Teaching at a Community College: What Graduate Students Need to be Prepared

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TWO BIG QUESTIONS:

• How are Community Colleges Unique?
• What is the role of a faculty member at a community college?
BIG QUESTION:
How are Community Colleges Unique?

• History of the Community College
• Role of the Community College Today
• Student Characteristics
History of the Community College

- Joliet Junior College (Illinois) is oldest existing two-year college (1901)
- Presidents Commission on Higher Education (1948) established network of public community colleges to meet local needs

(American Association of Community Colleges)
History of the Community College

• Community Colleges became a national network in the 1960’s

• 457 community colleges were opened in the 60’s – more than were in existence prior

(American Association of Community Colleges)
Role of the Community College Today

• Respond to a community’s educational and workforce needs
Role of the Community College Today

Currently there are 1,108 community colleges

- 982 Public
- 90 Independent
- 36 Tribal

(American Association of Community Colleges, 2016 Fact Sheet)
Role of the Community College Today

Community colleges fulfill six primary functions: remediation, transfer, vocational, general education, continuing education, and worker retraining (A. M. Cohen & Brawer, 2008; Mesa, under review; Thelin, 2004).
QUESTIONS:

• What do you KNOW about teaching mathematics at a community college?
• What do you WANT to KNOW about teaching at a community college?
Student Characteristics

Open enrollment policies, result in highly heterogeneous populations of students

<table>
<thead>
<tr>
<th>Program Type</th>
<th>#</th>
<th>%</th>
<th>Attendance</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit</td>
<td>7.3M</td>
<td>60%</td>
<td>Part-time</td>
<td>4.5M</td>
<td>62%</td>
</tr>
<tr>
<td>Noncredit(^3)</td>
<td>5.0M</td>
<td>40%</td>
<td>Full-time</td>
<td>2.8M</td>
<td>38%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>12.3M</td>
<td>100%</td>
<td>TOTAL</td>
<td>7.3M</td>
<td>100%</td>
</tr>
</tbody>
</table>

Estimated change from Fall 2014–Fall 2015: -2.4%.\(^4\)
Student Characteristics

Open enrollment policies result in highly heterogeneous populations of students.

[Table showing demographics of students enrolled for credit]

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>%</th>
<th>Age</th>
<th>%</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>49%</td>
<td>Average</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>22%</td>
<td>Median</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>14%</td>
<td>≤21</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>6%</td>
<td>22-39</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Native American</td>
<td>1%</td>
<td>40+</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Two or more races</td>
<td>3%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonresident Alien</td>
<td>1%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Student Characteristics

Open enrollment policies result in highly heterogeneous populations of students.

Other Student Demographics
- First generation to attend college – 36%
- Single parents – 17%
- Non-U.S. citizens – 7%
- Veterans – 4%
- Students with disabilities – 12%
Student Characteristics

• 37% of community college students who aspire to a bachelor’s degree have incomes in the lowest 25% income bracket and 57% attend part-time (U.S. Census Bureau, 2012)

• 58% of community college students receive financial aid (American Association of Community Colleges, 2016 Fact Sheet)
Student Characteristics

- Fall 2015 there were approximately 6.3 million students were enrolled in public, two-year colleges
- CCRC study of more than 250,000 students at 57 community colleges in the Achieving the Dream initiative found that 59 percent of entering students were referred to developmental math

(Community College Research Center, http://ccrc.tc.columbia.edu/Community-College-FAQs.html)
Student Characteristics

• Students in the lowest income group, 76 percent take remedial courses, compared with 59 percent in the highest income group.

• CCRC study of 250,000 community college students found that only 20 percent of students referred to developmental math and 37 percent of students referred to developmental reading go on to pass the relevant entry-level or "gatekeeper" college course.

(Community College Research Center, http://ccrc.tc.columbia.edu/Community-College-FAQs.html)
BIG QUESTION:
What is the role of a faculty member at a community college?

• Faculty Expectations (and Qualifications)
• Student Success
• Professional Development
Faculty Qualifications

- Qualifications determined by accrediting body—Do you know what the minimum qualifications to teach math at a CC are for your area?
Faculty Expectations

• Teach ~15 credit hours/semester which may translate to 4 to 5 courses per semester
• Mentor/advise students
• Service to campus
• Research (varies by institution)
Student Success

• Over 65% of students taking either intermediate or college algebra in the U.S. were doing so at a community college

• Failure rates in these courses range from 30% to 70% (Bahr, 2008, 2010; Waycaster, 2001)
Student Success

Mismatched perceptions of the goals and motivation of students in CC math classes

Student Success

Big challenge is defining “success”—
• What does this mean to the student?
• to the faculty member?
• to the institution?
Professional Development

Graduate students (TA’s) need to develop:

- Pedagogical knowledge
- Mathematical content knowledge
- Pedagogical content knowledge
- General knowledge of the community college setting
Professional Development

DISCUSSION:

• Based on your experience, how are graduate students currently being prepared to teach students?
• What, if anything, is missing in the preparation of graduate students to teach?
Professional Development

PD offered to graduate students (TA’s) to improve teaching at Master’s and PhD grant institutions has benefits that are twofold:

• Improving teaching and learning at the institution
• Prepare graduate students for teaching at a community college
Professional Development Resources

• CoMInDS (MAA) – College Mathematics Instructor Development Source
  Workshop to equip faculty with information and materials needed to start or enhance a mathematics graduate student professional development program
Professional Development Resources

Prepared graduates should be aware of trends and standards in math education:

• Beyond Crossroads (AMATYC)
  – New document: AMATYC IMPACT

• CRAFTY (CUPM:MAA)
Professional Development Resources

Prepared graduates students should be aware of trends and standards in math education:

• *Principles and Standards for School Mathematics (NCTM)*

• *Principles to Actions (NCTM)*
Professional Development

Prepared graduates students should be aware of trends and standards in math education:

- Mathway/Statway (Carnegie Foundation)
- Dana Center Mathways Project
Professional Development

Your best resource could be as close as your local community college.
QUESTIONS

What I learned?
What do I still want to learn?
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