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RESEARCH AND DEVELOPMENT CENTER ANNUAL REPORT

October 10, 2017

Background

In 2009, Iowa Senate File 470 created the Iowa Research and Development Center for Education Innovation at UNI. The goals for this Center, as outlined in Senate File 470, were:

- To raise and sustain the level of all PreK-12 students' educational attainment and personal development through innovative and promising teaching practice.
- To enhance the preparation and professional competence of the educators in this state through collaborative inquiry and exchange of professional knowledge in teaching and learning.
- To focus on research that transforms teaching to meet the changing needs of Iowa's educational system.

In April 2013, UNI received a \$2 million award from the Carver Trust to establish the Center for Educational Transformation (CET), an entity intended to fulfill the mission of the Iowa Research and Development Center for Education Innovation. On October 24, 2013, the Board of Regents, State of Iowa approved the CET.

This Report

This report provides an update on CET activities since the last report was submitted in October 2016. These activities fall into three broad categories: *Research*, *Connections and Partnerships*, and *Dissemination*. In Research, major activities included the solicitation and funding of new research projects for 2017-18 and the hiring of a second Postdoctoral Fellow. Connections and Partnerships were fostered through the continuation of several types of events and the completion of an evaluation of a program being implemented in Cedar Valley schools. Dissemination activities included the publication of a second CET Research Brief, continuing electronic forms of outreach, and various articles and state and national conference presentations from past and ongoing CET research projects.

RESEARCH

The CET supports and conducts research which transforms practice to meet the changing needs of Iowa's educational system.

2017-18 Research Grants

In fall 2016, the CET released its annual Request for Proposals (RFP). This RFP sought proposals for \$15,000 Seed Grants for projects to take place in AY 2017-18 within a single Iowa classroom or school.

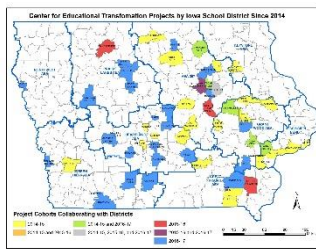
For the 2016-17 RFP, the CET Research Council—a committee of eight Iowa education experts, including representatives of higher education, the Iowa Department of Education, the Iowa Board of Educational Examiners, and Iowa school districts—identified the following topics as “critical and emerging” issues in Iowa education worthy of CET support. Each proposal was required to address one or more of the following topical strands in a manner that could transform preK-12 education in Iowa and nationwide. Successful proposals made the case both for the importance of the chosen strand(s) to Iowa education and how the proposed project represented an appropriate, timely, and innovative approach to that strand/those strand(s).

Strand	Strand Name	Possible avenues of research in this strand:
A	Deeper Learning (also known as competency-based education, problem-based learning, innovative learning, personalized learning, etc.)	<ul style="list-style-type: none"> • various models of deeper learning in use in Iowa • the effects of deeper learning on academic and socioemotional outcomes • the role of instructional technology in deeper learning • describing the roles of teachers and administrators in schools using deeper learning
B	Teacher Preparation and Professional Development	<ul style="list-style-type: none"> • teacher candidate assessment • emerging teacher professional development models (e.g., microcredentialing) • the Iowa Teacher Leadership and Compensation (TLC) System • teacher performance assessments (e.g., Praxis, EdTPA)
C	Instructional Technology	<ul style="list-style-type: none"> • 1:1 • teacher training in instructional technology • pedagogy and instructional technology • instructional technology and student achievement
D	Chronic Truancy and Absenteeism	<ul style="list-style-type: none"> • new interventions to decrease or prevent absenteeism and truancy • the nature of chronic truancy and absenteeism in Iowa, especially in rural settings
E	Multitiered Systems of Support (MTSS)	<ul style="list-style-type: none"> • interventions at the various tiers of support • assessments used to move students between the various tiers of support • effects of MTSS on academic outcomes • effects of professional development on MTSS implementation <p>Studies can focus on literacy and other academic skills or student behavior and mental health</p>

In addition, proposals for 2017-18 CET Research Grants were required to include a plan for the use of one or more undergraduates as research assistants on their projects. This requirement reflects the CET’s goal of encouraging the provision of rich research experiences for undergraduate students, for several key reasons: to help undergraduate education majors understand how knowledge is created in education and give them research skills they can use in their own future classrooms, to expose non-education majors to education as an exciting field of inquiry, and to provide the CET Fellows with another pool of potential project assistants.

