

Tennessee Department of Education
R372A200037

Project Title: Modernizing Data Systems from Early Childhood to Career in Tennessee

Project Description: The Tennessee Department of Education (“department”) submits this proposal for a \$3.25 million grant for four years from the Institute for Education Science’s Statewide Longitudinal Data Systems FY2019 grant program under CFDA number 84.372A to modernize the Tennessee’s interagency data systems, P20 Connect TN. This grant application, “Modernizing Data Systems from Early Childhood to Career in Tennessee,” aims to improve the quality, availability, and use of longitudinal data. We aim to (1) enhance the interagency P20 data system known as P20 Connect TN, (2) integrate updated and new sources of data, and (3) leverage research and analytics to support student success across their educational experience.

By pursuing a grant in the infrastructure priority, Tennessee will update the current K-12 data structure that populates P20 Connect TN by building Application Program Interfaces (APIs) to develop true interoperability across systems that will allow the department to link K-12 data to other agencies’ data more efficiently. This modernization of the data system would permit more flexibility in the scope and scale of what data the department tracks at a reduced, sustainable cost. Additionally, the grant will expand data access and governance across multiple dimensions, integrating Department of Correction data, new K-12 education data collections, and other sources. This integration provides a more complete picture for the department, districts, and schools to monitor how our schools serve all students—particularly historically underserved groups—and advance the state’s priorities identified in the new strategic plan, *Best for All*, under the leadership of Governor Bill Lee and Commissioner of Education Penny Schwinn.

As we improve the data infrastructure, the improved research and data sharing enabled by this grant will be leveraged to support LEA and school data use to target interventions for students who are not on track to earn a postsecondary degree after high school. The department will expand analytic capacity machine learning techniques to produce predictive analytics using the improved longitudinal data and develop user friendly tools to share those predictions.

This shift in data use marks a significant change for Tennessee. While the P20 Connect TN data system was first developed in 2011, a near decade worth of lessons has identified its strengths and limitations. This grant aims to address those limitations through improved quality, availability, and use of the P20 Connect TN data.

In total, we propose six main outcomes to advance the use of longitudinal data in Tennessee:

- 1) Improve the governance, metadata, documentation, and training of all data in P20 Connect TN
- 2) Develop a common API for agencies, data originators, and researchers.
- 3) Automate ingestion of data into the common API
- 4) Integrate and analyze new sources of data
- 5) Develop a full-scale predictive analytics model that directly aligns with and informs the Tennessee Department of Education’s 2019 strategic plan, *Best for All*
- 6) Develop a tool for sharing predictive analytics with teachers, administrators, district leaders, and department personnel with local feedback and training loops for users of the tool.