PRINCIPALS LEAD THE WAY FOR PK-3:  
Early Investment  
Strong Alignment  
Better Results  

Reinventing Learning Pathways for Student Success

Mayo Demonstration School of Science and Technology  
Tulsa, Oklahoma  
Andrew McKenzie, Principal

PROFILE

Grades: PK-5  
School Enrollment: 210  
District Enrollment: 42,000  
Community: Urban  
Percentages of students:  
• African-American: 30  
• Asian: 4  
• Hispanic: 10  
• Native-American: 11  
• White: 45  
Poverty rate*: 20 percent  
English language learners: 4 percent  
PK program location: School  
PK program funding: State funding

PROGRAM HIGHLIGHTS

• Multi-age grouping of students creates PK-5 learning connections.  
• On-site professional development center models best practices for teachers.  
• Open school design promotes cooperative learning throughout the building.

*Poverty rate determined by percentage of students eligible for free or reduced-price lunch
SCHOOL SNAPSHOT
A LIVING LABORATORY FOR INNOVATIVE PRACTICE

The Mayo Demonstration School of Science and Technology opened in 1992 as a model for teaching and learning in the Tulsa Public Schools. Leaders of this district, the largest school system in the state, decided that a demonstration site could become a laboratory for best practices and professional development during a time when schools across Oklahoma were beginning to grapple with a new era of standards-based reform and increased accountability.

The school offers effective approaches for educating children at early ages when academic achievement gaps between students from different races and socio-economic groups are already apparent. Started as a PK-3 school with 100 students, Mayo included a full-day program for 4- and 5-year-olds. Over the next few years, fourth and fifth grades were added. With the support of Bruce Howell, superintendent at the time, the school adopted several innovative programs, including multi-age grouping of students, on-site integrated curriculum development with district curriculum experts, alternative staffing based on a medical model of team teaching, professional development training for educators and parents in researched-based practices and a technology- and science-rich environment conducive to personal instruction. In the first four years after the school opened, nearly 30,000 teachers, principals, counselors and parents throughout the district visited a professional development center at the site.

A committee made up of an area superintendent, community member, higher education representative and Mayo's principal, Andrew McKenzie, initially selected students for admission. The goal was to combine geographic, racial and socio-economic diversity that would reflect the Tulsa district. In the 2005-06 academic year, admission switched to a lottery system.

Designed as an open school, Mayo has large open spaces that facilitate a cooperative learning environment, where teachers from different grade levels are rarely isolated in a single classroom. Beanbags, sofas, lofts and computer stations—placed in common areas—reflect a philosophy that respects diverse learning styles. “It’s really one big classroom,” explains McKenzie, who helped district officials develop the school.

PK-3 ALIGNMENT
AN INCLUSIVE COMMUNITY MAKING LEARNING CONNECTIONS

The Mayo School downplays traditional notions of grade levels. Students are grouped across different ages to facilitate a cohesive learning environment for children and teachers. Groups consist of 4-, 5- and 6-year-olds; 7- and 8-year-olds; and 9- and 10-year-olds.

“What we have done is erase barriers or lock-step grade levels so we meet the children right where they are developmentally,” McKenzie says. “We have been purposeful about organizational structures to remove those barriers. The idea of an inclusive community that connects kids and adults really permeates the whole building.”

Students and teachers start and end the week together at school assemblies. Children lead presentations of themes worked on in class. A “family” of students, which might include a 4-year-old, 7-year-old and 10-
year-old, work together on projects. Along with these Monday and Friday gatherings, multi-age grouping and cooperative learning takes place throughout the week. The concept of “learning families,” as defined at Mayo, allows children of various ages and developmental stages to work together with teachers, who make meaningful learning connections for students as they progress.

For example, the school hosted a community day that provided collaborative opportunities for students across different ages and ability levels. After 60 community leaders visited the school to describe their careers, students met in small groups to explore themes about what they had learned, write thank you letters to the visitors, and make broader connections with the school’s theme of studying heroic attributes.

“When you have 4-year-olds sitting with fifth-graders, you are creating a learning environment that sends a totally different message than when the PK is segregated,” the principal says. “We include them, and that’s part of the powerful development of these kids, who are working side-by-side with other students.”

The alignment of standards, curriculum and assessments at Mayo began as the school program took root in 1992. At the time, the state’s education reform act did not include benchmarks for 4-year-olds. McKenzie and other staff evaluated the standards for 5-year-olds and began developing PK standards and benchmarks with teachers and district curriculum specialists. “The articulation is there for every child,” he says. “Because of our unique, multi-age approach, teachers have a good sense of what students need to make the articulation work.”

To help ensure alignment, McKenzie provides common planning time for teachers. He organizes the school day so that students begin with a two-hour block of language arts and an hour of math. After lunch, students go to specials—music, physical education, and library time—which provide teachers with meeting time. In addition, one day each month, students are dismissed early, so the school staff can meet for collaborative lesson planning. Teachers and administrators each year take an overnight retreat to work together uninterrupted by daily class schedules. “We have been purposeful about our schedule to give teachers meeting time blocks,” McKenzie says. “You have to be very strategic about protecting that time for teachers.”

