IOWA EDUCATIONAL RESEARCH AND EVALUATION ASSOCIATION

2009 ANNUAL CONFERENCE

What's at the Core of the Iowa Core Curriculum?

December 4, 2009

Scheman Building

Iowa State University

Ames, Iowa

2 - http://www.ierea.org

Welcome from the IEREA President and the Conference Planning Chair

Dear Colleagues,

Our 2008 IEREA Conference in Johnston reminded us again that a high-quality gathering of educators from across the state can add synergy to the queries surrounding last year's theme of "Standards for Success in Our Schools: Fact or Fiction." This year we move to the Iowa State University Campus at the Scheman Building of Iowa State Center, where once again there will be focused and relevant conference sessions along with superb accommodations and free parking adjacent to the site.

The theme of the 2009 conference, "What's at the Core of the Iowa Core Curriculum?" goes beyond last year's look at standards, to examine where we are heading with the Iowa Core, what are the expected benefits to students, what form of teacher preparation is likely to be needed, how the probability for overall success can be enhanced, where the relationship with the federal government is heading, and what assistance local schools may receive in meeting expectations.

The December conference comes at the end of a year that has seen a great deal of change in government, education, and society in general. Kicking off the day will be Kevin Fangman, Administrator of the Division of PK-12 Education for the Iowa Department or Education. Breakout sessions will offer strands on the evaluation/ research component of the Iowa Core and on related formative and summative assessment issues. The day will close with another of IEREA's spirited panel sessions, dealing with the roles of the various organizations and institutions necessary for successful implementation of the Iowa Core. Of issue will be the interactions and new partnerships needing to be developed among the DE, AEAs, LEAs, Universities, and other educational entities.

Mack Shelley
2009 Conference Chair

Phil Berrie
2009 IEREA President

Conference Schedule

8:00 - 9:00 AM	Registration Dianne Chadwick, Treasurer, IEREA
9:00 - 9:10 AM	Welcome Phil Berrie, President IEREA Introduction of Keynote, Mack Shelley, President-Elect, IEREA
9:10 - 10:15 AM	Keynote Address: **The Dynamic Interaction Between the Changing National Landscape in Education and the Iowa Core** *Kevin Fangman, Iowa Department of Education* Education stakeholders in Iowa have begun to work in earnest to implement the Iowa Core. In the midst of all the preparation and planning, the National Governors Association and the Chief Council of School State Officers are developing Common Core Standards. At the same time, the new education secretary, Arne Duncan, is laying out an aggressive education agenda focused on standards and assessment, data systems that support instruction, teacher and administrator effectiveness, and innovation. Our keynote speaker, Kevin Fangman, will share how all the external forces directing education interact with the work of the Iowa Core. Though the task before us is large and the work intensive, the potential impact on instruction and student learning is revolutionary.

10:15 - 11:00 AM Poster Session I

Visualizing Transitions into the Workforce
Tom Schenk Jr., Iowa Department of Education; Kiyokazu Matsuyama, Iowa Workforce Development
We use data from Iowa Department of Education and Iowa Workforce Development to track community college students into the workforce. Specifically, we compare their majors with eventually industry of employment. This poster will show the results displayed using an innovative graphing program originally designed to display genetic relationships between species.

East Meets Midwest: Recruiting Chinese Undergraduates to Midwest Universities
Linda Serra Hagedorn, "Leaf" Yi Zhang, Iowa State University
The rapid increase of Chinese undergraduate enrollment in the U.S. has caught researchers' attention. However, it remains unclear what factors encourage or hinder this increase. Focusing on high school students in China, this study intends to explore the rationale of the Chinese students attending, or not attending, a U.S. college.

Student Teachers' Self-Efficacy and Its Sources
Sunjin Oh, Mack C. Shelley II, Iowa State University
The purpose of this study was to examine the factors that precede student teachers' perceptions of their teaching efficacy during their reading and writing lessons. Forty-six student teachers completed the survey, which consisted of the Teacher Sense of Efficacy Scale (TSES) and Teaching Efficacy Sources Inventory.

Relationships Between Prewriting and Writing Achievement on Standardized Writing Assessments
Karoline A. Jarr, University of Iowa
This study investigated the relationship between prewriting and writing achievement in four writing domains. Results indicated students who employed lists, graphic organizers or combinations of strategies performed better on the writing assessment than those who employed only written rough drafts or no strategy at all.

