Culture, STEM Education, & Making

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MAKING
10+ YEARS
50 COVERS
44 PEOPLE

MEN & BOYS 86 %
WOMEN & GIRLS 14 %

* as of May 2016
No black person has ever been on the cover of MAKE magazine.

* as of May 2016
10+ YEARS
50 COVERS
PROJECTS

ELECTRONICS 68 %
VEHICLES 37 %
ROBOTS 32 %
DRONES 12 %
3D PRINTERS 10 %
ROCKETS 7 %

* as of May 2016
2012 STUDY

MEDIAN INCOME OF $106,000

MORE THAN 82% OF AMERICANS
MORE THAN 96% OF AMERICANS
STEM
Figure 2-18
Women's share of S&E bachelor's degrees, by field: 2000-11

Percent

NOTE: Physical sciences include earth, atmospheric, and ocean sciences.


Science and Engineering Indicators 2014

- Black or African American: 13%
- Hispanic: 16%
- American Indian or Alaska Native: 1%
- Asian or Pacific Islander: 5%
- White: 72%

Notes: Hispanic may be any race. American Indian or Alaska Native, Asian or Pacific Islander, black or African American, and white refer to individuals who are not of Hispanic origin. Percentages do not sum to 100 because data do not include individuals who did not report their race and ethnicity.

Gender Bias in the Purchase of STEM-Related Toys (Fundamental)

Jacob Inman, INSPIRE Institute for Pre-College Engineering Education

Jacob Inman is an alumnus of the INSPIRE Undergraduate Pre-College Research in STEM particularly in Engineering (UPRISE) Academy. He earned a Bachelor of Science in Nuclear Engineering in 2014.

Dr. Monica E Cardella, Purdue University, West Lafayette

Monica E. Cardella is the Director of the INSPIRE Institute for Pre-College Engineering Education and is an Associate Professor of Engineering Education at Purdue University.

CHILD GENDER (ENGINEERING & CONSTRUCTION) (N=328)

- Unclear 31.10%
- Multiple 0.91%
- Girl 8.54%
- Boy 59.45%

CHILD GENDER (PHYSICS) (N=235)

- Unclear 33.62%
- Multiple 1.33%
- Girl 8.51%
- Boy 57.87%
<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>18 %</td>
</tr>
<tr>
<td>Black or African American</td>
<td>1 %</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2 %</td>
</tr>
<tr>
<td>White</td>
<td>59 %</td>
</tr>
<tr>
<td>Asian</td>
<td>35 %</td>
</tr>
</tbody>
</table>

IT DOESN’T HAVE TO BE THIS WAY
STEM IS EVERYWHERE!
STEM IS EVERYWHERE!
HOW DO WE BRING THIS INTO OUR CLASSROOMS?
SEE STEM IN THE WORLD
ENGAGE WITH DIVERSE PRACTICES IN OUR CULTURE IN OUR CLASSROOMS
THINK CRITICALLY
ENCOURAGE STUDENTS TO THINK CRITICALLY
CULTURALLY RELEVANT PEDAGOGY
CULTURALLY RESPONSIVE PEDAGOGY
Stanford GSE study suggests academic benefits to ethnic studies courses

“...assignment to [an ethnic studies course] increased ninth-grade student attendance by 21 percentage points, GPA by 1.4 grade points, and credits earned by 23...culturally relevant teaching, when implemented in a supportive, high-fidelity context, can provide effective support to at-risk students.”

TOOLS FOR CHANGE
Culturally Responsive Instructional Resources for American Indian/Alaska Native Students
video of taped together circuits

http://chibitronics.com/
STEM IS EVERYWHERE
LET’S SEE IT & CELEBRATE IT
Thank you!

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