The 2016-17 RFP process drew nine proposals, including proposals from all three Regents universities. The CET Research Council reviewed these proposals and funded three of them— one from each Regents institution. In addition, one UNI-based project was renewed (Mason Kuhn’s “Enhancing the ‘Argument-Based Strategies for STEM-Infused Science Teaching’ [ASSIST] Approach Through Dialogic Teacher Feedback”).

Project Name, Investigator	Strand(s)	Partner Districts
What’s Your Excuse? Chronic Absenteeism in a Rural Majority-Minority High School <i>Ain Grooms, U of I</i>	<ul style="list-style-type: none"> Chronic truancy and absenteeism 	<ul style="list-style-type: none"> Columbus Community CSD
Making Writing a Digital, Participatory Process <i>Emily Howell, ISU</i>	<ul style="list-style-type: none"> Teacher preparation and professional development Instructional technology 	<ul style="list-style-type: none"> Ames CSD
Investigating the Effectiveness of Tier II and Tier III Mental Health Supports in a Rural School District <i>Nicole Skaar, UNI</i>	<ul style="list-style-type: none"> Multitiered Systems of Support (MTSS) 	<ul style="list-style-type: none"> North Mahaska CSD Oskaloosa CSD



Each CET project is required to work with at least one PK-12 partner. Including the 2017-18 CET projects, 54 Iowa school districts have participated in a current or completed CET project (see map at left).

Postdoctoral Fellows Program



The CET Postdoctoral Fellows Program expanded research opportunities for two emerging scholars and provided research support to statewide CET projects and research initiatives. The CET recruited postdoctoral candidates from top research universities with the goal of providing CET projects with greater resources and support. In addition, both Postdoctoral Fellows were intensively involved with the Leader in Me evaluation (see Community Collaboration subsection in the Connections and Partnerships section below).



Dr. Matthew Green (Ph.D., UNC-Chapel Hill, 2015; pictured above left) finished his term as the first CET Postdoctoral Fellow on August 15, 2017. He is currently Assistant Professor of Educational Curriculum & Instruction at the University of Louisiana-Lafayette.

Dr. Tšooane Molapo (Ph.D., University of North Dakota, 2017; pictured below left) served as the second CET Postdoctoral Fellow from January-June 2017 and is currently a Program Assistant for UNI Institutional Research & Effectiveness and an adjunct faculty member in the Department of Educational Psychology and Foundations, UNI College of Education.

CONNECTIONS AND PARTNERSHIPS

The CET builds and leverages partnerships across the state to inform decision-makers and drive policy grounded in research results.



Ed Perspectives

The CET’s Ed Perspectives events invite Iowa educators, education stakeholders, and Iowa teacher education faculty to the UNI campus. By bringing in national experts to speak with our Center partners, we can inform the state about a variety of national educational perspectives and issues.

One Ed Perspectives event was held in 2016-17. On February 3, 2017, Gerald Campano of the University of Pennsylvania Graduate School of Education (pictured at left) spoke on the topic, “Critical Action Research with Educators, Families, and Youth: Expanding Circles of Solidarity.”

Ed Research Afternoons

At the Ed Research Afternoons events, a UNI faculty member or CET Fellow presents on a research project, methodology, or topic. The Ed Research Afternoons aim to build research capacity and collegiality among UNI education faculty. They are a collaboration between the CET and the Department of Educational Psychology and Foundations.