An Exploration of Discourse Patterns in Argument-Based Inquiry Science Classrooms Using the Science Writing Heuristic (SWH) Approach.
Matthew J. Benus, Jeong-Yoon Jang, University of Iowa; Sevgi Kingir , Selcuk University, Konya, Turkey; Jason J. Stecklein, Clarke College, Dubuque, Iowa; Morgan B. Yarker, Brian Hand, University of Iowa
Teacher professional development often emphasizes the importance of using learner-centered discourse. However, there is little research-based evidence that provides insight on what learner-centered discourse looks like in science classrooms. This study examines discourse patterns in K-6 classrooms that are discussing claim and evidence using the Science Writing Heuristic (SWH) approach.

Characterizing the Changes in Teacher Questioning in the Science Writing Heuristic (SWH) Approach
Brian R. Pinney, Brian Hand, University of Iowa
Student-centered discourse is frequently stressed in teacher development programs. This highlights the changing strategies utilized by this teacher over the course of four years; ultimately finding an increase in more teacher questions involving student ideas as well as an increase in discussion of student oriented ideas.

Parents' and Teachers' Perceptions on Challenges and Encouragements for Girls Pursuing STEM Activities, Programs, and Careers
Carrie A. Kortegast, R. M. Cooper, Carol A. Heaverlo, Iowa State University
This qualitative study explores parents' and teachers' perceptions of the challenges and encouragements middle and high school girls encounter in pursuing STEM related activities, programs, and careers. Several themes emerged in the data analysis that will help educators further develop methods for engaging girls in STEM areas.

A Descriptive Interpretive Analysis of Secondary Career and Technical Education
Student's Oral Verbalization During the Use of Thinking Aloud Paired Problem Solving (TAPPS) While Troubleshooting Small Power Equipment
Michael Pate, Greg S. Miller, Iowa State University
Researchers concluded that the metacognitive nature of the TAPPS strategy improves post-secondary students problem solving by focusing their attention on their own thinking (Pate, Wardlow, & Johnson, 2004; Johnson & Chung, 1999). The purpose of this study was to identify and describe oral verbalizations inferring cognitive processes among secondary CTE students. This study incorporated mixed methods to analyze students' thoughts.

Assessing an Assessment: Examining the Validity of the Ednalysis Financial Literacy Assessment
Nick Ford, Geoff Janes, Jill L. Janes, Ednalysis, Inc.
With the adoption of the Iowa Core Curriculum, a valid assessment of financial literacy skills is needed. The purpose of this study is to determine the validity of the Ednalysis financial literacy assessment. This study examines the concurrent validity of the instrument and the user reactions to the online assessment.

Factors Predicting Student Satisfaction of International Students at U.S. Community Colleges

Mari Kemis, Andrew Ryder, Kevin Sanger, Iowa State University

Satisfaction of international students studying in the U.S. is determined by different factors, as revealed by our work with 331 mostly Arabic-speaking students at community colleges across the country. Results from this study help community college staff better address the needs of international students new to campus.

Growth by the Curve, Not the Cut

Mary Linnenbrink, Iowa Department of Education

A norm-referenced growth model using growth percentiles is proposed. A caveat of criterion-referenced growth models are they tend to only capture the growth of students whose achievement are around the cut points. In the proposed model, student growth is explored as current achievement relative to student with identical prior achievement.

Are Proficient Students Growing? An Analysis of 2009 Iowa Growth Data

Thomas E. Deeter, Xiaoping Wang, Iowa Department of Education

Iowa received approval from the United States Department of Education to conduct a growth model pilot project as part of adequate yearly progress (AYP) determinations. The original project targeted non-proficient students making progress toward proficiency. The current study examines whether students achieving a proficient status are growing in subsequent years.

11:00 - 11:45 AM Invited Presentation

Evaluating the Iowa Core Curriculum

Barbara Ohlund, Ph.D.
Iowa Department of Education

Dave Tilly, Ph.D.
Heartland Area Education Agency

The Iowa Core Curriculum is an ambitious initiative designed to teach all children in Iowa to higher levels. There are a number of outcomes to the process: Leadership, Community, Schools, Content Alignment, Professional Development and Student Outcomes. This presentation will discuss: (1) the rationale for and a description of the evaluation approach (2) an overview of the evaluation phases and (3) next steps and future directions.

