Starting a Research Center at WMU: Center for Research on Instructional Change in Postsecondary Education (CRICPE)

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Starting a Research Center at WMU
Center for Research on Instructional Change in Postsecondary Education (CRICPE)
Charles Henderson, Professor
Department of Physics, Mallinson Institute for Science Education

About CRICPE
Mission
CRICPE conducts and supports interdisciplinary research focused on promoting transformative change in postsecondary education

Strengths
Unique focus nationally
• CRICPE focuses on the study of change processes related to teaching and learning in higher education
• CRICPE is intentionally and strategically interdisciplinary

Supports WMU Pillars
• Discovery Driven
  o Catalyst for WMU research strengths in education and STEM
  o Interdisciplinary – involving all colleges at WMU
  o Capacity Building – supporting, facilitating, and mentoring research collaborations
  o Learner Centered
  o Results from CRICPE research will directly impact educational practices at WMU

CRICPE Structure
Overview of Structural Characteristics:
• University level center, reporting to the Provost
• Administers grants that support the Center mission
• Interdisciplinary co-directors and affiliated faculty
• Not a faculty “home” – faculty are considered affiliated with CRICPE when they are PIs on CRICPE grants
• Flexible focus areas, each headed by an associate director
• Funded by grant indirect funds
• Provides office and collaborative space for CRICPE grant personnel (postdoctoral researchers, graduate assistants, administrative support)

CRICPE activities are organized into focus areas, with each focus area managed by an associate director. Focus areas are meant to be flexible and may change over time.

CRICPE development is synergistic with the ongoing research program of funders Henderson and Beach

Timeline
CRICPE was developed through a two-year planning and approval process that built on the prior research of the founders

Development of Research Program

<table>
<thead>
<tr>
<th>2012</th>
<th>2013</th>
<th>2014</th>
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<tbody>
<tr>
<td>Henderson and Beach collaborate on several grant proposals related to change in postsecondary education.</td>
<td>Henderson and Beach submit planning proposal to OVPR, Provost, Deans (Feb 2012).</td>
<td>Henderson and Beach meet with many WMU stakeholders. Planning proposal accepted (Jan 2013).</td>
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<tr>
<td>Planning group meets weekly.</td>
<td>Planning group meets weekly.</td>
<td>Initial meetings involve learning about one another's work and developing a shared understanding of the problems. Later meetings focus on specific research directions.</td>
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CRICPE

Projects Currently Under Development

National Research Coordination Network for Researchers in STEM Change
Summary: Scholars conducting research on faculty and institutional change in higher education come from a variety of disciplinary traditions, belong to different professional communities, go to different conferences, and publish in different journals. This fragmentation of the community has been one of the reasons for the lack of a stronger research base in this area. To address this problem, we propose to develop a professional community and home for the currently disconnected individuals and small groups who are conducting research in this area. We propose to adapt NSF’s Research Coordination Network (RCN) mechanism for this project.

Building Knowledge about Educational Transformation: A Synthesis of WIDER Institutional Implementation Projects
Summary: In 2013, the National Science Foundation allocated significant funding to eight WIDER II projects to support transformation in the teaching of STEM subjects at these institutions. There is a need and opportunity to learn from these efforts. We know from past large-scale STEM higher education change programs (e.g., ADVANCE, IGERT, Engineering Education Coalitions) that, although each project publishes their own results, the common gains are scattered, unlikely to be synthesized, and ultimately a lost opportunity to inform future efforts. We propose to study and facilitate communication between the eight WIDER II projects to compare and contrast their change models, local cultures, core project activities, assessment data, and outcomes for each project. Our syntheses, grounded in the data, will build knowledge about what works and what does not, and under what circumstances.

The Role of Accountability Structures in Shaping Teaching Practices
Summary: The American Chemical Society (ACS) has funded many projects that involve significant funding to eight WIDER II projects to support change programs (e.g., ADVANCE, IGERT, Engineering Education Coalitions) that, although each project publishes their own results, the common gains are scattered, unlikely to be synthesized, and ultimately a lost opportunity to inform future efforts. We propose to study and facilitate communication between the eight WIDER II projects to compare and contrast their change models, local cultures, core project activities, assessment data, and outcomes for each project. Our syntheses, grounded in the data, will build knowledge about what works and what does not, and under what circumstances.

Successful Use of Online Instruction in Technical Education
Summary: The National Science Foundation’s Advanced Technological Education (ATE) program has funded many projects that involve significant funding to eight WIDER II projects to support change programs (e.g., ADVANCE, IGERT, Engineering Education Coalitions) that, although each project publishes their own results, the common gains are scattered, unlikely to be synthesized, and ultimately a lost opportunity to inform future efforts. We propose to study and facilitate communication between the eight WIDER II projects to compare and contrast their change models, local cultures, core project activities, assessment data, and outcomes for each project. Our syntheses, grounded in the data, will build knowledge about what works and what does not, and under what circumstances.

Describing Teaching Practices in Online Environments: Development and Validation of Observational and Self-Report Research Instruments
Summary: Online and blended courses are the fastest growing innovations in higher education today. The ability to accurately describe teaching practices used in these courses is important for documenting the range of teaching practices, improving teaching, and conducting research on teaching. This research instrument development project will use a sequential mixed methods approach to research, design, pilot-test, refine, and then implement an observation protocol and a self-report survey of instructional practices for online and blended post-secondary courses. Educational researchers and practitioners have access to and have made productive use of validated instruments for studying face-to-face, classroom-based teaching practices. No parallel validated instruments exist for use in researching the online and blended courses.

Get Involved with CRICPE

We are actively seeking collaborators. Please contact us with your project ideas.

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