At right: Panelists at the Undergraduates in Education Research event, from left: Alex Oberle, Sarah Vander Zanden, Alyssa McKeone, Sarah Diesburg



Date	Presenter	Topic
September 27, 2016	Mark Jacobson, Statistical Consulting Center, UNI	Statistical Software Overview
November 3, 2016	Mitch Avery, Center for Social and Behavioral Research, UNI	Using Surveys in Data Collection
November 27, 2016	Various UNI faculty (Sarah Diesburg, Computer Science; Adam Feldhaus, Math; Mason Kuhn, Curriculum & Instruction; Alex Oberle, Geography; Sarah Vander Zanden, Curriculum & Instruction) and undergraduates (Kailyn Bettle, Elyse Borchers, Alyssa McKeone, Coved Oswald)	Undergraduates in Education Research (see photo above)
March 28, 2017	Mollie Appelgate, Iowa State; Danielle Cowley, UNI; Matthew Green, CET	Qualitative Data Analysis Software: A User Panel
March 29, 2017	Mary Losch, Center for Social and Behavioral Research, UNI	What is a Survey?
April 5, 2017	Jill Wittrock, Center for Social and Behavioral Research, UNI	Dimensions of a Survey

2017 Education Summit

The original vision of the CET called for its participation in “innovation sessions.” One such Innovation Session is the semi-annual UNI Education Summit. The CET is co-sponsoring the 2017 Summit, entitled *Inclusive Praxis for 21st Century Education: Advocacy, Challenges, and the Public Good*, in partnership with the Richard O. Jacobson COE Strategic Program Endowment. It will be held November 6 and 7, 2017 at UNI. Education stakeholders from across the Midwest—including teachers, teacher-leaders, principals, superintendents, higher education faculty, legislators, and UNI students—are expected to attend.



Keynote speakers will include LeDerick Horne and Lisa Delpit. Mr. Horne (pictured above left) is a spoken-word poet and disability advocate. Dr. Delpit (pictured below left), Felton G. Clark Distinguished Professor of Education at Southern University, is an expert on multicultural education and author of *Other People’s Children: Cultural Conflict in the Classroom* and *“Multiplication is for White People”: Raising Standards for Other People’s Children*.



Breakout sessions will encompass four strands: community engagement and partnerships, diversity and cultural competence, personalized and blended learning, and social-emotional learning. Presenters will represent institutions of higher education in Iowa and elsewhere, Iowa school districts and AEAs, and education policy organizations.

Community Collaboration

The CET collaborates with entities outside of public education. One such collaboration is with the Greater Cedar Valley Alliance & Chamber, in order to evaluate the impact of The Leader in Me, a leadership program the Alliance & Chamber supports in Cedar Valley schools. As part of this evaluation, the CET conducted student surveys, student focus groups, teacher surveys, and teacher and principal interviews in 11 schools in Waterloo CSD. In September 2017, the CET submitted a final report to the Alliance & Chamber, detailing the findings of that data collection in terms of six evaluation questions on various aspects of the implementation of The Leader in Me.

DISSEMINATION

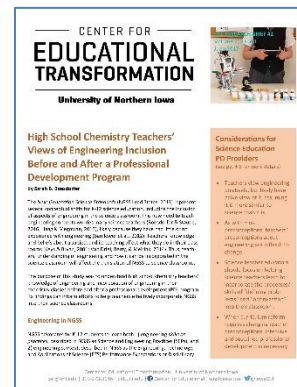
The CET shares innovative and best practices grounded in research to inform and drive policy and practice.

Research Brief

In June 2017, the CET published its second Research Brief. This 6-page brief, entitled “High School Chemistry Teachers’ Views of Engineering Inclusion Before and After a Professional Development Program,” reports findings from Sarah Boesdorfer’s 2013-15 CET-sponsored study. It includes the following recommendations for science education professional development providers:

- Teachers view engineering positively, but likely have naïve view of it, assuming it is more similar to science than it is.
- As with most preconceptions, teachers’ preconceptions about engineering are difficult to change.
- Science teacher educators should focus on helping science teachers learn to incorporate the processes/skills of “defining problems” and “optimization” into their classroom.
- When curriculum reform requires changing teacher preconceptions, intensive and sustained professional development is necessary.