Dr. Barbara Ohlund is a consultant at the Iowa Department of Education in the areas of social/emotional/behavioral problems and mental health. Since 2008-2009, Dr. Ohlund has acted as co-lead in Learning Supports, Positive Behavioral Interventions and Supports, and Challenging Behaviors with an emphasis on systems, research and evaluation. She also served as co-chair on the Monitoring and Evaluation workgroup of the Iowa Core Curriculum to develop a system to monitor district progress toward Iowa Core Curriculum goals. Dr. Ohlund has worked with students with learning and behavior disabilities, their families, and within schools as a teacher, researcher, and clinician for more than 15 years. She administered funded projects to either research or evaluate special education programs, statewide Positive Behavioral Supports initiatives, and technology solutions. Dr. Ohlund's history of disseminating research findings and best practices to the field is evident in her record of more than 70 presentations and publications.

W. David Tilly currently serves Director of Innovation and Accountability for Heartland AEA 11. Prior to joining Heartland AEA, Dr. Tilly was a consultant for assessment, research and innovation at the Iowa Department of Education. Dr. Tilly has also been extensively involved in securing, implementing and evaluating Federal and state grants. He works regularly with states, school districts, federal offices and national organizations on improving educational results for all children. He is the 2006 recipient of the Martha Fields Award of Excellence from the National Association of State Directors of Special Education. He is the the author or coauthor of 39 published journal articles, book chapters or books, mostly focused on education innovation, systems change and improving educational results.

Assessment for Learning at the Core
Colleen Anderson, Iowa Department of Education

Assessment for Learning has been identified as a Characteristic of Effective Instruction for implementation of the Iowa Core Curriculum. This session will address the Iowa Department of Education's efforts in systemically introducing formative assessment practices in Iowa's Schools.

Colleen Anderson is the Consultant for Student Assessment in the Iowa Department of Education's Bureau of Teaching and Learning Services. The focus of her work is assisting local area school districts in developing balanced assessment systems to inform student learning, instruction, and program evaluation. Her work includes designing professional development for classroom teachers, school administrators, and professional development providers in the areas of formative assessment, summative classroom assessment, district-wide assessments, and assessments for English language learners.

Prior to joining the Iowa Department of Education, she served as a School Improvement Consultant and Science Consultant for Heartland Area Education Agency. While there she was a trainer in Data-Driven Decision Making for science educators, Data-Driven Leadership for school administrators, and inquiry-based science for several NSF grants. Additionally, she has written science curriculum and numerous sciences education grants. She has worked in both the testing industry and with consortiums to develop large-scale science assessments for state-wide testing systems.

12:45 AM - 12:30 PM	LUNCH
12:30 - 1:15 PM	POSTER SESSIONS II

What Has Been Learned from the Implementation of Intelligent Tutoring Systems (ITSs) in Education?
Yasemin Demiraslan, Iowa State University
The purpose of this poster is to analyze the use of Intelligent Tutoring Systems (ITSs) in education. Fifteen empirical studies on the topic were analyzed based on the methodological and theoretical aspects. Based on the results, the potential benefits and limitations of the use of ITS technology for educational purposes were presented.

The Role of Teaching Practice in Transformation of Teachers in Inquiry-Based Environment
Mohammad A.Basir, Brian Pinney,Ying-Chih Chen, Niphon Chanlen,
Tseng ChingMei, Lori Norton-Meier, University of Louisville, Brian Hand, University of Iowa
We analyze the transformation of seven teachers in inquiry-based environment. Preliminary results suggest that the teacher roles have been transformed from controlling students' ideas and actions toward the roles that delegate the ownership of actions and ideas to students. We conjecture that indeterminate nature of classroom practice influence the teacher's transformation.

Bilingual Programs in Iowa: Preparing Kindergarten Students and Their Parents for a Global Society
Claudia Navarro Villarroel, Marcia Harmon Rosenbusch, Holly Kaptain, Mack Shelley, Iowa State University
In a research project with four Iowa schools, researchers from Iowa State University found that English- and Spanish-speaking kindergarten students and their parents who were involved in Spanish two-way immersion programs had more positive attitudes toward the Spanish language than kindergarten students and their parents involved in monolingual programs.

Workforce Development During Economic Crisis: The Iowa Community College Response
Linda Serra Hagedorn, Andrew Ryder, Iowa State University; Dee Baird, Kirkwood Community College
In the worst economic crisis since the Great Depression, Americans look to community colleges for the training to guide people back to work in emerging jobs (Obama, 2009). This study examines whether non-credit programs are able to meet demand and how programs are faring given the lack of financial resources.

