

INDICATORS OF ILLINOIS STUDENTS' STEM PERFORMANCE

Keeping Illinois competitive requires that Illinois workers and citizens have science and mathematics skills that are at least commensurate with the levels achieved by those in competitive states and countries. To compete globally, Illinois needs students who graduate from high school adequately prepared to be successful in postsecondary education or in the workplace. How well is Illinois meeting these goals?

This part of the report examines three sets of Illinois performance indicators as they relate to the STEM fields:

- Chapter III Student Achievement
- Chapter IV Readiness for College and Work
- Chapter V College Participation and Completion

Before proceeding to the indicators, readers should consider two caveats in relation to the interpretation of the data. The first concerns the model used to describe the preparation of the workforce. Judith Ramaley of the National Science Foundation recommends that the “pipeline” model for education be replaced with a “pathways” model.⁶² The pipeline model implies a straightforward, linear progression in which one moves through school and to work. In reality, students follow various pathways as they enroll in multiple institutions, sometimes simultaneously; combine work and education; and retrain for multiple careers. The data presented in the next three chapters are the best measures currently available; however, they are much more attuned to a “pipeline” than to “pathways.”

The second caveat is that this study includes a mix of research methodologies and measurements with varying confidence intervals. Small differences between numbers may not represent a statistically significant difference. With proper care, these data can provide an accurate perspective on STEM performance in Illinois and the U.S.