



## Prospective Studies on Graduate Education

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Southern Illinois University Edwardsville

Illinois Association of Graduate Schools  
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## Illinois Education Research Council



### Our Mission

*To provide objective and reliable evidence for Illinois P-20 education policy making and program development.*

*Ensuring Research-Informed Education Policy for Illinois*



## About the IERC

- Established in 2000 to bridge the knowledge gap across educational sectors in Illinois
- In 2009 became research arm of P-20 Council. The IERC is represented on the P-20 Council and its subcommittees
- Housed at Southern Illinois University Edwardsville – report to Graduate School
- Keys to success:
  - Linked to policy community – high-profile Advisory Board
  - Excellent researchers with content knowledge
  - Sit on Illinois P-20 Council & Subcommittees – Illinois' priorities are our priorities
  - Independence to present uncomfortable results



/ 3

## Advisory Board

- Illinois-focused advisory board
  - Governor's Office representative
  - Education Researchers
    - Higher Education Faculty; Research Centers;  
Higher Education Institutional Researchers
  - Education Providers
    - School District/Superintendent Representative; Union representative  
Teacher Preparation Providers; Leadership Preparation representative
  - State Education Agencies
    - IBHE; ICCB; ISBE; ISAC
  - Other Stakeholders
    - Businesses; Students



/ 4

## Focus on Illinois Education Research Symposium

- Annual conference that rotates across the state
- Brings together educational researchers, policy analysts, education providers and policy makers to discuss issues important to Illinois
- 2 – 3 keynote speakers of national recognition
- 2013 conference had 140 registered representing 40 different entities from across the state
- Next symposium October 7 – 8, 2014 in Bloomington, IL
- Call for proposals in summer 2014



/ 5

## IERC Research Staff



**Brenda Klostermann, PhD,  
Associate Director of  
Administration**



**Eric Lichtenberger,  
PhD, Associate  
Director of Research**



**Brad White, Senior  
Researcher, IERC**



**Janet Holt, PhD  
Executive Director**



/ 6

## Recent Research Studies

- Series of longitudinal studies tracking the high school graduating classes of 2002 and 2003 7+ years out
  - Merge data from multiple sources to create rich database
  - Study:
    - Transition from high school to college
    - 4 year and 2 year college outcomes, transfer patterns, dual credit dual enrollment
- Evaluation Studies
  - High School to College Success Report – examined use, dissemination, and collaboration among K-12 and college sectors
  - Collaboration with CCSR on an evaluation of the teacher evaluation system in Illinois, focusing on 5 districts
- Research Support
  - Provided survey data for CGS Study on Attrition and Completion of STEM Master's Students
  - Provided survey and data analysis support for NSF ITest grant of the effects of mentoring of students in STEM on student outcomes



/ 7

## Current IERC Research

- Completing Spencer Foundation- funded study tracking the academic composition and racial diversity of the teacher supply pipeline
- Beginning a 2-year Joyce Foundation funded study of an examination of the human resource system, focusing on teacher retention of Illinois charter schools
- Providing technical support to large-scale evaluation of teacher evaluation implementation in Illinois
- Will soon begin a series of longitudinal studies of the 2009 Illinois high school graduating class



/ 8

## Prospective Research Focusing on Graduate Education

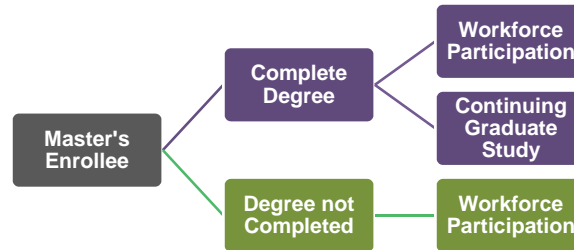
- U.S. graduate schools and research facilities have been consistently ranked leaders in the world
  - More than ½ of Nobel prize winners in chemistry, physics, medicine, and economics from the U.S. during 1997 – 2009
  - Changing landscape:
    - Since 2000, European nations have produced more doctorates in science and engineering than the U.S.
    - China, India, and the developing world are investing heavily in all levels of education, including graduate education
    - More demand for graduate degree
- (ETS & CGS, 2010)
- Will graduate education soon become new standard for technical, skilled jobs?

## Rationale for Studying Graduate School Outcomes

- Ramifications of increasing cost of higher education
  - Questioning of the value of higher education
- Yet, we know graduate education is a good value:
  - Median earnings of those with a graduate degree in the field are 38% higher than those who only possess a bachelor's degree in the same field (Georgetown Center on Education and the Workforce, 2011)
  - This varies by discipline
  - More empirical work is needed to examine the relationship of time in graduate school to later outcomes, including future educational opportunities and workforce pathways.

## Pipeline study of Illinois Graduate School Enrollees

- What is the typical pathway for today's graduate students? Time to Master's degree? What are the outcomes of obtaining a graduate degree in terms of doctoral or 2<sup>nd</sup> Master's degree and workforce participation?



