

Iowa's Research and Development Center for Education Innovation  
at the  
University of Northern Iowa

This report provides the background, model, approach and structure for Iowa's Research & Development Center for Education Innovation at UNI. The university is committed to leading these statewide efforts that will optimize resources, capitalize on existing research, leverage research funding, and build the capacity for a community of scholars.

## **Research and Development Background**

The University of Northern Iowa (UNI) is the leader in Pre K-12 education in Iowa. This priority is established in one of the six goals of the University Strategic Plan (Goal 3: Lead the State and Nation in Pre K-12 Education). Further evidence of making Pre K-12 education a priority lies in the fundraising efforts that resulted in the largest gift ever to UNI (\$11 million) to create a Literacy Center in the College of Education.

The legislation creating the Research & Development Center was initiated via Senate File 470, Spring 2009. The goals outlined in Senate File 470 for the research and development center are:

1. To raise and sustain the level of all prekindergarten through twelve students' educational attainment and personal development through innovative and promising teaching practice.
2. 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.
3. To focus on research that transforms teaching practice to meet the changing needs of this state's educational system.

## **Research & Development Model**

The R&D Model will convene teaching, research and outreach resources by having a broader base across the university and beyond. We will implement an applied research center involving members of faculty and staff from across campus and the state, as well as visiting research fellows. Critical research questions will be identified and research will be conducted to inform practices and education policy. Collaboratively, this group will address education needs across the state by offering a menu of services based on the individual needs of a particular school or district. This expanded model for R&D will strive to engage currently underserved communities across the state in cutting edge research and evaluation. The mission of this collaborative will be to produce demonstrated, classroom-based research that will lead to real change in improving the performance of Iowa Pre K-12 teachers and

students. In this way, the new model will be both a service to the state and an incubator for original research.

The R&D Model will involve more authentic settings for the research to be conducted and applied and for teaching and learning models to be developed. Initial anticipated focal areas include researching model practices in field experience for pre-service educators and addressing student achievement gaps at the 4<sup>th</sup> and 9<sup>th</sup> grade levels, with emphasis on STEM disciplines. In addition, examining the increasing diversification of Pre K-12 student demographics, including emergent immigrant and refugee populations, will be an area of focus.

The Research & Development Center will provide research services to Iowa school districts to assist in providing solutions to persistent Pre K-12 concerns such as the achievement gap, career and college readiness, assessment and evaluation variability, academic persistence and matriculation, and education reform policies and their implementation. The Center, will work on a menu of state and national research initiatives, and have the capacity and industry to be nimble and tailor research specifically to Iowa Pre K-12 school needs.

The new R&D Model will address student achievement issues with increased flexibility by bringing together statewide expertise and visiting research fellows with national expertise. The Center will coordinate and solidify statewide efforts in the area of education, providing connectivity to existing centers and reaching out to schools across the state. This R&D Model will serve as a “proving ground” for state, regional and national concepts, in coordination with the Governor’s STEM Advisory Council and other public and private entities engaged in teaching and learning. In essence, this Center will provide a vehicle to research and evaluate these concepts, distilling best practices and forming new important linkages.

### **Research & Development Approach**

The approach to research and development being completed in this Center is design-based implementation research (Pennell, Fishman, Cheng, & Sabelli, 2011). The UNI Teacher Education Executive Council examined this approach which consists of design research and the development and testing of innovations that will align with, support and improve teaching and learning.

This design-based implementation research will focus on educational issues from multiple educational stakeholders throughout Iowa. The researchers at the Center will engage in collaborative design and aim to develop theory related to classroom learning and implementation through a systematic and well-defined inquiry plan. Perhaps most importantly, the researchers will focus on developing capacity for the Center to sustain system changes. Intentional efforts will be in place to develop organizational process to help sustain the research efforts throughout institutional system changes.

Three critical steps will be completed to develop the design-based implementation research (Pennell, et al., 2011).

1. Determine shared norms and practices on theory development. For example, in design-based implementation research, the questions asked are, “What works, when, how, and for whom?” and “How do we improve a strategy to make it more sustainable?” (Pennell et al, 2011).
2. Develop standards about the use of evidence to guide changes in research design. Researchers will determine practices to include multiple points of view on problems and how to interpret conflicting data.
3. Identify resources to support and engage a community of scholars and venues for disseminating findings will be critical to the success of the research Center.