The Brief is available on the CET web site at uni.edu/cet and was printed for sharing at conferences and events.



E-Connections

In 2016-17, the CET continued to build its electronic presence. Informational articles and announcements were posted to the CET Facebook page several times a week. These posts include: CET opportunities (e.g., RFPs, job openings, events) mentions of CET Fellows in the media, Iowa education news, information on the state of PK-12 education in the U.S., resources on doing and understanding education research, information on sources of funding for education research, and findings of recent education research.

The CET Twitter account (@IowaCET, #IowaCET) was used to promote and engage participants in Ed Perspectives meetings, the Ed Summit, and other CET programs.

Research Project Dissemination

Many previously-funded CET projects came to fruition over the past year. These projects carried out the following dissemination activities since October 10, 2016 (see tables below):

CET Research Project Dissemination, 10/16-10/17

Project Name, Investigator(s)	Articles
Using Mathematically-Focused Text Messages to Improve Connections Between Linguistically-Diverse Parents and Their Child’s Classroom Learning <i>Mollie Appelgate and Christa Jackson, ISU</i>	<ul style="list-style-type: none"> • ISU News Service (11/14/16): ISU Researchers Want to Break Down Language Barriers with Math and Text Messages¹
Enhancing the “Argument-Based Strategies for STEM-Infused Science Teaching” (ASSIST) Approach Through Dialogic Teacher Feedback <i>Mason Kuhn, UNI</i>	<ul style="list-style-type: none"> • Innovations in Science Teacher Education (2017): Introducing the ASSIST Approach to Preservice STEM Teachers • Science & Teaching (1/2017): Methods and Strategies: Using Argument-Based Inquiry Strategies for STEM Infused Science Teaching
We Can! Testing a Trauma-Informed Care Training in Iowa Elementary Schools <i>Armeda Stevenson Wojciak and Carol Klose Smith, U of I</i>	<ul style="list-style-type: none"> • Iowa Ideas Magazine, Cedar Rapids Gazette (4/24/17): Building Resiliency Against Adverse Childhood Experiences²

CET Research Project Dissemination, 10/16-10/17: Presentations at Iowa Conferences

Project Name, Investigator(s)	Presentations at Iowa Conferences
Using Mathematically-Focused Text Messages to Improve Connections Between Linguistically-Diverse Parents and Their Child’s Classroom Learning <i>Mollie Appelgate and Christa Jackson, ISU</i>	<ul style="list-style-type: none"> • ISU 4U Promise Mini-Conference (1/20/17): Using Mathematically-Focused Texts in Kindergarten
Student Voice for School Change <i>Gale Seiler and Julio Cammarota, ISU</i>	<ul style="list-style-type: none"> • Iowa Association of Alternative Education (4/20/17): Learning from Youth Through YPAR
Literacy Through Science <i>Beth Van Meeteren et al., UNI</i>	<ul style="list-style-type: none"> • Iowa Math and Science Conference (10/16): Creating an Integrative STEM and Literacy Environment
We Can! Testing a Trauma-Informed Care Training in Iowa Elementary Schools	<ul style="list-style-type: none"> • Iowa School Counselor Association (11/8/16): Adverse Childhood Experiences: What is it? What is the impact? What can we do?

¹ <http://www.news.iastate.edu/news/2016/11/14/mathtexts>

² www.thegazette.com/iowaideas/stories/k-12-education/building-resiliency-against-adverse-childhood-experiences-20170424

Project Name, Investigator(s)	Presentations at Iowa Conferences
<i>Armeda Stevenson Wojciak and Carol Klose Smith, U of I</i>	<ul style="list-style-type: none"> • Iowa Governor’s Conference on Public Health (4/11/17): The Importance of Implementing Trauma-Informed Practices in Schools in Iowa • Prevent Child Abuse Iowa Annual Conference (5/3/17): Working With Your Local Schools • Iowa Reading Research Center’s Practitioners and Researchers Overcoming Problems of Literacy (PROPeL) Initiative (5/18/17): Adverse Childhood Experiences: What is it? What is the impact? What can we do?

