Get the Facts Out: The Importance of YOU in Growing the Future STEM Teacher Pipeline

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Goals:

• Equip you with the tools you need to effectively educate students and parents about what STEM teaching really entails

• Detail the tangible benefits of a STEM teaching career

• Encourage you to encourage your own students to consider a STEM teaching career
...our report confirms trends in states’ most dire teacher shortage subject areas that other data analysis has shown: States consistently report trouble staffing special education, **mathematics**, **science**, foreign language, and English as a second language classrooms.

Nuance in the Noise
January 2019, Bellweather Education Partners
Map 3: Percent of Years States Experienced a Science Teacher Shortage, 1998–2018

Indiana.Teachers-Teachers.com

Job listings on February 10, 2019:

**55 science teaching positions** were **available immediately** in the State of Indiana

(Includes full-time positions and substitute positions)
# Characteristics of the Science Teaching Force, by Grade Range

<table>
<thead>
<tr>
<th>Age</th>
<th>Elementary</th>
<th>Middle</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 30</td>
<td>19 (1.6)</td>
<td>17 (2.1)</td>
<td>14 (0.9)</td>
</tr>
<tr>
<td>31–40</td>
<td>28 (1.6)</td>
<td>29 (2.5)</td>
<td>31 (1.5)</td>
</tr>
<tr>
<td>41–50</td>
<td>29 (1.8)</td>
<td>26 (1.9)</td>
<td>28 (1.3)</td>
</tr>
<tr>
<td>51–60</td>
<td>20 (1.4)</td>
<td>20 (2.0)</td>
<td>20 (1.1)</td>
</tr>
<tr>
<td>61+</td>
<td>5 (0.8)</td>
<td>8 (1.4)</td>
<td>8 (0.9)</td>
</tr>
</tbody>
</table>
How Have Your Intentions Changed Since You Began Teaching?

- 57.7% I do not plan to stay as long
- 35.3% They have stayed the same
- 7% I intend to stay longer

NSTA Reports: January 2019
Turn and Talk:

What are some of the reasons people are interested in teaching?
Share the brilliance:

What are some of the reasons individuals are interested in teaching?
Survey of UIndy Undergraduate Chemistry and Biology Majors

Objectives:

• Determine which factors would ENCOURAGE or discourage UIndy STEM undergraduate students from choosing a career in secondary teaching

• Determine which factors would make UIndy STEM undergraduate students MORE LIKELY to consider a secondary teaching career
Survey of UIndy Undergraduate Chemistry and Biology Majors

Methods:

- Survey consisting of 24 Likert-scale questions (adapted from Florida State Dept. of Education, 1985) was used to assess students’ perceptions of teaching as a career.

- Students voluntarily completed the survey (N=271)
  - General Chemistry I & II (N=211)
  - Organic Chemistry I & II (N=60)
Survey of UIndy Undergraduate Chemistry and Biology Majors

Methods – Part A

Question: What factors would encourage or discourage UIndy STEM students from choosing a high school teaching career?

Likert-scale used in this part of the survey was 1 to 5
1 - strongly discourage
2 - discourage
3 - neutral
4 - encourage
5 - strongly encourage

Data grouped by:
Courses: 100-level (General Chemistry) and 200-level (Organic Chemistry)
Majors: Science, Pre-Health, Engineering, Other
Survey of UIndy Undergraduate Chemistry and Biology Majors
Students’ Perceptions Regarding Factors that Would ENCOURAGE Them to Choose a Teaching Career

- The annual work schedule
- Making a positive difference in the lives of my students
- Helping a child or young person gain confidence in him/herself
- Being able to find a job
- Helping others prepare for their future career
- Teaching students a subject that I consider important

Percent

100-Level  200-Level
Survey of UIndy Undergraduate Chemistry and Biology Majors

Students’ Perceptions Regarding Factors that Would ENCOURAGE Them to Choose a Teaching Career

The annual work schedule
Making a positive difference in the lives of my students
Helping a child or young person gain confidence in him/herself
Being able to find a job
Helping others prepare for their future career
Teaching students a subject that I consider important

Percent

Science  Pre-Health
Turn and Talk:

What are some of the barriers that prevent individuals from pursuing a teaching career?
Share the brilliance:

What are some of the barriers that prevent individuals from pursuing a teaching career?
Methods – Part B

Question: What factors would make UIndy STEM students MORE LIKELY to consider a teaching career?