**Principal Leadership**

**Modeling Instructional Practices and Embracing Shared Expertise**

During his 29-year career in Tulsa, McKenzie has worked in the classroom and in leadership positions. Certified in early childhood and elementary education, he was selected to be a teacher-coach by district leaders after he had taught first and second grades for 13 years. As a teacher-coach, McKenzie worked with PK- through second-grade teachers in 22 elementary schools. He later became the lead early childhood teacher at the Mayo School when it opened in 1992. McKenzie taught a multi-age class of 4-, 5- and 6-year-olds, and worked with the curriculum director to develop academic benchmarks for the school. Before being named principal in 1997, he was a professional development consultant in the school’s training center. Along with his responsibilities at the school, McKenzie serves on the superintendent’s cabinet as a lead principal in the district. In this capacity, he evaluates and provides support for nine elementary school principals in his district area, and shares his knowledge about making PK-3 work.
For McKenzie, leadership begins with modeling strong instructional practices. Along with his managerial responsibilities, he spends much of his day in classrooms as an instructional leader. One morning, for example, he helped team teach the concept of “more and less” to a multi-age class of 4-, 5- and 6-year-olds. McKenzie got down on the floor and manipulated blocks to help demonstrate the concept in a tactile way for students.

The principal is a believer in what he calls shared expertise. Even a first-year teacher, he says, brings life experiences or skills that can help enrich the school’s learning community in a unique way.

**PROFESSIONAL DEVELOPMENT**

**TEACHERS AS CONTINUOUS LEARNERS**

Along with modeling instruction, McKenzie sets the tone for continuous learning among staff. He shares resources, such as journal articles, and invites outside experts to speak whenever possible at the school.

A professional development day is held at least monthly. McKenzie, or one of the three experienced lead teachers at Mayo, usually manages these sessions. In addition, the district has 19 master teachers who have distinguished themselves in the classroom and now provide ongoing support for Mayo staff and other Tulsa schools. Master teachers are based at the district’s Teaching and Learning Academy, a facility that McKenzie encourages his teachers to visit throughout the school year and summer. Master teachers also visit schools for group workshops or more individualized professional development. Thousands of professional development lessons are provided by the Teaching and Learning Academy, which was based at Mayo until it outgrew the space eight years ago and moved to a closed elementary school renovated for its use. The Mayo School also has its own professional development center on site staffed by lead teachers.

McKenzie has become an advocate for teachers becoming aware of emerging brain research and its relevance to teaching and learning. He talks about what he calls a “brain compatible classroom,” ensuring that learning environments are non-threatening, students have some choices in their own learning, and adequate time is provided for completing tasks.

Oklahoma requires early childhood teachers to meet rigorous professional standards. They must have a bachelor’s degree with a certificate in early childhood, pass a series of competency exams, and complete a year in the classroom before they can become certified. To maintain a license, teachers must also complete 60 hours of certified professional development every five years.

**RESULTS**

**MEETING HIGH EXPECTATIONS AND INFLUENCING PRACTICE ACROSS THE DISTRICT**

The Mayo School implements a variety of assessment tools to measure students’ progress. Teachers use an early childhood screening instrument in PK and kindergarten that provides feedback on students’ early literacy development and basic numeric skills. Data collected from the assessment enables teachers to adjust instruction and target students’ weaknesses. A computer-based beginning reading assessment for K-3 students is also used in the second week of school to provide teachers with a snapshot of students’ vocabulary, comprehension and reading fluency.
McKenzie credits the school’s multi-age grouping approach for the strong language development of its PK-3 students. Because PK and kindergarten students work so closely with third-, fourth- and fifth-graders in verbally rich settings, he says, younger students enhance their vocabulary and have models for articulating new concepts.

The school is also meeting Adequate Yearly Progress as measured by the No Child Left Behind Act. On the 2005 core curriculum test in Oklahoma, 71 percent of Mayo fifth-graders passed the math exam, 84 percent passed the reading exam, 88 percent passed the social studies exam, and 92 percent passed the writing exam. Still, McKenzie says test scores are not the most important indicator of success. “For those of us who are trying to reinvent learning pathways for kids every day, the best indicator of success is seeing these kids move on and become successful leaders in their schools.”

In addition, the high performance of the Mayo demonstration school has helped establish the school district as a magnet for researchers and education leaders looking for best practices and professional development models in early childhood education. Eisenhower Regional Consortia and Southwest Educational Development Laboratory have identified the Mayo School as a promising practice site. According to the Eisenhower Regional Consortia, the professional development center at the school has become a front-line laboratory for curriculum implementation using emerging ideas, methodologies and technology. The school’s multi-age grouping of students and other innovative practices have been adopted by other elementary schools in Tulsa.