Design-based implementation research addresses teaching and learning practices and policy concerns. This collaborative design focuses on addressing education challenges and will provide school districts the assistance they need to improve instruction. Also, this research will contribute to identifying new and innovative teaching practices and student achievement parameters, and at providing data for informed decision-making about changes needed to educational policy.

### **Research & Development Structure**

The Center Director (a tenured faculty position) will report directly to the Provost, and joins the UNI Teacher Education Executive Council as an ex-officio member. The Department of Education will serve as an external advisor, providing statewide connectivity for dissemination and demonstration. Given the specific research questions being pursued, local education agencies (LEAs) will be engaged on an individual basis, in partnership with their respective area education agency (AEA), providing regional connectivity when appropriate.

The university has initially committed an annual allocation of \$300,000 toward this project, effective fiscal year 2013. Institutional funds would be used to provide staffing as well as graduate assistantships, undergraduate research awards and additional faculty fellowship support.

At the Center, we will recruit and engage a group of UNI faculty and other nationally-recognized external educators to serve as research fellows. The number of fellowships created and the specifics of those fellowships vary within the aforementioned funding range. These initial external fellows will ensure that these efforts are infused with the expertise necessary to launch a high-profile, high-performing educational research center.

External fellows will be recruited to strategically address research issues that have been identified as most significant for Iowa schools, but which will likely have national implications. At the same time, a number of UNI faculty will be engaged as internal research fellows. This is designed to create a Center that possesses the necessary balance of stability and fluidity to meet Iowa’s educational needs in conjunction with Senate File 470 requirements.

## **Research & Development Center will serve the State of Iowa**

The new model will capitalize on the breadth of university disciplinary expertise throughout UNI to serve the State of Iowa. The Center will complete research to address theoretical, empirical and applied research questions. Funding arrangements will be established to allow and encourage visiting scholars, practitioners, Iowa Department of Education staff, and other experts to be engaged, depending on the project.

Work will be completed with partner districts on research initiatives that enhance students' academic achievement. These research initiatives could be based on the needs of a particular Iowa school or on a statewide educational need. For example, the Center could focus on a state need for generating, piloting, and researching the effectiveness of project-based education in a competency-based teaching and learning environment. Another example would be focused on educational policy in which areas of parental engagement, human capital, staffing models, administrative practices, and finance models are addressed.

The Center would also act as a clearing house for innovative pedagogical techniques and curriculum design and development. The Center would create a repository of innovative research and teaching practices that Pre K-12 teachers throughout the state can access. These innovations would be captured through video vignettes (modeled lessons) as well as lesson plans, unit plans, research papers, and descriptive articles on the scholarship of teaching and learning. Maximum use of technology will be used to disseminate research findings and engage practitioners.

The Center would also be the site in which Iowa's schools could seek support for professional development, design of assessment systems, the modeling of best practices, and the showcasing of transformative research. This component of the Center will also coordinate the distribution of services of other university centers and programs that have a Pre K-12 dissemination focus. Examples include the Regents' Center for Early Developmental Education; the Center for Disability Studies in Literacy, Language, and Learning; the Freeburg Early Childhood Program; the Richard O. Jacobson Center for Comprehensive Literacy; and the Center for Teaching and Learning Mathematics. As the Research & Development Center's faculty is distributed across the state, they could serve as placement coordinators of pre-service teachers so that the pre-service teachers would have a broader arena of practice to complete their clinical requirements.

Some brief highlights of the Iowa's Research and Development Center for Education Innovation include:

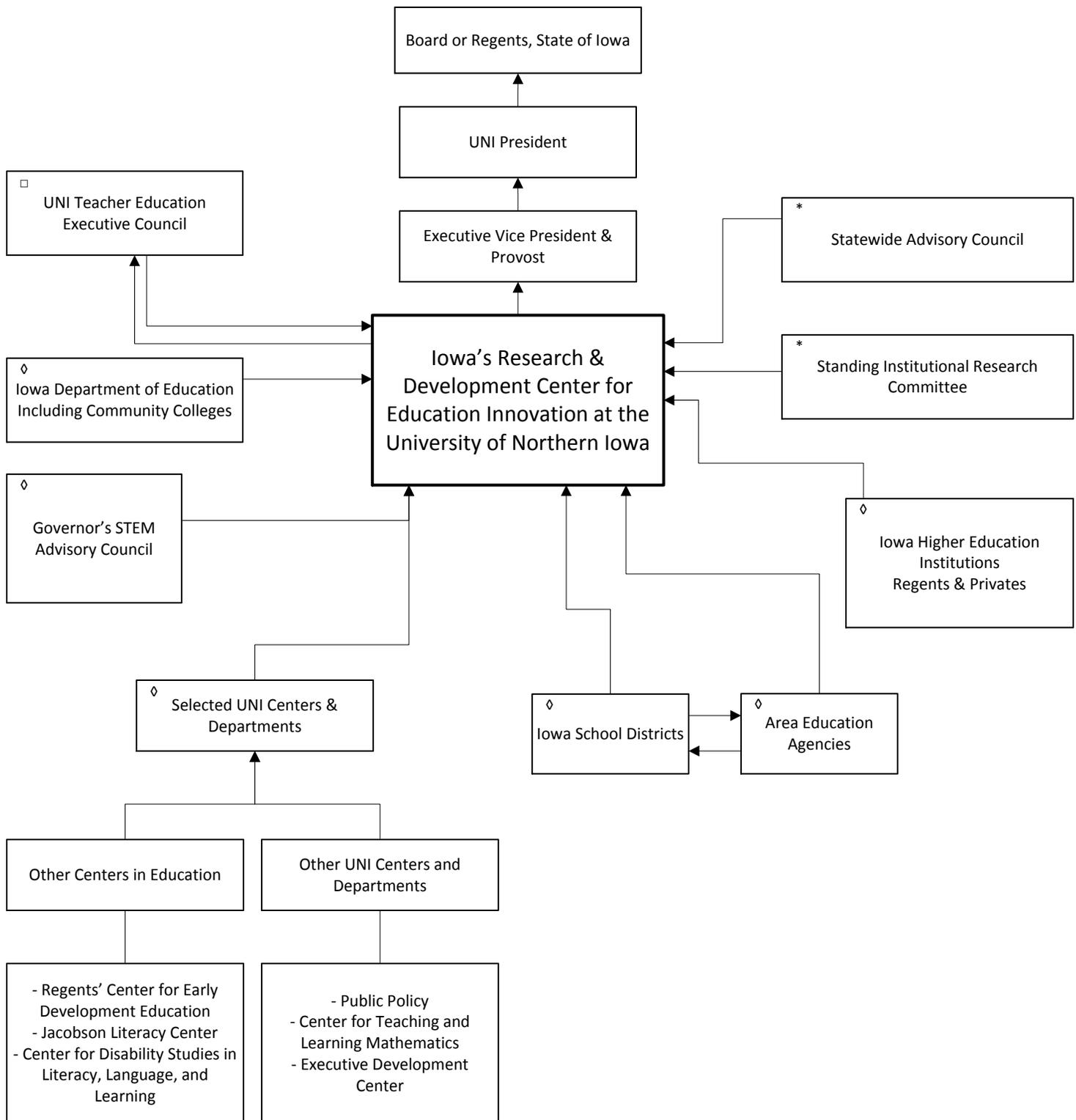
- A much wider variety of research questions can be addressed and hypotheses tested by having a broader set of disciplines, educators and Pre K-12 school testing sites involved.

- UNI as a national education leader would be enhanced by having a mechanism for having nationally prominent education scholars and thinkers connected to the Center on particular research projects. More importantly, the State of Iowa would benefit by having these world class educators involved.
- The Center will be led by UNI under the governance of the Board of Regents, State of Iowa, and operate in partnership with other Iowa Higher Education institutions and the Iowa Department of Education. An advisory board of representing education stakeholders will be formed, including representatives of the University of Iowa and Iowa State University. The Center will work in cooperation with existing UNI Centers, as well as the Governor’s STEM Advisory Council to leverage expertise. An organizational chart is attached for illustrative purposes.
- Iowa’s Research and Development Center for Education Innovation will:
  - ✓ Be the clearing house for education innovation;
  - ✓ Conduct transformative design-based implementation research;
  - ✓ Provide professional development for practicing teachers;
  - ✓ Broaden the arena of practice for pre-service teachers; and
  - ✓ Synergize existing services of other active Pre K-12 centers across the university.

## Reference List

Pennel, W.R., Fishman, B.J., Cheng, B.H., & Sabelli, N. (2011). Organizing Research and Development at the Intersection of Learning, Implementation, and Design. *Educational Researcher*, 40(7), 331-337. Retrieved DOI: 10.3102/0013189X11421826

# Iowa's Research & Development Center for Education Innovation Organizational Chart



□ Iowa's Research & Development Center Director serves as an ex-officio member of the Council.

◇ Serves as affiliates of Iowa's Research & Development Center for Education Innovation.

\* Serves an advisory role.