U.S. Education Statistics 101
part of
FDLP Academy Gov Docs
101 Series
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Connecticut State Library
https://ctstatelibrary.org/
What we will cover -

This webinar will introduce the basic Federal Government tools for statistics on U.S. schools and education. We will focus on the Department of Education.

- Statistics vs. Data
- Department of Education web site quick tour
  - National Center for Education Statistics (NCES)
    - The Condition of Education
    - Digest of Education Statistics web site
  - Data Tools
    - School Search
Learning Objectives
The learner will be able to:

• Use statistical resources for "ready reference" questions

• Have basic familiarity with US Department of Education web site

• Find and use National Center for Education Statistics (NCES)
  • Common "ready reference" resources
Data vs. Statistics

While often used interchangeably, data and statistics are not quite the same.
Data

• **Data** is the raw information collected within a dataset - the primary source of information from the research.
  • Data can be analyzed and interpreted by statistical procedures.
  • Original researcher analyzing data is called primary data analysis;
  • Someone else analyzing another's data is secondary data analysis.
  • Data sets usually have meta data.
  • Data analysis is usually done with computer software - which is not usually included with the data set.
Statistics (stats)

- **Statistics** (stats) provide analysis and/or summary of the data after data analysis has occurred.
  - Statistics (stats) provide analysis and/or summary of the data after data analysis has occurred.
  - Often presented in charts, tables, and graphs, or as reported numbers/percentages.
  - Used for "ready reference".
  - Not the raw data, although some sites may pull stats from raw data.
Demographics

• Specific type of statistics
  
  • Demographics are description of a population
  • Usually from a sample of population and presented as an aggregate of population
NOTE on Common Core

The term "Common Core" will show up in many places on Dept. Ed web site. There are two distinct meanings.

• The Common Core of Data (CCD) vs. Common Core State Standards Initiative

• The Term “Common Core” is used for two different programs

• **The Common Core of Data (CCD)**
  - Department of Education's primary database on public elementary and secondary education in the United States.
  - CCD is a comprehensive, annual, national database of all public elementary and secondary schools and school districts.

• **Common Core State Standards**
  - Related to curricula
  - A set of academic standards in mathematics and English language arts/literacy (ELA).
  - These learning goals outline what a student should know and be able to do at the end of each grade.
Where to Start?

• Federal or State? International?
  • Federal and State agencies will often have multiple levels of information
• General statistics or data sets to be analyzed by researcher?
• Which agency runs the program?
  • Is information from another agency included?
  • Ex. Child Nutrition Program is run by U.S. Dept. of Agriculture (USDA), and the Depart. Of Education includes information related to schools within their surveys.
In case live demonstration doesn’t work

- 4 main sections – Student Loans, Grants, Law, Data
- Plethora of acronyms
- How Do I Find?
- Featured
- Outline of site on bottom
- Click on Data & Statistics – often used resources display
Data & Statistics

https://www2.ed.gov/rschstat/landing.jhtml
Fast Facts
https://nces.ed.gov/FastFacts/

- Concise information on a range of issues -
  - Early childhood through adult learning
- Pulls from various resources
- Updated as new data becomes available
- Often presented at national level
Fast Facts

In fall 2020, about 48.1 million public school students attended elementary and secondary schools either in person, online, or through some combination of the two. In 2016-19, an estimated $667 billion was spent on public school education. These are just a few of the statistics contained in the Back to School fact, which offers data about American elementary, secondary and postsecondary schools, students, and the educational process.
National Center for Education Statistics (NCES)

https://nces.ed.gov/

• Place to start for locating national education data.
• Primary federal entity for collecting and analyzing data related to education in the U.S. and other nations.
• A principal agency of U.S. Federal Statistical System.
• Promotes standardization of terms used and definitions of terms.
• Independent, nonpartisan
• YouTube channel https://www.youtube.com/c/EdNCES/featured
National Center for Education Statistics (NCES)
https://nces.ed.gov/

• Functions go back to 1869 Congressional Mandate.
  • Congress established a department of education, to collect statistics and facts to show the condition and progress of education in states and territories

• Congressional mandate 20 USC §9541
  • The mission of the Statistics Center shall be—
    • (1) to collect and analyze education information and statistics in a manner that meets the highest methodological standards;
    • (2) to report education information and statistics in a timely manner; and
    • (3) to collect, analyze, and report education information and statistics in a manner that—
      • (A) is objective, secular, neutral, and nonideological and is free of partisan political influence and racial, cultural, gender, or regional bias; and
      • (B) is relevant and useful to practitioners, researchers, policymakers, and the public.

