CS4Alabama

Cohort 1 Master Teachers
2013-2014

Cohort 2
2014-2015

This project sponsored by NSF CE21 1240944
Master
Teachers as Mentors
CS4Alabama CE21 Project Goals

• Provide year-long professional development and instructional support to 50 high school teachers
• Introduce 3,200 students to CS Principles Content
• Broaden participation in CS Principles through open access using the NMSI model with Master Teachers
  — Provide teacher stipends ($3300) and equipment ($1800)
• Disseminate curricular materials and assessment results
• Lead effort to have CS Principles officially count as a math graduate elective in Alabama (December 2013)
Professional Development Model

- **Year-round** PD (140 hours per year)
- Summer training
  - Six weeks of CSP content knowledge (MOOC)
    - Overview of Big Ideas
    - PD for new teachers requires deeper skilled development in programming
  - Four days of face-to-face instruction
    - Pedagogical strategies
    - Deep discussion of Performance Tasks and Curriculum Framework
    - Customized class preparation: Pacing Guide/Syllabus
- Bi-weekly meetings throughout the year
- Face-to-face weekend sessions
- Piazza discussion forum
Cohort 1 Enrollment

- 8 teachers across 12 different course offerings
- Far exceeds state-level CS A percentages

<table>
<thead>
<tr>
<th>Course</th>
<th>#</th>
<th>% of Total</th>
<th>% Female</th>
<th>% Male</th>
<th>% URM</th>
<th>% non-URM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course 1</td>
<td>57</td>
<td>16%</td>
<td>5%</td>
<td>95%</td>
<td>6%</td>
<td>94%</td>
</tr>
<tr>
<td>Course 2</td>
<td>40</td>
<td>11%</td>
<td>8%</td>
<td>93%</td>
<td>8%</td>
<td>92%</td>
</tr>
<tr>
<td>Course 3</td>
<td>20</td>
<td>6%</td>
<td>15%</td>
<td>85%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Course 4</td>
<td>20</td>
<td>6%</td>
<td>20%</td>
<td>80%</td>
<td>10%</td>
<td>90%</td>
</tr>
<tr>
<td>Course 5</td>
<td>27</td>
<td>8%</td>
<td>26%</td>
<td>74%</td>
<td>15%</td>
<td>85%</td>
</tr>
<tr>
<td>Course 6</td>
<td>15</td>
<td>4%</td>
<td>33%</td>
<td>67%</td>
<td>29%</td>
<td>71%</td>
</tr>
<tr>
<td>Course 7</td>
<td>9</td>
<td>3%</td>
<td>44%</td>
<td>56%</td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>Course 8</td>
<td>35</td>
<td>10%</td>
<td>45%</td>
<td>55%</td>
<td>24%</td>
<td>76%</td>
</tr>
<tr>
<td>Course 9</td>
<td>20</td>
<td>6%</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Course 10</td>
<td>33</td>
<td>9%</td>
<td>55%</td>
<td>45%</td>
<td>21%</td>
<td>79%</td>
</tr>
<tr>
<td>Course 11</td>
<td>20</td>
<td>6%</td>
<td>65%</td>
<td>35%</td>
<td>15%</td>
<td>85%</td>
</tr>
<tr>
<td>Course 12</td>
<td>55</td>
<td>16%</td>
<td>74%</td>
<td>26%</td>
<td>50%</td>
<td>50%</td>
</tr>
</tbody>
</table>
Student Learning:
Students’ Gain Knowledge of Big Ideas

Gains by Student Group

Females gain relative to Males, p<.01

Gains By Gender

+2.4 points overall, p=<.01
Where to learn more...

At SIGCSE

• Poster on Math graduation elective for CS Principles
  – Tomorrow (Friday) at 10:00am in Lobby 2500

• Paper on our mid-project report with deep evaluation
  – Tomorrow (Friday) at 2:35pm in Room 3501C

Project Sites

• Project web page (under revision):
  – http://cs4alabama.org

• CSP4HS MOOC (over 1,150 participants registered):
  – http://csp-cs4hs.appspot.com

• YouTube Channel (over 100 CSP videos available):
  – http://tinyurl.com/CS4Alabama-YouTube

• Google Drive Resources (slides, exams/quizzes, pacing guide):
  – http://tinyurl.com/CS4Alabama-SharedResources