Teaching Experiences for Undergraduates

Evaluation Approach & Results

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Evaluation Approach

Evaluation Question: What is the impact of the TEU summer program on participants’ interest and intention to pursue STEM teaching careers?

Information Sources and Methods:

- Interviews with key grant personnel
- Visits to both TEU sites to observe classes, interview instructors, and conduct focus groups with TEUs and Mentors
- Review of project documents and website
- Online surveys of applicants, current and former TEUs, and mentors
Results after 4 years

- 95 TEU participants in 4 years. (24/year)
- TEU model is working.
- Most former TEUs are either teaching or still interested in teaching.
- Awareness of TEU is growing. Number of institutions has increased each year.
- Results are being shared.
- Research project has begun.
DETAILED RESULTS
About the Applicants
N=110 math, 67 science

- Most learn about program from Math, Science or Education faculty, flyers, or previous TEUs
- 55% are females
- 51% Caucasian, 22% Asian
- 56% juniors, 22% seniors
- 56% are extremely interested or have already decided to teach
- 37% want to teach in high-need schools
- Many also apply to REUs or education-related opportunities
95 TEUs in 4 years

- Recruitment successful
- Partner institution approach is working
- Target of 24 TEUs per year achieved
- Usually c.10 institutions represented in each class
TEU Model is working

- Teaching practicum most valuable feature.
- Mentors a huge plus.
- Most TEUs like teaching in 3-person teams.
- Nearly all would recommend program to others.
- Most would like to stay in touch.
- Former TEUs are completing leadership projects and attending conferences.
## Immediate Program Impact
(based on responses from 60 TEUs, years 1-3)

<table>
<thead>
<tr>
<th>Level of Interest in Teaching</th>
<th>Before N=59</th>
<th>After N=60</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had already decided on / still committed to teaching</td>
<td>22</td>
<td>27</td>
<td>+5</td>
</tr>
<tr>
<td>Extremely interested</td>
<td>15</td>
<td>25</td>
<td>+10</td>
</tr>
<tr>
<td>Somewhat interested / not sure</td>
<td>22</td>
<td>8</td>
<td>-14</td>
</tr>
</tbody>
</table>
Former TEUs are teaching

Based on feedback from 37 (of 71; 52%) TEUs from C1-C3:

92% (34 of 37) are either teaching or still interested
- 58% (15 of 26) of graduates are teaching.
- 38% (10 of 26) remain interested.
- 82% (9 of 11) undergraduates are still interested.
**Former TEUs are teaching**

C1 – 3, based on responses from 37 of 71 former TEUs (52%)

<table>
<thead>
<tr>
<th>Have graduated (N=26)</th>
<th>3-year Total</th>
<th>Math</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching in a high-need school</td>
<td>9</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Teaching, not in a high-need school</td>
<td>6</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Still interested in teaching</td>
<td>7</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>In a master’s program, intend to teach</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Have decided not to teach</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Still an undergraduate (N=11)</th>
<th>3-year Total</th>
<th>Math</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Still interested in teaching</td>
<td>9</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>No longer interested in teaching</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>
Growing awareness of TEU

- Applicants from 65 institutions
  - Partner institutions: (51/61: 84%)
  - Non-partner institutions: 14
- Math applications – twice as many as Science
- Some students apply to both programs
- Few students (21/95: 22%) want course credit. Program budgeted for 2/3.
Partner Institutions with highest numbers of applicants

<table>
<thead>
<tr>
<th>Institution</th>
<th>Total</th>
<th>Math</th>
<th>Science</th>
<th>Institution</th>
<th>Total</th>
<th>Math</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amherst</td>
<td>10</td>
<td>9</td>
<td>1</td>
<td>Pomona</td>
<td>11</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Bowdoin</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>Swarthmore</td>
<td>11</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Brown</td>
<td>10</td>
<td>7</td>
<td>3</td>
<td>Vassar</td>
<td>11</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Bryn Mawr</td>
<td>10</td>
<td>7</td>
<td>3</td>
<td>Wesleyan</td>
<td>7</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Middlebury</td>
<td>7</td>
<td>4</td>
<td>3</td>
<td>Whitman</td>
<td>12</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Mount Holyoke</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>Williams</td>
<td>8</td>
<td>6</td>
<td>2</td>
</tr>
</tbody>
</table>
## Non-partner institutions

1. Bronx Community College
2. College of New Jersey
3. Columbia University
4. Elizabeth City State University
5. Emmanuel College
6. Harvard College
7. Howard University
8. Quinnipiac University
9. Springfield College
10. Texas State University
11. University of Maine
12. Valparaiso University
13. Virginia Union University
14. Wartburg College
Dissemination & Research

Dissemination

- Presentations made at professional conferences:
  - 2018: Joint Mathematical Meetings (sponsored by American Mathematical Society and Mathematical Assn of America)
  - 2020: Association of Mathematics Teacher Educators (AMTE)
  - 2020: Association of Science Teacher Educators (ASTE) (pending)
  - 2020: National Science Teachers Association (NSTA) (pending)

Research

- Underway now
- Focus on TEU self-efficacy – relationship between sense of self-efficacy and actual teaching effectiveness
Scale-Up Evaluation Plans (tentative)

Evaluation to be planned and conducted centrally.

- Online Surveys of applicants, TEUs, mentor teachers
- Site visits: once or twice during grant period to observe classes, conduct focus groups with TEUs and mentors, interview project director and instructor.
- Document review/analysis, including website
- Follow-up surveys with former TEUs

Individual sites assist evaluator as requested, and...

- Collect applicant and TEU demographic data.
- Evaluate local events (e.g. conferences, special events)
- Stay in touch with/collection data from TEU alumni.
 QUESTIONS?

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