• May use data from other agencies as in their analysis
  • Ex. Census collects educational attainment data
Results from the 2019 Mathematics and Reading Assessments are Here!

In 2019, NAEP measured the knowledge of the nation's fourth- and eighth-graders in mathematics and reading at the national, state, and district levels.

WHAT'S NEW AT NCES

AUG 3
One Year Later: Relationship Between 2015-16 Bachelor's Degree Recipient Enrollment in Further Education and Pell Grant Receipt
This Data Point provides information on enrollment for further education the year after earning a bachelor’s degree and the financial aid status of those students. More info

JUL 27
New Report Releases Data on Postsecondary Tuition, Fees and Degrees
This set of provisional web tables include fully edited and imputed data from the Integrated Postsecondary Education Data System (IPEDS) fall 2020 collection, which included three survey components: Institutional Characteristics for the 2020-21 academic year; Completions covering the period July 1, 2019 through June 30, 2020, and data on 12-Month Enrollment for the 2019-20 academic year. More info

JUL 27
Principals' Perceptions of Influence Over Decisions at Their Schools in 2017-18
This report examines the relationship between public and private school principals' perceived influence over various decisions made at their schools. More info

JUL
Teacher Training to Meet Diverse Student Needs Before Entering the Classroom

CONDITION OF EDUCATION

Browse key indicators on the condition of education in the United States at all levels, from prekindergarten through postsecondary, as well as labor force outcomes and international comparisons. The indicators summarize important developments and trends using the latest statistics, which are updated throughout the year as new data become available.
High use items are highlighted on the home page:

- Rotating gallery
- What's New
- Condition of Education
About National Center for Education Statistics (NCES) - https://nces.ed.gov/about/
Publications & Products
– especially helpful if you know the title.
Surveys & Programs
https://nces.ed.gov/surveys/

• Lists Survey and Program Areas
  • Link to each section’s list of surveys

• Resources Surveys & Programs
  • Annual Reports and Information Staff - Annual Reports
    • The Annual Reports and Information Staff prepares analyses that synthesize data on a variety of education topics, and disseminates these analyses through indicator reports, tabular reports, and web tools. Products include The Digest of Education Statistics, The Condition of Education and Projections of Education Statistics.
Annual Reports and Information Staff - Annual Reports

• Topical Reports
• Core reference books:
  • Condition of Education
    • Annually updated indicators that track key developments in the U.S. education system
  • Digest of Education Statistics
    • Tabular data covering all levels of education
  • Projections of Education Statistics
    • Forecasts of enrollments, graduates, teachers, and expenditures
Condition of Education
https://nces.ed.gov/programs/coe

• Annually updated indicators that track key developments in the U.S. education system
• This has moved from a ready reference book, to an interactive page.
  • It presents the tables used in PDF – it is interactive, but not dynamic
• The older editions are available in PDF, and the even older ones are in print.
• There are "In Brief" and/or "At Glance" versions
In 2021, NCES has launched a multi-phase effort to update the web pages for the Annual Reports and Information Staff (Annual Reports). The first phase of the web updates occurred in May when the latest edition of the Condition of Education was released. There are now two new explore features to search indicators based on topic areas (e.g., postsecondary faculty and staff) as well as subgroup characteristics (e.g., educational attainment, time series, and race/ethnicity).

In addition, the updated Indicators of School Crime and Safety are now released through the Condition of Education Indicator System. The older versions of these indicators will still be available through the Annual Reports Publications page. Be sure to update your bookmarks!

Be sure to stay up to date with the Annual Reports website improvements by following NCES on Twitter and Facebook.

Condition of Education

The Condition of Education contains key indicators on all levels of education, labor force outcomes, and international comparisons. The indicators summarize important developments and trends using the latest statistics, which are updated throughout the year as new data become available. Spotlight indicators provide more in-depth analyses on selected topics. In addition, the more succinct Report on the Condition of Education, which highlights and synthesizes key findings from the Condition of Education, is also available in PDF format.

Explore the Current Edition:
Report on the Condition of Education 2021
Report on Indicators of School Crime and Safety
Digest of Education Statistics
https://nces.ed.gov/programs/digest/

• Annual statistical compilation of tables covering the broad field of U.S. education from prekindergarten through graduate school.

• List of Tables
  • Tables posted as soon as they are available
  • list includes tables from multiple reports

• You can view a single report in PDF format
Digest of Education Statistics

The Digest of Education Statistics contains a set of tables covering the broad field of American education from prekindergarten through graduate school.

