



MIDWESTERN MAGIC

IOWA'S STATEWIDE INITIATIVE ENGAGES
TEACHERS, ENCOURAGES LEADERSHIP,
AND ENERGIZES STUDENT LEARNING

By Dana L. Carmichael and Rita Penney Martens

"I've been through five years of 17 different initiatives, and nothing seemed to fit together. Halfway through my first day of authentic intellectual work training, the light bulb came on, and I thought: This is the piece that's been missing."

— Spencer (Iowa) High School teacher leader, 2011

This reaction is common among educators engaged in AIW Iowa, an initiative that engages teachers and administrators in professional learning communities that are improving student achievement, increasing student engagement, and building a schoolwide professional culture focused on improving instruction. This initiative, now in its fifth year, is sponsored

by the Iowa Department of Education and is built on the framework of authentic intellectual work (Newmann & Associates, 1996; Newmann, Bryk, & Nagaoka, 2001; Newmann, King, & Carmichael, 2007; King, Schroeder, & Chawszczweski, 2001).

The framework for authentic intellectual work is shorthand for distinguishing between the more complex accomplishments of skilled adults and the usual work students do in school. Authentic intellectual work involves original application of knowledge and skills, rather than just routine application of facts and procedures. It also entails careful study of a particular topic or problem and results in a product or presentation that has meaning beyond success in school.

Using data gathered from its statewide assessment, Iowa's Department of Education examined the performance

of students in grades 3 through 11 in schools in which all teachers engaged in authentic intellectual work as their primary professional development for at least one year before administering the test. Those data were compared to data from an equal number of schools that were as closely matched as possible on enrollment, race, socioeconomic status, English language learners, and disability. In comparisons in nine grades and four subjects for each — 36 comparisons — students in schools implementing authentic intellectual work scored significantly higher in 26 comparisons, with higher percentages of students proficient in 32 comparisons.

FROM THEORY TO PRACTICE

The framework was developed at the Center for Organization and Restructuring Schools at the University of Wisconsin-Madison. Researchers set out to determine whether students who experienced higher levels of instruction and assessment that promoted authentic intellectual work would show higher intellectual performance and achievement on standardized tests of basic skills and curriculum content. Results were conclusive: The quality of teaching and assessment impacts student achievement (Avery, Freeman, & Carmichael-Tanaka, 2002; King, Schroeder, & Chawaszczewski, 2001; Ladwig, Smith, Gore, Amosa, & Griffiths, 2007; Newmann & Associates, 1996; Newmann, Bryk, & Nagaoka, 2001; Newmann, King, & Carmichael, 2007).

The distinctive characteristics of authentic intellectual

CRITERIA AND STANDARDS FOR AUTHENTIC INTELLECTUAL WORK

| Criteria for authentic intellectual work | Instruction | Tasks (assessments) | Student performance (student work) |
|--|--|---------------------------|--|
| Construction of knowledge | Higher-order thinking | Construction of knowledge | Construction of knowledge |
| Disciplined inquiry | <ul style="list-style-type: none"> • Deep knowledge and student understanding • Substantive conversation | Elaborated communication | <ul style="list-style-type: none"> • Conceptual understanding • Elaborated communication |
| Value beyond school | Value beyond school | Value beyond school | |

Source: Newmann, King, & Carmichael, 2007.

work are summarized as *construction of knowledge* through the use of *disciplined inquiry* to produce discourse, products, or performances that have value beyond school (King, Newmann, & Carmichael, 2009). The box above presents these criteria and the different standards for authentic instruction, assignments, and student work.

Iowa's Department of Education, with Carmichael, King, and Newmann, designed the authentic intellectual work initiative to improve teachers' ability to design instruction and assessments that deliver authentic intellectual work. The specifics were infused into the context of the research-based Iowa Professional Development

COMPONENTS FOR AUTHENTIC INTELLECTUAL WORK TEAMS

| Components | Results in... |
|---|--|
| 1. Learning teams include four to six people (seven maximum). | <ul style="list-style-type: none"> • Common language. • Renewed energy. • Authentic intellectual work fluency. • Trust. • Increased student engagement. • Increased test scores. • Systemwide change. |
| 2. Learning teams meet four to six hours per month . | |
| 3. Learning team members bring artifacts that need improvement (tasks, student work, or instruction clips). | |
| 4. Every team meeting includes scoring artifacts , ideally from the team. | |
| 5. Learning teams use authentic intellectual work tools , including scoring criteria booklet and protocols, as a springboard for generating ideas for consideration. | |
| 6. Authentic intellectual work is job-embedded , not as an add-on, but as an essential part of professional learning. | |

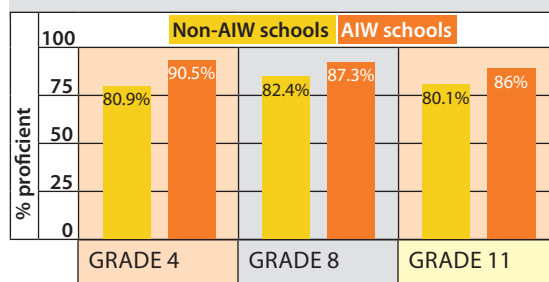
Learning team members immerse themselves in their own professional learning for one year and agree to serve as anchors on future learning teams after that.

