



# FULL STEAM AHEAD

*How a K-5 magnet school dared to dream  
big and do whatever it takes*

**Johnson STEAM Academy**  
**Cedar Rapids, Iowa**



**Houghton Mifflin Harcourt.**  
The Learning Company™

**SPN** | Successful  
Practices  
Network

## ***About the Innovative Successful Practices Project***

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Dear Educator,

Beginning in 2017, the Successful Practices Network (SPN) and AASA The School Superintendents Association, have been conducting a study of innovation best practices in public K12 systems from throughout the United States, with support from global learning company Houghton Mifflin Harcourt (HMH).

Dr. Bill Daggett has led a team of nationally recognized superintendents, researchers and data analysts to identify systems that are using innovative approaches to put students first by expanding and supporting student learning and achievement. Schools and districts were selected for further study based on a national search conducted by thought leaders and experts at HMH, SPN and AASA. HMH supported this effort by providing research and reviewers as part of its work to partner with school districts on improving student outcomes.

From that study, 25 national Innovative Successful Practices systems were identified based on their ability to demonstrate rapid improvement in student learning and preparedness through innovative organizational and instructional practices.

Each of those 25 systems collaborated with SPN and AASA to host an on-site visit, detailed data analysis and development of a case study. These case studies are intended to provide an accessible and nontechnical overview of each innovative approach that is backed up with data-driven results.

The participating systems include a wide range of geographies, demographics, student population and resource levels. In spite of those differences, each of these systems shares a common mindset that innovation can drive public education with a strong focus on serving the needs of all of their students.

We have been inspired by the lessons learned from these courageous leaders that took risks to think beyond their traditional systems and approaches. It is our hope that this work continues to inspire, inform and support public education leaders in their efforts to prepare students for success both in school and beyond school.

“The world that our children will live, work and interact in will be fundamentally different than the world we all grew up in,” said Bill Daggett, Founder and Chairman, International Center for Leadership in Education. “To prepare them for success in this changing world our schools need to make fundamental changes as well. These innovative districts are paving the way and showing us how to make the necessary changes needed in our schools.”

“At a time when the new school year is beginning across the nation, there is no better time than now to speak out about the value of public education and bring to the forefront the outstanding work being done by our school districts,” said Daniel A. Domenech, Executive Director, AASA.

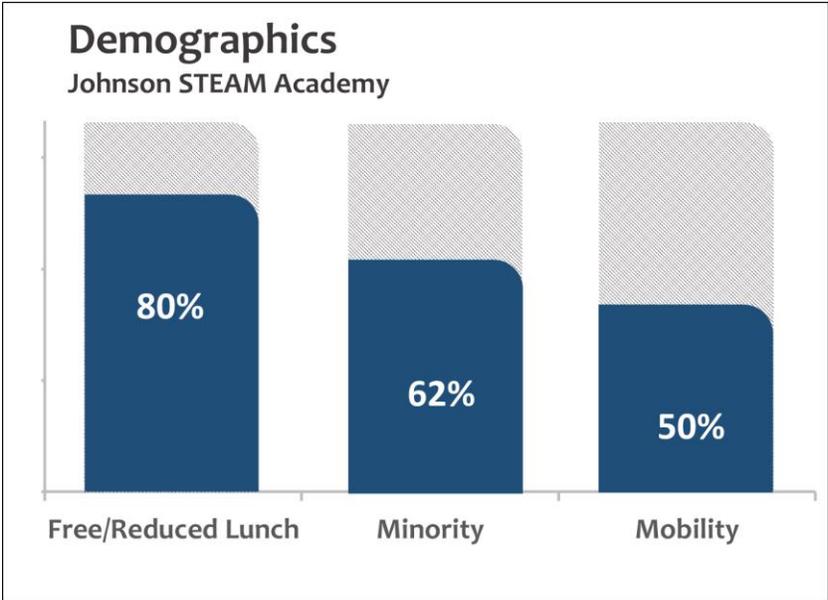
“It’s important to be imagining how our classrooms and schools can look and feel different in the next decade,” said Rose Else-Mitchell, Chief Learning Officer, Houghton Mifflin Harcourt. “We congratulate these change-makers for creating a culture of innovation and the conditions for future-focused learning designs in their school districts to accelerate student engagement, growth, and achievement.”

## Introduction

The community in which Johnson School of the Arts, a K-5 school, sits has long since been plagued by challenging socio-economic circumstances. When the state declared Johnson a school in need of assistance, it was its caring team of educators and the kids they loved that kept hope alive. Thanks to finding a dedicated and passionate leader and her commitment to a strong culture and a shared leadership model, every single Johnson staff member rose to the occasion. Together, they patiently but resolutely worked together to transform Johnson School of the Arts into Johnson STEAM Academy, a magnet school that has grown into a beacon of light and hope in the community at large.

## The Challenge

In 2007, the state of Iowa deemed Johnson School of the Arts—a K-5 school in the Cedar Rapids Community School District (CRCSD)—in need of improvement. By 2011, the state declared it a failing school. For several years, there was frequent turnover in the principal position as the district continued to search for the right leadership fit. Johnson’s student population is 62% minority and approximately 80% free or reduced lunch. The school’s students are considered highly mobile, with over 200 students leaving or coming each school year. The school’s students come from throughout the city, many of them live in high poverty neighborhoods, and two homeless shelters funnel students to the school.