- Latest version of all Digest tables
- Archived tables and figures:
  - Select a release year
- Access PDF versions of the Digest from 1990 to 2019

Scope of the Digest

The primary purpose of the Digest of Education Statistics is to provide a compilation of statistical information covering the broad field of American education from prekindergarten through graduate school. The Digest includes a selection of data from many sources, both government and private, and draws especially on the results of surveys and activities carried out by the National Center for Education Statistics (NCES). To qualify for inclusion in the Digest, material must be nationwide in scope and of broad interest and value. The publication contains information on a variety of subjects in the field of education statistics, including the number of schools and colleges, teachers, enrollments, and graduates, in addition to educational attainment, finances, federal funds for education, libraries, and international education. Supplemental information on population trends, attitudes on education, education characteristics of the labor force, government finances, and economic trends provides background for evaluating education data.

Explore Other Annual Reports

- Condition of Education
- Projections of Education Statistics
Digest Of Ed Stats

- Expand TOC
- You only get the tables produced
Sometimes data sets have built in tools.

And here are some dynamic tools to pull data
Search Individual Schools and Districts

- **Search for Public School Districts**
  - Use the Search For Public School Districts locator to retrieve information on all U.S. public school districts. This data is collected annually directly from State Education Agencies (SEAs).

- **Search for Public Schools**
  - Use the Search For Public Schools locator to retrieve information on all U.S. public schools. This data is collected annually directly from State Education Agencies (SEAs).

- **Search for Private Schools**
  - The data for this search tool comes directly from the 30,000 plus private schools that responded to the 2003-2004 Private School Universe Survey (PSS) conducted by the National Center for Education Statistics.

- **School & District Navigator**
  - Interactive map to search for school & district information
Search for Public School Districts
Sample search – Groton, CT

- Results – without indicating state
District Name: Groton School District schools for this district
Mailing Address: P.O. Box K
Groton, CT 06340
Physical Address: 1300 Flanders Road
Groton, CT 06340
Type: Local school district
Supervisory Union #: N/A
Website: http://www.grotonschools.org/

District Details (2019-2020 school year; Fiscal data from 2017-2018)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Staff</th>
<th>Fiscal</th>
</tr>
</thead>
<tbody>
<tr>
<td>County ID: 00011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locality: Suburb</td>
<td>Median (22)</td>
<td></td>
</tr>
<tr>
<td>Total Students: 4,252</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Teachers (FTE): 357.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student/Teacher Ratio: 11.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students with IEPs: 835</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- [+] indicates the data are not applicable. For example, the enrollment and staff characteristics for districts that opened in the 2020-2021 school year will not be available until the full 2020-2021 file is released.
- [–] indicates that the data are missing.
- [?] indicates that the data do not meet NCES data quality standards.
- The directory information on district name, address, and phone number are preliminary data from initial submissions of district level data for 2020-2021.
- Data provided on student membership and staffing are from the official district level data for 2019-2020.

Source: CCD Public school district data for the 2019-2020, 2020-2021 school years
School District Demographic Dashboard

It won’t all fit on one screen shot, so here it is in two pieces.
• Either add to slide stack or link to research guide
The other searches are similar

- Search for Public Schools
- Search for Private Schools
Additional Resources
from U.S. Department of Education

• The following are some of the "flagship" publications that we won't have time to cover.
• I am including in the slides so you can explore them at a later date.
National Assessment of Educational Progress (NAEP)
The Nation's Report Card
https://www.nationsreportcard.gov/

- Periodic national assessments of student progress in subjects, administered to various student populations (ex. 4th graders).
- Representative sample
- Reported for groups of students with similar characteristics (group level data)
- Goes back to 1969
- NAEP pronounced like “nape”
- State Profiles
The Nation's Report Card

PERCENTAGE OF STUDENTS AT OR ABOVE NAEP Proficient

Grade 8  Grade 12

Arts Music  24  22
Arts Visual Arts
Economics
Geography
Mathematics
Science
Technology

Results of the 2019 NAEP Science Assessment at Grades 4, 8, and 12

Have students made progress since 2017?
- Lower average score at grade 8
- No significant score change at grade 12

Science Highlights
Download a summary of results
Read the news release

Take NAEP Now

Use the new Take NAEP Now tool to administer a practice NAEP assessment test to your students. Results are as soon as students finish testing.

National Indian Education Study 2019

The 2019 National Indian Education Study provides in-depth look at findings focused on AI/AN culture and language. It also provides achievement results for AI/AN students at grade 4 and 8 on the NAEP reading and mathematics assessments— for the nation as well as for those states with relatively large proportions of AI/AN students.
Nation’s Report Card – Data Tools
https://www.nationsreportcard.gov/data_tools.aspx
NAEP Data Explorer
https://www.nationsreportcard.gov/ndecore/landing

With the NAEP Data Explorers you can create statistical tables, charts, maps to help you find answers. Explore decades of assessment results, as well as information about factors that may be related to student learning.

