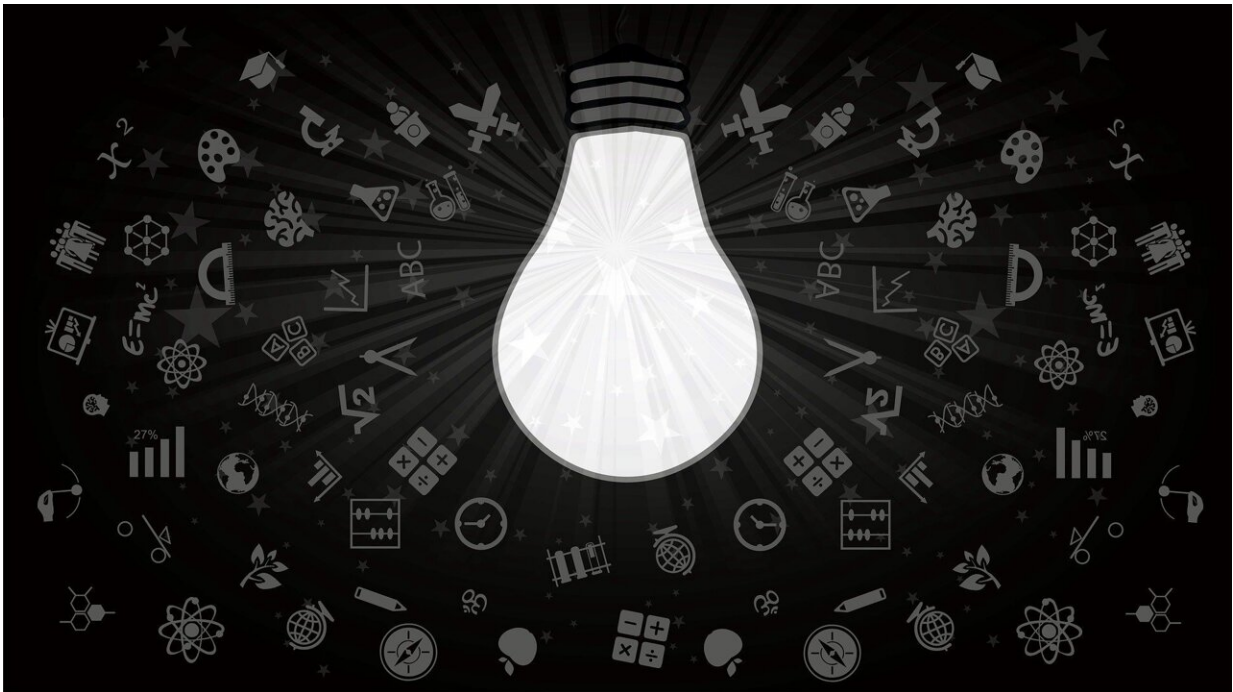# Professors develop interactive dashboard to drive education decision-making

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Credit: Pixabay/CC0 Public Domain

University of Wyoming College of Education faculty members have published a paper in the journal *PLOS ONE* describing the development of an interactive dashboard that combines data from the Integrated Postsecondary Education Data System (IPEDS), the U.S. Census Bureau and the Bureau of Labor Statistics.

The manuscript, "Using R Shiny to Develop a Dashboard Using IPEDS, U.S. Census and Bureau of Labor Statistics Data," explains how the dashboard was developed and includes examples of R programming language.

Authors Mark Perkins, assistant dean for assessment, data and accreditation and assistant professor of educational research, and Jonathan Carrier, assistant professor of higher education administration, created this innovative dashboard to allow users to quickly gain a comprehensive view of the educational landscape in the United States.

The dashboard's interactive visualizations enable users to discern patterns, trends and insights from data that can be used to inform strategic decision-making.

"Our leaders and policymakers can make better decisions when they have the best data available to them," Carrier says. "Administrators at higher education institutions can use information from the dashboard to project career and wage outcomes that inform adjustments to academic programs. They also can identify enrollment trends to improve recruitment efforts and better allocate resources."

"There is a plethora of publicly available data through various agencies; however, pulling and using these data is not always easy. We used R programming language to gather data and present them in a way that is easily usable for others," Perkins says. "The article describes our process and will help support data scientists and researchers use public data sets to program similar interactive dashboards or data tools."

The strategies and programming code presented in the article have implications beyond higher education. Professionals and policymakers can use the process pioneered by the authors to build user-friendly informational dashboards that combine publicly available data. These

entities then can use the dashboards to inform decisions in areas such as transportation, health care, government and law enforcement.

"The methods and skills in the article could help Wyoming initiatives such as the Wyoming Innovation Partnership and Statewide Longitudinal Education Data System, because the programming and data skills covered are generally applicable. These initiatives could use the large data sets from the state in this type of programming to inform [decision-making](decision-making) in educational and economic arenas," Perkins says.

**More information:** Mark A. Perkins et al, Using R Shiny to develop a dashboard using IPEDS, U.S. Census, and bureau of labor statistics data, *PLOS ONE* (2023). [DOI: 10.1371/journal.pone.0278573](DOI)

Provided by University of Wyoming

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