Investigating Discourse Cycles in Science Classrooms Using the Science Writing Heuristic (SWH) approach
Saeyeol Yoon, William D. Bennett, Claudia Patricia Aguirre-Mendez, Brian Hand, University of Iowa
The purpose of this study is to investigate how teachers' questioning impacts classroom discourse and what discourse patterns occur in science classrooms using the Science Writing Heuristic (SWH) approach. These discourse patterns will be used to assess teacher practice and to promote effective SWH implementation.

Examining the Long-Term Predictive Validity of the Early Numeracy Indicators for Predicting Success on a High Stakes Mathematics Test
Subhalakshmi Singamaneni, Anne Foegen, Jeannette Olson, Iowa State University
This study examines the long-term predictive validity of three Early Numeracy Indicators administered in Kindergarten and Grade 1 for predicting student performance on the Iowa Test of Basic Skills (ITBS) in third grade. Results indicated that the Early Numeracy Indicators are effective predictors of performance on the ITBS.

Initial Results of the Iowa Project Lead The Way Evaluation
Tom Schenk Jr., Iowa Department of Education; Frankie Santos Laanan, Iowa State University; David Rethwisch, University of Iowa; Soko Starobin, Iowa State University; Melissa Chapman, University of Iowa; Yi "Leaf" Zhang, Iowa State University
The State of Iowa has implemented the Project Lead The Way STEM curriculum in secondary and public postsecondary institutions across the state. We evaluate multiple student outcomes over a 10 year period from standardized test scores through survival in college majors. This poster will review the methodology and early results from the study.

Girls' Interest and Confidence in STEM Areas and Activities: Differences by School Level and Geographic Region
R. M. Cooper, Carol A. Heaverlo, Carrie A. Kortegast, Iowa State University
This study examines middle and high school girls' interests and confidence levels in STEM-related topical areas and activities. Differences between school levels and geographic type locations are also explored. Early results show that participants were most interested and confident in creativity and design topics.

Student Learning in a Constructionist-Project Based Virtual Reality Design Class

Teresa Morales, Iowa State University

This study examined the distinctiveness of a high school virtual reality classroom where a constructionist learning model is followed. This course is strictly student-centered, student directed and project based. Using complicated software, and advanced technology the students in this qualitative case study, developed educational as well as free will projects in all areas of the curriculum. This investigation, in particular focused on the depth of student content learning in core curriculum subjects. A further concentration of this study was on student cognitive development, problem solving, thinking skills, knowledge and skill transfer, mentoring, collaboration including development of 21st century skills. Within the context of the virtual reality classroom: They have no textbook but the whole world of knowledge is their library. They have no set curriculum except the designs in their own minds and their own creativity. They have no teacher except the professional and experts they contact. They have no set class period and yet they will spend hours upon hours in the classroom.

Epistemology Conflict in a Biology Teacher

William D. Bennett, Soonhye Park, University of Iowa

The beliefs and practices of an experienced biology teacher were analyzed to further understand the discrepancy between his beliefs and practices. A number of issues were identified that inhibited his implementation of student-centered pedagogy which included personal experiences, interpretations, contextual factors, and beliefs about the nature of science.

Comparing Item Characteristics on a General Assessment and Alternate Assessments Based on Modified Achievement Standards

Ian Hembry, Catherine Welch, University of Iowa

No Child Left Behind (NCLB) mandates an alternate assessment based on modified achievement standards (AA-MAS) for all states by 2012. In the spring 2009 an AA-MAS for use within Iowa was developed and pilot tested. This proposal discusses types of modifications used on the pilot assessment. The proposed study will include a comparison between unmodified and modified item behaviors.

Partitioning NAEP Trend Data in Iowa

Dianne Chadwick, Iowa Department of Education

The content of the National Assessment of Educational Progress (NAEP) stays essentially the same over time to allow reporting of trends. However, differences have occurred in Iowa's subgroup composition which affects the trend results. Partitioning the data set allows division of the effects of performance change and population change along with the interaction effect.

1:15 - 2:00 PM Invited Presentations

Balanced Assessment at the Core

Stephen Dunbar and Catherine Welch, Iowa Testing Programs

With the introduction of the Iowa Core Curriculum, school leaders will be responsible for providing evidence that districts are successfully implementing the curriculum. Designing an assessment system that provides such evidence is an essential element to the success of the curriculum. Using the Iowa Core Curriculum as a base, Iowa Testing Programs has initiated the design and development of the next generation of the ITBS/ITED assessments and a series of end-of-course assessments to serve as the foundation of an overall assessment system. This session will describe these efforts and how these assessments will contribute to a balanced system for our state.

