

STEM-IN'

Indiana STEM News



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AP-TIP IN Schools Experience Great Results! A program of the University of Notre Dame's Institute for Educational Initiatives, AP-TIP IN helps prepare Indiana students for college and careers by engaging them in rigorous math, science, and English (MSE) coursework. Our comprehensive approach provides high quality AP professional development and supports to teachers and greater opportunities for students.

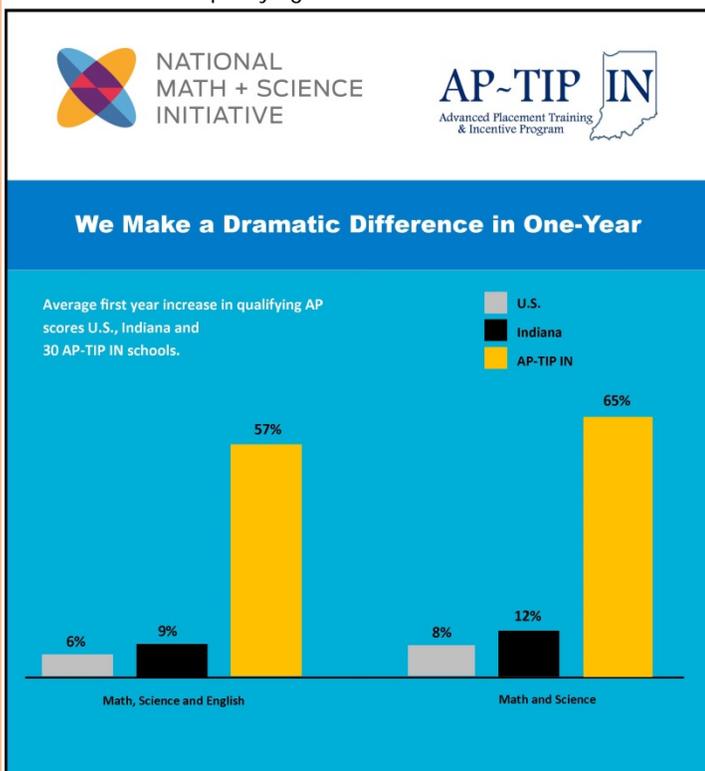
Students experience success in the first year as AP MSE scores increased an average of 57% at program schools. After three years, nearly 12,000 students at 30 AP-TIP IN schools took more than 18,700 AP MSE courses. Of those, over 4,900 earned more than 7,600 qualifying AP MSE scores!

For more information or to register, visit our website: <http://iei.nd.edu/aptipin> or contact Program Director Karen Morris: morris.3@nd.edu.

The Impact of Talent on Innovation: Recent Trends and Implications for the Indy Metro As the recovery from the Great Recession of 2008 to 2009 has taken hold, regional leaders in the Indy Metro and other U.S. regions are taking stock of how well-positioned their regional economies are for success in today's global, knowledge-based economy. It is well-understood that innovation must be a central driver for economic success to ensure existing industries remain globally competitive and to generate the high-growth potential new start-ups that serve new and fast growing markets. Against this backdrop, BioCrossroads commissioned the Battelle Technology Partnership Practice to take a detailed examination of the supply and demand for talent to drive innovation and economic growth for the Indy Metro. This effort draws on a wide variety of data sources on population dynamics, talent pipeline of recent graduates, innovation activities and industry trends. It considers the trends for the Indy Metro since the economic recovery and puts them into a comparative analysis with a set of regional benchmarks. The study then turns to the implications of its key findings and particularly how it relates to the new developments in place-based strategies to advance an innovation and talent ecosystem that drives economic development.

One key finding is that the Indy Metro is making gains in the growth of industry demand for high skilled jobs requiring a bachelor's degree or higher. However, the Indy Metro is slightly behind in the growth of highly educated workforce with at least a bachelor's degree compared to the nation, while lagging all of the benchmark regions. Additionally, the Indy Metro is not faring well on net state migration compared to other benchmarks, with one of the highest levels of outmigration to other states, including for highly educated. And, while the Indy Metro is on par with the nation and the benchmark regions in the generation and growth of innovations as reflected by patents, it lags far behind most of the benchmark regions in the number and total venture capital funding of high-growth potential, innovation-led new businesses.