Likert-scale used in this part of the survey was 1 to 4
  1 - not important at all
  2 - neutral
  3 - important
  4 - very important

Data grouped by:
  Courses: 100-level (General Chemistry) and 200-level (Organic Chemistry)
  Majors: Science, Pre-Health, Engineering, Other
Survey of UIIndy Undergraduate Chemistry and Biology Majors

Students’ Perceptions Regarding Factors that Would Make Them MORE LIKELY to Choose a Teaching Career
Survey of UIndy Undergraduate Chemistry and Biology Majors

Students’ Perceptions Regarding Factors that Would Make Them MORE LIKELY to Choose a Teaching Career
Burned out: why are so many teachers quitting or off sick with stress?

The Truth About Teacher Burnout: It’s Work Induced Depression

American Psychological Association
Psych Learning Curve
August 20, 2018

Teacher pay in Indiana continues its downward slide

NWI.com June 16, 2018
5 Teaching Misperceptions and Realities
Misperception:
Teaching pays less than other careers using the same degree.

Reality:
The annual mean wage for teachers is $61,815 while the annual mean wage for all person’s with a bachelor’s degree is $59,124.

Source: [https://www.bls.gov/oes/2017/may/oes_nat.htm#25-0000](https://www.bls.gov/oes/2017/may/oes_nat.htm#25-0000)  
Misperception:

Graduating with a degree to teach will result in lifelong college debt.

Reality:

Teachers may be eligible for forgiveness of up to $17,500 for some student loans.


Picture accessed 2/14/19 from: rawpixel.com
Misperception:
Teachers cannot retire comfortably.

Reality:
In Indiana, it is possible for public school teachers to retire with full benefits as early as age 55.

Source: [https://www.in.gov/inprs/3069.ht](https://www.in.gov/inprs/3069.ht)
Picture accessed 2/14/19 from: rawpixel.com
Misperception:
Teaching is repetitive and boring.

Reality:
Most teachers say that student interactions make teaching a satisfying career.

Source: 100K in 10 Get the Facts Out
Picture accessed 2/14/19 from: rawpixel.com
Misperception:
It is difficult to find a job in teaching.

Reality:
The demand for educators in most certification fields and in most areas of the country is strong.

Source: https://goo.gl/WYa8Id
Picture accessed 2/14/19 from: rawpixel.com
What can
YOU do?

Dispelling
misperceptions
Brainstorming Session
Share the brilliance:

What are some things you can do to help dispel misperceptions about teaching and grow the future STEM teacher pipeline?
Someone encouraged the student to become a teacher.
What is UIndy doing?

The School of Education is proud to build upon its strong reputation for producing great teachers to be the first to offer a cutting-edge interdisciplinary Elementary Education STEM program. Its fresh, novel, and innovative approach to teacher education is unlike any in the country.
What is UIndy doing?

ABOUT TEACH (STEM)³

Teach (STEM)³ is a one-year urban clinical residency program combined with graduate coursework and two years of post-residency mentoring support to prepare effective secondary and middle school STEM teachers. Coursework and residencies create a one-year, full-time program correlating with partner district calendars. Upon completion, scholars will earn a Master of Arts in Teaching (MAT) degree along with licensure in a STEM content area.

BECOME A NOYCE SCHOLAR THROUGH THE TEACH (STEM)³ PROGRAM

RECEIVE UP TO $20,000 TO COMPLETE A MASTER OF ARTS IN TEACHING

University of Indianapolis
Get The Facts Out:

A User-friendly Toolkit for Changing the Conversation Around STEM Teaching

A Project Team Collaboration

Fall 2018

http://tinyurl.com/y64plnnrrt
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The Importance of **YOU** in Growing the Future STEM Teacher Pipeline

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