Catherine Welch is Director of Statewide Testing Programs and Professor of Educational Measurement and Statistics at the University of Iowa, where she coordinates statewide efforts to provide schools information on student achievement and develop new systems for test administration and reporting. Her area of specialization is test development. Dr. Welch was formerly Assistant Vice President for Assessment Innovations at ACT, Inc., where she coordinated development and scoring efforts in writing and performance assessment for a variety of state and national testing programs.

Stephen Dunbar is Director of Iowa Testing Programs and Professor of Educational Measurement and Statistics at the University of Iowa. His research and development interests focus on large-scale assessment of student achievement in K-12 settings. In addition to his work in the state of Iowa, Dr. Dunbar has been a technical advisor to state assessment programs in New York, Delaware, and Louisiana. He is currently a member of the Board on Testing and Assessment for the National Academy of Sciences and served on the National Research Council Committee on the Evaluation of National and State Assessments.

2:00 - 2:15 PM — Break

2:15 - 3:45 PM — Invited Presentation

Iowa Core Curriculum Collaboration (IC3)

What are the roles in implementation of the Core Curriculum and what is the interactions / partnerships among organizations?

Panel Guests: Julie Hukee, AEA Role; Carl Smith, and Nadene Davidson, College / University Role; Kathy Schladweiler and John Carver, LEA Role Moderator: Michelle Swanson

3:45 - 4:00 PM — Closing Session

Presentation of 2009 IEREA Distinguished Research Award

Xiaoping Wang, Past - President, IEREA

Closing Remarks

Mack Shelley, President - Elect, IEREA

4:00 - 4:15 PM — Open Business Meeting

Finances, passing of the torch, debriefing, suggestions

IEREA 2009 Conference Poster Reviewers

Name	Title	Phone #	E-mail
Sally Beisser	Associate Professor, Drake University	271-4850	sally.beisser@drake.edu
Lisa Brumback	Instructor, Academic Achievement Center, DMACC in Ankeny	964-3735	lpbrumback@dmacc.edu
Charlotte Haselhuhn	Assistant Professor, UNI	319-273-3834	charlotte.haselhuhn@uni.edu
Flo Hamrick	Associate Professor, ISU	294-9628	fhamrick@iastate.edu
Trina J Ramirez	ISU Graduate Research Student		tramirez@iastate.edu
Jason Pontius	ISU Graduate Research Student		jasponti@gmail.com
Carolyn Wanat	Associate Professor, Iowa	319-335-5308	carolyn-wanat@uiowa.edu

Iowa Educational Research and Evaluation Association
2009 Representative Council

President	Phil Berrie	Retired
Past President	Xiaoping Wang	Iowa Department of Education
President-Elect	Mack Shelley	Iowa State University
Secretary	Jan Walker	Drake University
Treasurer	Dianne Chadwick	Iowa Department of Education
Councilors	Mike Cooper	Pearson
	Mariann Culver	Heartland AEA
	Marc Haack	University of Iowa
	Charlotte Haselhuhn	University of Northern Iowa
	Dale Monroe	Anamosa School District
	Michelle Swanson	University of Northern Iowa
	Kevin Vidergar	North Polk ISD

Iowa Educational Research and Evaluation Association
The Presidents, 1980-2008

1980	Tom Andre	1990	Lee Tack	2000	Coleen McClanahan
1981	Morris Wilson	1991	Jackie Pelz	2001	Sandra Stephen
1982	Barry Wilson	1992	Marlene Strathe	2002	John Tompkins
1983	Jerelyn Schultz	1993	Phil Berrie	2003	Craig Deville
1984	Robert Ziomek	1994	Joe Millard	2004	Flo Hamrick
1985	George Ross	1995	Mariann Culver	2005	Anthony Gabriele
1986	Gil Hewett	1996	Greg Dunn	2006	Jim Janssen
1987	Mike Szymczuk	1997	Gil Hewett	2007	Jon Twing
1988	Bruce Rogers	1998	Tom Deeter	2008	Xiaoping Wang
1989	Gary Phye	1999	Ed Gronlund	2009	Phil Berrie

PEARSON

Pearson is a proud sponsor of IEREA's 2009 conference.

IEREA
IOWA EDUCATIONAL RESEARCH & EVALUATION ASSOCIATION

P.O. Box 13051

Des Moines, IA 50310

http://www.ierea.org