GIS Matters in Education: Addressing Challenges, Providing Solutions

Geographic information system (GIS) technology and processes are more commonplace every day. Their application to planning and decision making is evident in numerous fields and industries as they address challenges and provide solutions. This includes education.

Instruction

**Challenge:** To be globally competitive and live and work in the 21st century, students must be strong problem solvers and geographic thinkers.

**Solution:** A new report from the National Research Council and a new campaign led by the National Geographic Society show the importance of geographic literacy and GIS in preparing students for the future. GIS helps students tackle robust classroom content in diverse subject areas, integrating and analyzing information to solve real-world problems from a local to global scale. The President’s High-Growth Job Training Initiative shows that workers skilled in GIS and other geospatial tools and methods are in high demand and are valuable assets to our economy and communities.

Research and Policy

**Challenge:** To ensure excellence in education, researchers and policy makers must have tools and strategies to visualize and analyze critical data about needs, expenditures, compliance, and success.

**Solution:** The No Child Left Behind Act has made data-driven decision making a standard within local, state, and national education programs. GIS offers a geographic way to visualize and analyze education data—district progress, per-pupil spending, distribution of federal funds, community demographics and performance, and countless other variables—in a way that tables and charts alone cannot. GIS tools and methods support an integrated analysis of factors affecting education and, ultimately, students themselves.

Administration

**Challenge:** To manage schools and districts effectively, administrators need tools and approaches that aid in planning, decision making, and communication.

**Solution:** All aspects of a school district have a geography. Some are mobile such as students and buses; others are fixed such as buildings or fire exits. All have locations, characteristics, and relationships, from the community at large to the microenvironments within a school. GIS technology helps integrate operations and improve efficiency in areas such as demographic analysis, student transportation, school safety, facilities mapping, logistics, and data dissemination.

To learn more, please visit [www.esri.com/schoolgis](http://www.esri.com/schoolgis).

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2. www.mywonderfulworld.org
3. www.doleta.gov/BRG/JobTrainInitiative