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Strong math and science skills required to meet future Wisconsin workforce needs

Report suggests greater state emphasis on STEM education needed

MILWAUKEE, Wisconsin – (*Monday, June 29, 2009*) – A new report by the Public Policy Forum compiles data on projected workforce demand in Wisconsin and concludes that a coordinated focus on science, math and technical education at the K-12 level is required to meet that demand.

“Many of the occupations that will be seeking workers will require strong math, science, and technical backgrounds, ranging from middle-skills jobs like mechanics or medical technicians to high-skills jobs that require college degrees. If Wisconsin students don’t have that knowledge or can’t perform higher-order problem solving, our state’s economic future will suffer. The state’s education policies must reflect that reality,” explains Rob Henken, president of the Public Policy Forum, which released the report today.

The report finds that of the 10 career clusters predicted to grow the most over the next five years, seven include occupations requiring strong backgrounds in science, math, technology, or engineering (STEM). Meanwhile, of the 10 specific jobs predicted to be the fastest growing in the state, eight require STEM skills or knowledge and six require a post-secondary degree.

The report concludes that in order to meet the needs of the future workforce, Wisconsin education officials must focus on revising standards, assessments, and retaining quality teachers with a coordinated focus on STEM content areas.

The report also finds that while Wisconsin students perform relatively well in math and science when compared to peers nationally, there are indications that the state's math and science standards are lacking.

“Many prominent education policy groups are calling for more rigorous standards. There is also evidence that Wisconsin sets the bar too low on our state tests,” says Henken. “For example, when the Wisconsin state assessment is compared to the national assessment administered by the federal government, Wisconsin's definition of proficiency in math is much lower than the national standard.”

In addition, although teacher preparation institutions in Wisconsin produce more STEM specialty teachers than are needed to replace retiring teachers, roughly a third of all teachers hired under “emergency” licensure or certification regulations, used only when a district cannot find a “fully qualified and licensed” teacher, are STEM teachers.

“Teacher quality is potentially an issue as well. We seem to graduate plenty of would-be STEM teachers from college, and districts report having enough applicants when there are openings in those classrooms, yet they have to resort to the emergency credentialing in many cases. Recruiting and retaining quality teachers must be a priority,” says Anneliese Dickman, the Forum researcher who authored the report.

In addition to examining state workforce development data and reviewing state-level policies and standards that impact STEM education, the report discusses several policy options that could be considered to build on localized STEM initiatives and establish a greater statewide imperative to prioritize STEM activities. Those include:

- Strengthen state standards in science, math, and other STEM fields, create model curricula in STEM fields, and align standards to workforce needs and college matriculation requirements.
- Create incentives to recruit and retain qualified STEM teachers and ensure districts use teacher standards and professional development goals in hiring, evaluation, promotion, and possibly compensation.
- Create incentives for more coordination of local efforts and increase support, both financial and regulatory, for district-level STEM initiatives.

The STEM education report – which was funded by the Kern Foundation – can be downloaded from the Forum’s Web site at www.publicpolicyforum.org

Milwaukee-based Public Policy Forum, established in 1913 as a local government watchdog, is a nonpartisan, nonprofit organization dedicated to enhancing the effectiveness of government and the development of southeastern Wisconsin through objective research of public policy issues.

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