NOT SURE WHERE TO START? Search all databases.
(Enter a grade, subject, state, or student group to see a list of related results.)

Search NDE, LTT, HSTS, NIES databases

MAIN DATA EXPLORER (NDE)
Start exploring student achievement. It's easy!
(You may edit criteria at any time after entering the tool.)

Select a Subject
Select a Grade
Select a Jurisdiction

ENTER THE MAIN NAEP DATA EXPLORER

Already know what you're looking for? SKIP THIS STEP

ADDITIONAL DATA SOURCES

Long Term Trends (LTT)
This Data set allows you to examine results from mathematics and reading assessment back to the 1970's for students ages 9, 13 and 17.

ENTER LONG TERM TRENDS

High School Transcript Study (HSTS)
Projections of Education Statistics to...
https://nces.ed.gov/programs/pes/

• Begun in 1964
  • Older editions https://purl.fdlp.gov/GPO/LPS4309 and in print

• Projections of key indicators, such as enrollment, graduates, teachers, and expenditures

• K-12 and Higher Education

• Pocket Projections – highlights the statistics in full report

• The About page lists some of the limits in projections and available data.
Integrated Postsecondary Education Data System - IPEDS
https://nces.ed.gov/ipeds

• Information on U.S. colleges, universities, and technical and vocational institutions.
• Aggregated information from several surveys
• Data Tools https://nces.ed.gov/ipeds/use-the-data
  • Download to compare institutions
  • Look up individual institutions
  • Trends – Frequently requested data
• Some topics: Enrollment, libraries, graduation rates, financial aid, admissions, HR, finance, etc.
• Back to late 1980s
Common Core of Data – CCD
https://nces.ed.gov/ccd/

• **NOT** Common Core curricula
• Public schools and districts
  • including supervisory unions and regional education service agencies
• Organized for cross-state comparison
• Some of the main NCES Data Tools pull from this survey (and others)
• Title I search functions
• NCES ID numbers included.
  • Grants often require schools & districts be on NCES site. The NCES ID # serves as proof for public schools
  • Search the Private School survey for private school’s ID #.
• Site for students
• Educator Corner
• School Search
• College searches
• Tools to build graphs
• Games
Historical Comparisons

• If a specific table includes historic information, then you are in luck.
• If not, often there are links to the same information from previous editions.
• Online items do not go back before early 2000s or mid-1990s.
• Researcher may need to use print copies.
  • FDLP Libraries should be able to help locate the items in their collection or other libraries.
• NCES functions go back to 1869
  • Congress established a department of education, to collect statistics and facts to show the condition and progress of education in states and territories
• Early days of education agency, decennial census would be used to fill in information
Historical Information – Additional Resources

• Statistical Abstract of the United States (Stat Ab)
  • Originally published by Census Bureau [https://purl.fdlp.gov/GPO/LPS111301](https://purl.fdlp.gov/GPO/LPS111301)
  • Currently published by private vendors – Bernan or ProQuest database

• Censuses
  • Especially decennial censuses

• Annual Reports
  • Federal, State, Local agencies
  • Often have summary of the year's statistics.
  • Earlier annual reports sometimes included personal information

• Congressional Publications
  • Programs often are mandated to submit reports to Congress
  • Older U.S. Congressional Serial Set volumes use to include annual reports from agencies.
    • The College of Wooster has a resource U.S. Congressional Serial Set Finding List: [Agency Series Found in the Serial Set](https://www.loc.gov/rr/print/catalogs/serialset/agencylist.html) to help locate these.

• Commercial Products
  • Databases
  • ASI
  • SRI
Additional Resources
(not U.S. Department of Education)

• U.S. Census Bureau topics – Education
• Data.gov
• USA.gov - Data and Statistics About the U.S.
• Statistical Abstracts (1878-2011)
• Child Nutrition Programs are run by the USDA
• GODORT’s Education Sources in State Agency Databases guide
Other Libraries’ Research Guides*

- Connecticut State Library Education Statistics & Demographics
  - Currently being revised, so must use link for time being.
  - https://libguides.ctstatelibrary.org/EdStats
- Harvard Gutman Library Education Statistics
- Boston College Education Statistics
- ACRL/EBSS Statistical Directory for Education & Social Science Librarians
- University of Southern California Education *: Statistics and Data

*These are resources I have used in the past – there are many other great guides created by libraries.