CET Research Project Dissemination, 10/16-10/17: Presentations at National and International Conferences

Project Name, Investigator(s)	Presentations at National and International Conferences
<p>Improving Intervention Implementation Using Data-Based Intervention <i>Allison Bruhn, U of I</i></p>	<ul style="list-style-type: none"> • Association for Positive Behavior Support Conference (3/17): Data Rich, but Information Poor? Not Anymore! • Council for Exceptional Children Convention & Expo (4/19-22/17): <ul style="list-style-type: none"> ○ Improving Intervention Implementation Using Data-Based Individualization ○ Continue, Discontinue, or Adapt? Data-Based Decision Making for Behavior
<p>Exploring Models of Bicultural Parent Engagement to Address Academic Achievement for Immigrant Youth <i>Carolyn Colvin, U of I</i></p>	<ul style="list-style-type: none"> • Literacy Research Association Conference (12/2/17): Exploring the Diversities of Truth: Stories from Immigrant Parents and Teachers
<p>Sustainable Inclusive Reform: A University-School District Partnership for Equitable and Effective Schooling <i>Danielle Cowley, Deborah Gallagher, and Amy Petersen, UNI</i></p>	<ul style="list-style-type: none"> • Disability Studies in Education Conference (6/17): A Sentimental Education: Insights for Inclusive Reform from a University/School District Partnership
<p>Motion Virtual Manipulatives in the Elementary Math Classroom <i>Sarah Diesburg and Adam Feldhaus, UNI</i></p>	<ul style="list-style-type: none"> • Rural Education National Forum (10/16): Motion Virtual Manipulatives and Elementary School Mathematics

Project Name, Investigator(s)	Presentations at National and International Conferences
<p>Enhancing the “Argument-Based Strategies for STEM-Infused Science Teaching” (ASSIST) Approach Through Dialogic Teacher Feedback <i>Mason Kuhn, UNI</i></p>	<ul style="list-style-type: none"> • National Science Teachers Association (4/17): A Response to Intervention Model for Argument-Based Inquiry: The Importance of Using Student Writing to Find Out What They Really Know • National Association for Research in Science Teaching (4/17): The Relationship Between Dialogic Teacher Feedback and Student Outcomes on Standardized Science Assessment
<p>Student Voice for School Change <i>Gale Seiler and Julio Cammarota, ISU</i></p>	<ul style="list-style-type: none"> • Conference for Current and Aspiring Educators of Color and American Indian Educators, “Voices Heard: Transforming Education Equity” (8/17): Student Voice for School Change Project: Youth Participatory Action Research
<p>Literacy Through Science <i>Beth Van Meeteren et al., UNI</i></p>	<ul style="list-style-type: none"> • Literacy Research Association Conference (11/16): Literacy Through Science: Literacy Activities Observed During K-1 Science Activities • Association for Science Teacher Education (1/17): What is the Effect of an Integrative STEM Curriculum on Literacy Development? • National Science Teachers Association (3/17): Early Childhood Science Experiences: Everyday STEM for Every First Grader
<p>We Can! Testing a Trauma-Informed Care Training in Iowa Elementary Schools <i>Armeda Stevenson Wojciak and Carol Klose Smith, U of I</i></p>	<ul style="list-style-type: none"> • Society for Prevention Research (6/1/17): Building Resilience in Elementary Schools: Pilot Data from a School-wide Intervention

Financial Report

The CET's total operating budget for 2016-17 was just over \$1M at \$1,047,876. UNI provided \$384,728 in support for CET staffing, supplies, and services. The remainder of the CET's funding was from external grants and contracts. The majority of these resources were directed to the CET's 2016-17 Research Grant program.

