Retaining Undergraduates in Computing through Mainstreamed Interventions

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Lecia Barker, NCWIT Senior Research Scientist

Contributors to this content include Lecia Barker, University of Texas, Joanne Cohoon, University of Virginia, and Maureen Biggers, Indiana University

Creating a Retention Plan Using the NCWIT ES-UP Reform Model

Recruitment - Retention

Evaluation plan - High-level support, policies

Some of your students will leave no matter what you do

Some of your students will stay no matter what you do

Some of your students will allow you to influence their decisions to stay or leave
Engaged in using best practices?

**Poll**
What percent of the faculty in your department would you say are now actively engaged in intentionally using best practices to improve retention of women undergraduates in computing?

Offer engaging curriculum

Promote community

Routinely facilitate academic success

Support students

Monitor outcomes

Maintain interest through curriculum
Highlight Curricular Flexibility

Computing and...

Highlight Relevance

Programming is a tool
Survey students
Use meaningful examples
Describe how relevant to career

QUESTIONS?
DISCUSSION
Promote community

Use Collaborative Learning
- Small group problem solving
- Peer led team learning
- Pair programming

Collaborative Learning Improves Retention
- Greater sense of academic community, belonging
- Quality interaction with profs and peers
- Higher test scores
- Student involvement
- Enthusiasm
Promote Peer Support
Avoid isolating women and minorities
Facilitate student interaction
» In-class opportunities
» Study groups
» ACM
» Women’s groups
» Peer mentoring

Create A Comfortable Climate
Use inclusive language
Spotlight women for their accomplishments, not their gender

QUESTIONS?
DISCUSSION
Facilitate Academic Success Routinely

Provide Feedback and Context
Assess early and often
Put performance in context
Mean, standard deviation

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<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Range</th>
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<tbody>
<tr>
<td>A</td>
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<td>75 – 100</td>
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<tr>
<td>B</td>
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<td>60 – 74</td>
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Emphasize Homework
Skill building through practice
Encourage Participation in Classes
- Find some truth in whatever students say
- Inhibit show-offs
- Promote asking questions
- Create group opportunities

Train Teaching Assistants
- Critical to student experience
  » Feedback & context
  » Practice builds skill
  » Participation
  » Encourage persistence

QUESTIONS?
DISCUSSION
Support students

Mentor for Diversity
Reach out to women
Give honest encouragement

Use Intrusive Academic Advising
Early Warning System
Call students who miss 2-3 consecutive classes
Below “C” on first test
Intentional Role Modeling

Describe your history
  » Challenges you faced and how you overcame them

Explain how they could achieve what you achieved

Communicate positive aspects of your profession

QUESTIONS?
DISCUSSION

Monitor outcomes
Collect Data to Track Results

- Assess process and goal attainment
- Report results
- Revise
- Continue/Discontinue

NCWIT Student Experience of the Major (SEM) Survey

- Identify problems & strengths
- Tailored to your program's needs

Assess Retention Outcomes

- Track enrollment
- Track course outcomes
- Report results
Currently used initiatives at your school?

**Poll**
Which of the initiatives are currently used in your school?
Possible initiatives at your school?

**Poll**
Which of the initiatives *could be implemented* in your school?

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Next steps
Use the NCWIT Tracking Tool
Join NCWIT Academic Alliance
[academic@ncwit.org](mailto:academic@ncwit.org)
Adopt NCWIT Practices
Get NCWIT Extension Services help with your strategic planning for recruitment & retention

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Next Steps: Attend the NCWIT Summit in NYC
SAVE THE DATE: May 23-25, 2011 - New York City!
- Learn from noted experts and voices in the fields of computing, innovation, and diversity
- Share perspectives with other practitioners
- Celebrate the achievements of girls and women in IT.
- See our exciting line up of speakers and learn more: [www.ncwit.org/summit](http://www.ncwit.org/summit)