Source: Center for Authentic Intellectual Work, 2010.

IOWA TESTING RESULTS

Chart shows the percentage of 4th-, 8th-, and 11th-grade students who rated proficient in mathematics on the 2010-11 Iowa Tests. The scores of 16 schools participating in AIW Iowa are compared with the scores of 17 nonparticipating schools of equivalent size and demographics.

Student achievement in AIW and non-AIW schools in mathematics



Source: Iowa Department of Education.

AIW IOWA EVALUATION

The Iowa Department of Education evaluated the initiative in 2010-11, analyzing four sets of data:

- Focus group interviews of 27 administrators in AIW Iowa schools;
- Case studies of four AIW Iowa high schools in their fourth year of implementation;
- A review of original and revised tasks from high school AIW Iowa teachers in the four core content areas; and
- A comparison of achievement results on state tests for students in AIW Iowa schools and students in similar non-AIW Iowa schools.

Student achievement

The evaluation reviewed Iowa testing data from 16 schools engaged in authentic intellectual work as their primary professional development for one year before the date of testing and compared those data to a set of schools matched on the following characteristics: enrollment, race/ethnicity, socioeconomic status, percentage of English language learners, and students with individualized education programs. Data were compared for grades 3-8 and grade 11.

Schools that implemented authentic intellectual work have significantly higher scores in mathematics on the Iowa Test of Basic Skills and Iowa Test

of Educational Development. The mean difference in average mathematics scores between participating and nonparticipating schools varies from 5.27 for grade 3 to 18.33 for grade 9. In reading, schools that implemented authentic intellectual work have significantly higher scores for grades 4, 5, 6, 8, and 10 on the state assessments. The mean difference in average reading scores between participating and nonparticipating schools varies from 2.40 for grade 7 to 11.64 for grade 10.

Impact on instruction

Focus groups and the case studies both described the change from teacher as deliverer

of facts to teacher as facilitator of student knowledge and skill development that is meaningful and valuable. Teachers examine their practice, asking questions such as, "Will this lesson provoke students' higher-order thinking and substantive conversation?" or "Does this unit lead students to apply and understand knowledge in contexts beyond school?" or "Will this assessment task require students to show an in-depth understanding of an important concept?"

Impact on assessment

High school teachers participating in authentic intellectual work developed assessment tasks that scored significantly higher in the

Model, which included theory, demonstration, practice, and embedded coaching. Based on research by Joyce, Showers, and others (Joyce & Showers, 2002), the Iowa Professional Development Model aims to increase student achievement by improving teacher knowledge and skills through job-embedded professional learning. Team meetings use ongoing reflection that engages teachers in using the *Standards and Scoring Criteria for Teachers' Tasks, Student Performance, and Instruction* (Newmann, King, & Carmichael, 2009) to examine the quality of their tasks, student work, and instruction. Instead of focusing on what has been successful, teachers are expected to bring artifacts that are not getting the results they hoped for with students.

Iowa's authentic intellectual work initiative is built on six components that allow every school to adopt variations to suit its own climate and context. For example, a school is not told when to expand or which staff to select for initial participation. One school might start with math and science teachers, while another might start with a group of fine arts, English, and special education teachers. Teachers and administrators directing their own learning is a critical component of the initiative.

KEYS TO SUCCESS

These key factors contributed to the initiative's coherence and fidelity.

AIW Iowa started small. The first year, nine schools participated, and these schools were limited to pilot teams of eight

to 10 teachers and administrators meeting four to six hours a month for job-embedded professional development in teams of four to six people. This structure ensures a greater likelihood of trust and allows those involved to focus on changing their practice in a safe environment.

The learning comes from the conversation, not from being right. Team meetings foster dissonance as team members, after individually rating the authenticity of the artifact brought using the authentic intellectual work rubric, discuss their scores, collectively striving for consensus. The process supports a growth mindset (Dweck, 2006) by giving all teachers the opportunity to improve their practice at their own pace.

