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

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
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

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
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

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
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 2nd 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.

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.
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, URMs 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 URMs at the doctoral level in some fields:
  - Biological Sciences (< 3%)
  - Computer Science (0.7 percent), and
  - Astronomy (0 percent)
- In 2000, URMs 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

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)
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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