The CET works in collaboration with the UNI Office of Research and Sponsored Programs and the UNI Foundation in pursuit of strategic grant opportunities, contracts, and external foundation support to advance its mission.

Future Directions

Beginning its fifth year, the CET has completed the initial phase of its operation, providing a strong foundation and meeting the goals laid out in Iowa Senate File 470. In spring and summer 2017, UNI began a process of deepening the work of the CET and moving into a more mature phase of research and development. To that end, specific strategies include:

Hiring a nationally-recognized educational research scholar as Director for the CET. A position description has been created and posted on UNI’s Jobs site and many national higher education employment sites. Applicants must possess a doctoral degree and a strong record of research, teaching, and service, including research carried out in partnership with schools and districts and publications on research-practitioner partnerships. A search committee has been formed. Applications are due October 31, 2017. Meanwhile, Dr. Gaëtane Jean-Marie, Dean of the College of Education, is acting as Interim Director of the CET.

Forming a National Advisory Council (NAC). The NAC will identify promising areas of research, development, and dissemination in the entire field of PK-12 education in the U.S. to which the CET may be positioned to contribute. The NAC will also comprise an evaluation task force to work with UNI administration to regularly assess the CET Director’s performance and the Center’s effectiveness and progress toward its strategic goals, including national impact and prominence. To date, 11 prominent education researchers from across the country have agreed to serve on the NAC:

Name	Title	Organization or Institution
Dr. Terry Ackerman	Lindquist Chair	ACT, Inc.
Dr. Kenneth Coll	Dean, College of Education	University of Nevada, Reno
Dr. Sarah Diem	Associate Professor, Educational Leadership and Policy Analysis	University of Missouri
Dr. André Green	Associate Dean, College of Education and Professional Studies	University of South Alabama
Dr. Lisa Hooper	Professor, Clinical Mental Health Counseling	University of Louisville
Dr. Diane Horm	George Kaiser Family Foundation Endowed Chair of Early Childhood Education; Founding Director, Early Childhood Education Institute	University of Oklahoma
Dr. Sonya Horsford	Associate Professor, Education Leadership; Research Associate, Institute for Urban and Minority Education	Teachers College, Columbia University
Dr. Amy Hutchison	Associate Professor, Literacy and Reading	George Mason University
Dr. Ann O’Connell	Director, Research Methodology Center; Professor, Educational Studies	Ohio State University
Benjamin Riley, JD	Founder and Executive Director	Deans for Impact

Dr. Natalie Tran	Chair, Department of Secondary Education; Professor, Educational Leadership	California State University-Fullerton
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More deliberately connecting UNI to state and national education research relevant to the field. Going forward, the CET will strategically serve as a connector for other faculty at UNI and local universities, in Iowa schools and districts, and educational agencies and organizations locally, statewide, and nationally. For example, the CET could coordinate an interdisciplinary faculty group to engage in collaborative projects to consolidate and improve data collection procedures in Iowa school districts, in order to foster long-term school improvement through the use of scientifically-designed measurement, reliable data collection, and appropriate data analysis. In addition, the CET could align more strongly with existing preK-12 grants, centers, and initiatives on campus, to leverage and supplement existing efforts. With proposed work such as this, the CET has the potential to reach across traditional disciplinary, departmental, and college boundaries to work with faculty in addressing important problems and achieving common goals, collaboratively pursue grants and engage in research publications, and make significant contributions to inform research, policy, and practice at the state and national levels through research initiatives.

In conclusion, UNI is dedicated to a vision for the CET to impact preK-12 student learning and teacher effectiveness across the state and to inform the national education landscape. UNI continues to support the vision of the CET as a new, original model in which the state can both address its research and development needs and engage in projects of national significance utilizing the strategies of field-based and action-oriented research, yielding innovative educational practices and effective policy analysis. We believe UNI is now well-positioned to build on the strong foundation that has been created and further elevate the CET’s research and development enterprise.