The full report is available at <http://www.biointellex.com>.



In 2016, the AP-TIP IN trainings for teachers include:

- Spring Mock Exam Reading: registered participants administer our AP MSE exams and are trained by AP Readers to score. Participants leave training with scored exams to use for formative assessment and drive instruction.
- Summer APSI: College Board-endorsed; in addition to all AP MSE courses, the new AP Computer Science Principles workshop will be offered (unique to Indiana!).
- Fall Conference: expands on the work from the APSI and reviews IPRs with participants.

Indiana Afterschool Network – At the national forefront of out-of-school time STEM learning by Bob Abrams, IAN

With a goal to “*expand high quality and engaging STEM learning in out-of-school time throughout Indiana*,” the STEM Initiative of the Indiana Afterschool Network (IAN) focuses on four priorities:

1. Partnership and leadership development
2. Communications and policy and funding development
3. Program quality and professional development
4. Data coordination and assessment

Priorities one through three were addressed in the previous three I-STEM Newsletters. In this fourth newsletter, the focus is on the fourth priority – “Data coordination and assessment.”

During the past several years STEM programming has increased significantly during out-of-school (OST) time due to the growing recognition that OST offers significant opportunities to engage young people in hands-on, minds-on STEM learning without the restrictions and demands of in-school. However, there are challenges to ensure that the quality of the educational STEM experience offered by OST programs is consistently at a high level. In some cases, OST facilitators are not formally trained in STEM content. They may be skilled at engaging young people and working together in a STEM activity but have not been trained in how to facilitate successful hands-on learning that enables the students to make connections to the world of STEM around them.

In order to evaluate the quality of current OST STEM programming and how to address any shortcomings, the Indiana Afterschool Network (IAN) has partnered during the past several years with Harvard University's Program in Education, Afterschool, and Resiliency (PEAR) to utilize that group's OST STEM evaluation tool called Dimensions of Success (DoS) – see <http://www.pearweb.org/tools/dos.html>. The DoS process evaluates twelve dimensions identified as required for effective STEM learning in an OST program (or any STEM education setting, for that matter) and clearly defines improvement opportunities.

During the past two years, IAN has partnered with Harvard in DoS studies that have resulted in observations being made of 112 STEM activities at 40 OST programs throughout Indiana as well as the development of a statewide cadre of certified (by Harvard) DoS observers – currently 43 people, with more currently in the process of completing the certification process.

As a result of the findings of these studies, the IAN has initiated a two-pronged effort in professional development of OST STEM program providers:

- Develop a series of in-person and online trainings to help OST professionals facilitate engaged learning and inquiry-based experiences. Working with Magnify Learning (<http://magnifylearningin.org/>), an Indiana organization that

trains educators in project-based learning nation-wide, the trainings will incorporate the 12 DoS dimensions of success along with Click2Science (<http://www.click2sciencepd.org/>) youth worker skill training.

- Participate in the nation-wide STEM Ecosystems community with a grant award from the National STEM Funders Network (<http://stemecosystems.org/>). IAN has committed to that initiative's primary goal to develop local systems that effectively integrate in-school and out-of-school STEM learning and is working with various partners (Indiana Department of Education, I-STEM Resource Network, business partners, and select school districts) to achieve that objective.

IAN will also make available the contact information for its growing cadre of certified DoS observers and encourage OST programs to enlist their expertise to evaluate their current STEM programming in order to identify improvement opportunities.

Contact Bob Abrams, IAN STEM Coordinator -- babrams@indianaafterschool.org, 812-344-0405.

The Women in Engineering Program would like to invite all *freshmen* and *sophomores* in high school to attend:

“Introduce a Girl to Engineering Day”

Date: Saturday, February 27, 2016

Online registration is available

at: <https://engineering.purdue.edu/WIEP> then look under “Events”

Time: 9:00 a.m. – 4:00 p.m.

Place: Purdue University Campus, West Lafayette, IN

Please plan to register at your earliest convenience as space is limited!

About STEM-IN' This newsletter is published six times per year by the I-STEM Resource Network. For inquiries and news contributions please email: istem@istemnetwork.org.

EVERY student EVERY school EVERY day