## Research Methodology for Pipeline Study

- Secondary analysis of existing data
  - Would need to access IHEC data to determine who is initially enrolled in a Master's degree program
  - Would need to access college outcomes from either IHEC data or from linking to NSC data
  - Would need to link to IDES data for workforce outcomes
- Similar methodology as to past IERC studies
- Variations: How do outcomes differ by major? By type of institution? By student characteristics?
- Requires:
  - Cost to acquire NSC and IDES data can be substantial
  - Ability to access IHEC data and track 3 – 4 years (may need to be prospective study)

## Need for Pathways to Graduate Degrees Study

- New pathways in graduate studies are evolving and increasing in number.
- Given the increase in online learning and continuous developments in technology, transforming learning environments in higher education settings is critical to ensure that the benefits are fully realized (Williams, 2002).
- Increased need for flexible program structure (e.g., sequencing, delivery, availability) to help retain students (CGS, 2013)
  - Stopout/Dropout survey respondents ranked program structure as the second most common factor contributing to their decision to withdraw from or stopout of the program.



/ 13

## Pathways to Graduate Degrees Study

### Graduate Enrollment and Degrees: 2002 to 2012 (Council of Graduate Schools, 2013)

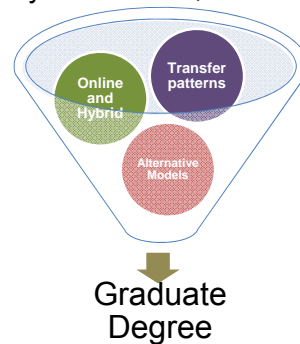
- Doctoral Level: First-time enrollment increased by 5% between Fall 2011 and Fall 2012
- Master's Level: First-time enrollment increased by 1.2% between Fall 2011 and Fall 2012
  - First increase in enrollment since 2009
- Total graduate enrollment fell 2.3% following an 0.8% decline in the previous year.



/ 14

## Pathways to Graduate Degrees Study

- What is the scope of online Graduate degrees and in what fields?
- What enrollment patterns exist for Graduate programs (e.g., swirling transfer, hybrid models, alternative models)?



## Research Methodology for Pathways to Graduate Degrees Study

- Survey of Illinois institutions identifying what online graduate programs are offered
- Secondary data analysis for transfer patterns
  - Would need to access IHEC data on students enrolled in graduate degree programs in Illinois
  - Would need to access transfer data from either IHEC data or from linking to NSC data
- Requires
  - Cost to acquire NCS data
  - Ability to access IHEC Data



## Need for Study on Persistence in STEM for Minority Students

- In 2004, URM represented 18% of bachelor's and only 7% of doctoral degree recipients in biological and behavioral sciences (National Science Board, 2006; Strayhorn, 2010).
- Scarcity of URM at the doctoral level in some fields:
  - Biological Sciences (< 3%)
  - Computer Science (0.7 percent), and
  - Astronomy (0 percent)
- In 2000, URM represented only 6% of the STEM workforce in general and 4.6% of those working in STEM fields with advanced degrees (Commission on the Advancement of Women and Minorities in Science, Engineering and Technology Development, 2000; Strayhorn, 2010).
- Much untapped human capital that will be critical for U.S. to be competitive in STEM in the future



/ 17

## Study of Factors Related to Persistence for Minority Students

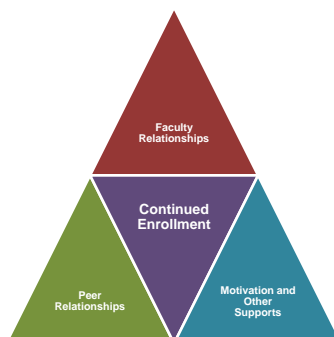
- Research on attrition and completion of minority students finds that:
  - Attrition rates are higher and completion rates are lower for Black and Hispanic students in STEM Master's program (CGS study, 2013)
  - African American graduate students were more likely to feel disconnect from their European American peers and faculty, experience barriers in getting mentoring/advising, and feel barriers related to their racial/ethnic identity (Gasman et al, 2008; Johnson-Bailey, 2004; Proctor & Truscott, 2012; Williams et al., 2005).
  - Conversely, contrary to beliefs, few African American graduate students in two studies reported that lack of funding was related to their attrition (Gasman et al., 2008; Proctor & Truscott, 2012)



/ 18

## Proposed Study of Factors Related to Persistence

- What are perceived factors that contributed to persistence for underrepresented students in graduate programs?



## Research Methodology for Minority Persistence Study

- Survey, focus groups, and/or interviews of diverse graduate students
- Possible populations for study include:
  - Illinois DFI scholars
  - Graduate students identified by programs or by minority resource centers on campus
- Variations might :
  - Focus on particular aspects of support, e.g., faculty mentoring
  - Focus on a particular field rather than a demographic, e.g., teacher education. STEM field, or science and math education
- Requires:
  - Funding for conducting research (time consuming methodology)
  - Support for study to elicit participation



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