Capacity is built at the local and regional level. In the beginning, Iowa had no authentic intellectual work coaches, but began to develop its internal capacity immediately by partnering with Iowa area educational agencies to identify coaches. Because this approach proved successful, it has become an established practice. Prospective coaches engage in a two-year process that includes developing authentic intellectual work mastery, coaching skills, and the capacity to be self-reflective.

The focus is on the school as the unit of change. From the outset, local leadership and coaches are partners in building mastery in staff, expanding the program, and allocating resources at leadership team meetings. These sessions deepen local leadership's understanding of the authentic intellectual work framework and provide a safe environment for leaders to practice scoring.

standards for authenticity in mathematics, science, and social studies. One teacher said, "I enjoy collaborating and gaining feedback from other teachers to build better tasks. I like collaborating with other people in my department, but have also gained insights from other teachers who see my same students but ask them to use different skills. I think with a 'science mind,' as do some of my students. It helps me to see how a student with an 'English language mind' thinks by hearing an English teacher share her viewpoint."

Change in professional culture

Administrators referred to

the level of collaboration among teachers as "unprecedented." Using common protocols and criteria, teachers of different disciplines examine their practice. All teachers, even those who are reluctant or resistant to change, find value in making their instruction better. One administrator said that nonparticipating teachers "are banging on the door, ready to get going." Another principal described the pressure he gets from teachers whenever he schedules a different focus for professional development. "Teachers are frustrated because they feel like they're cheating on AIW when we do something else. I've been talking to them for three years now about what

professional development is and isn't, and they've been listening. So now they say, 'C'mon, why are we doing something else? You keep talking about a sustained focus.' They turn it back on me because this benefits their kids, and that's what teachers truly care about."

Leadership

AIW Iowa has improved collaboration between administrators and teachers, according to those interviewed in focus groups and case studies. Because administrators are part of the learning team, they find themselves giving teachers more relevant feedback. As one principal said, "We're all professional educators

working toward the same goal." AIW Iowa provides teachers with more leadership opportunities.

Student benefits

According to the report, "The quality of classroom discussions has been at a much deeper and more thoughtful level. Expectations for students have been increased and curriculum is now more closely connected to students' lives, making lessons more challenging and, simultaneously, more meaningful." Because students are more engaged, they are more persistent in problem solving.

Authentic intellectual work is used to course-correct and provide critical feedback. These visits foster reflective practices by pushing the level of high-risk conversation that moves the group toward a deeper understanding of how to improve its practice. "AIW has become an irreplaceable source of collegial dialogue that incites ongoing, meaningful growth for me as a teacher," said Sarah Brown Wessling, 2010 National Teacher of the Year award recipient. "Each AIW experience has left me with thought-provoking questions, a clearer sense of my instruction, and the motivation to become a more deliberate teacher."

The informal networks drive the reform's pace. When teachers on AIW Iowa teams began engaging in examining their practice, their energy and enthusiasm attracted others. When one school district becomes involved and starts to see results, other districts want to get involved.

AIW Iowa professional learning transforms student learning. Not only are teachers constructing their knowledge around their own tasks and instruction, but students are experiencing a difference in teaching and learning as well. This transforms the learner's experience. Students begin to make meaning by constructing their own knowledge around an idea or question, then explore solutions in the same way that professionals and experts in the field do.

The excitement for learning is contagious, but extends beyond high levels of engagement to better achievement. A principal who participated in the focus groups offered an illustration.

"Students in a physics class were trying to figure out a new way to have something work. They would come in before school, stay after school, and bring their friends in before school and after school to see if this experiment would work. That persistence to solving a complex task is what emerges through authentic intellectual work."

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CRITERIA FOR EFFECTIVE AUTHENTIC INTELLECTUAL WORK PROFESSIONAL LEARNING

- Student-centered focus through quality teacher reflection.
- Collective accountability within learning teams.
- Flexible and focused coherence.
- Long-term, job-embedded professional learning.
- Inclusive of all staff and students.

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I am a professional

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and from teachers' work in learning communities.

Educators in effective learning communities also gain a professional perspective and demeanor. Not all teachers involved in professional learning communities are engaging in the research-based factors described here. Nor are all teachers given the latitude to study instructional problems, explore solutions, and make decisions about what to do. This can happen only if the leadership of the school supports it and creates working conditions in which professional learning communities flourish.

But these educators, who have sharpened their practice and keep focused on student success, can be described as authentic professional educators, continuously improving their knowledge and skills; committing their energy, resources, and wisdom to students; and, at the end of the day, representing all that is best in the profession of education.

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