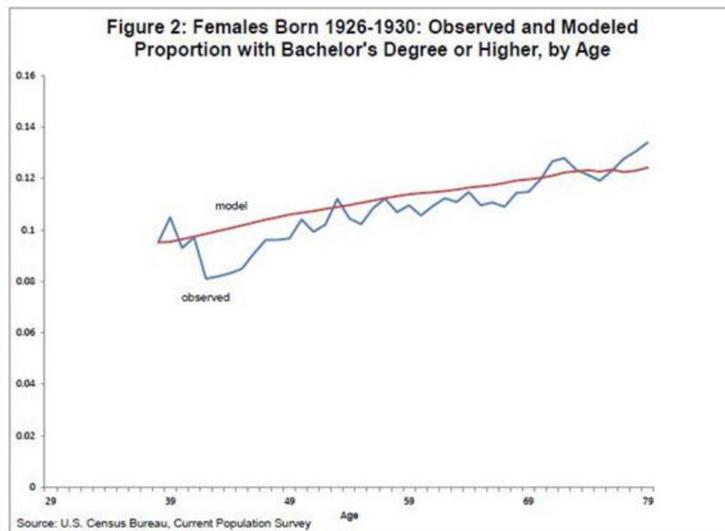
Besides graduation, there are at least two other things that could be happening. First, immigration could be contributing to college growth at later ages. While many immigrants have low levels of education, there is a large subset of immigrants to the United States with bachelor's and higher degrees.

Item 1: Over the Hill at 25? College Completion at Higher Ages (Continued)

Another factor affecting the proportion of a cohort having a bachelor's degree is mortality. Research has strongly established a relationship between education and mortality such that people with bachelor's degrees survive to greater ages, and thus make up a greater part of the cohort as it gets older.

With the Current Population Survey data, I was able to measure the level of education, the rate of graduation and the effect of immigration for a set of cohorts of men and women such as those shown in Figure 1. In order to measure mortality, I made use of a dataset produced by the Census Bureau called the National Longitudinal Mortality Study. Using demographic life-table methods, I calculated what we might expect for each of these cohorts given the forces we could measure. The question was: Would I be able to come close to the observed patterns using just these factors?

Figure 2 shows the observed level of college completion for women who were born from 1926 to 1930, which moves in a slightly jagged pattern from 9 percent at age 38 (the youngest age for which I have data) to 12 percent at age 75. The "model" line is set up to start at the same point, 9 percent at age 38. From there, I allow graduation, immigration and mortality to change the percentage of the cohort with a college education, with no constraints. As it turns out, however, the model line runs along a very similar path to that which is observed from people reporting their levels of education. Both lines show 12 percent of the cohort having a bachelor's degree at age 75.



When I looked at other cohorts of men and women born from 1926 to 1970, I obtained similar results. Although I was unable to conduct statistical tests because of the complexity of some of the calculations, the end result is satisfying. What appears at first to be a strange pattern of college attainment growing throughout the lifespan is indeed the plausible result of basic demographic factors at work. That is, the growth of education in this country continues across the lifespan because of the willingness of Americans to continue their education in adulthood and because of the contribution of immigrants who come to this country with higher degrees. A reward of higher education is greater longevity, which results in a greater share of college-educated people at higher ages. Taken together, these forces have had an important influence on the growth of education in the past century.

www.census.gov/newsroom/blogs/research-matters/2016/03/over-the-hill-at-25-college-completion-at-higher-ages.html