Yet for all of these challenges, the school had a strong sense of community. Its educators loved their students and wanted the best for them. For all its academic challenges, the school was known to have a strong arts program. When the principal position opened up in 2013, a Student Support Facilitator within the district with a strong school counseling background was drawn to apply because of Johnson's strong community and heart.

The new principal did not begin conversations around changes until the second semester of her first year at Johnson. Instead, she spent her first months listening to all key stakeholder groups—educators, parents/guardians, the community, and, of course, students. She wanted to make everyone in the Johnson family feel seen and heard and to know their voices were wanted and valued. In devoting time to building trust and relationships, she intended also to begin building a culture where everyone in the school community knew, understood, and believed they matter.

Only after the seeds of a new and unifying culture began to take root did the principal begin building leadership teams, engaging in conversations around systems organization, and collaborative visioning.

Several schools in the district had been sanctioned to select a turnaround-model for improvement, including Johnson. The district decided that Johnson would work with specialists as its turnaround model. Simultaneously, conversations began in the community and district around innovative approaches to learning, including the possibility of magnet schools. Over a series of months and many meetings, educators, community members, district leadership, and parents across the district discussed several potential models and foci, with STEM as a priority. They talked through the various options, their pros and cons, their possibilities for students.

Ultimately, together they decided on the magnet school model, specifically a STEM magnet school. The next step was to identify which district school would become a magnet school. Because of Johnson's history as a school of the arts, its team's outside-the-box thinking, and the staff's dedication, the district approached Johnson to be the magnet school.

## **The Innovation**

Knowing STEM was a priority and because of the school's strong arts history, Johnson's school community selected as the magnet theme STEAM: science, technology, engineering, arts, and math. STEAM was seen as the most optimal way to increase rigor, teach highly relevant career

and social emotional skills, and not lose sight of the school's respected focus in the arts. Johnson STEAM Academy (JSA) opened in Fall 2015 as the district's first magnet school.

Three guiding beliefs allowed JSA to move from a failing school to one of the districts most in-demand K-5 buildings in just four years.

### *Culture First*

The principal understood the magnitude of the decision to become a STEAM magnet program. Such a transformation would require that all the school's educators learn how to teach in ways not totally familiar, or even comfortable, to them. It would mean the dual work of planning and learning for transformation while maintaining school as usual until plans were ready to launch. With this in mind, the district gave all staff members the opportunity to transfer to a different school if the STEAM magnet program or the work of turning into one didn't appeal. Only one staff member took the offer; the rest chose to stay and be a part of the very hard but important work of transforming a traditional school into an innovative magnet school in the name of the students for whom they cared so deeply.

The original school-wide team stayed intact thanks to the vision and culture the principal cultivated. She began, as mentioned, by making sure all staff knew their voices were wanted and needed. Ongoing solicitation of feedback about different potential turnaround models gave way to ongoing solicitation of ideas about how to move through the turnaround to a STEAM magnet school.

The staff collectively imagined their "what if" dream school as a launching pad to thinking outside the box of learning at a traditional school. All ideas were supported and staff were encouraged to push past their fears and any precedent that might constrain creativity. In asking for pie-in-the-sky dreaming, not only was creativity unleashed, it was also clear that JSA would be a place where thoughtful risk taking is encouraged and a growth mindset is imperative. After all, a transformation as large as theirs would never be possible if staff felt nervous experimenting or hesitant to propose ideas.

An intentional byproduct of encouraging boundless vulnerability, creativity, and initiative-taking was a true shared leadership model. The principal understood she could not micromanage the school through a transformation. Such a heavy lift requires everyone giving a hand and carrying the weight. Everyone at JSA is considered a leader, and this can mean many things. As an example, staff are invited to share ideas and lead them into fruition; when they see problems, they are encouraged to take initiative to suggest and implement a solution. As another example, staff typically lead professional learning, which allows PL to be far more personalized

than were it an exclusively administrator-directed program. Such empowerment keeps teachers motivated and hungry for continual learning and improvement.

JSA's educators have enormous freedom and agency, including the ability to place students based on their needs as identified by proficiency standards. This means a kindergarten student may be placed in a first-grade classroom for math because this is what the student needs. Teachers are empowered to use such flexible groupings so that they can meet every student where he or she is and provide to all what they need, when they need it. Teachers truly believe "all kids are our kids."

### *Whatever It Takes*

Aspiration and autonomy create a school-wide belief in doing "whatever it takes." JSA's staff are committed to doing whatever they can to help improve the lives of all students who pass through their halls. Such a mindset means the JSA team believes that just because that's how it's always been done does not mean that's how it must continue to be done. JSA willingly breaks down old paradigms and builds up new ones if it is what is best for students—no matter the work it might entail on part of educators.

One of the most innovative changes at JSA came by way of a deep belief in the systems mindset; specifically that systems thinking could maximize the organization of students and staff. JSA adopted a flexible, multi-age, collaborative class structure referred to as Pods. Instead of grouping kids into grades and assigning one teacher to that grade or to one subject, learning happens in a grade bands of K-2 a grades 3-5. The original intent of the Pod structure was to allocate resources and educators more efficiently. The fact that teachers were siloed—in one classroom with one group of students—meant that multiple times throughout the day, many students weren't getting their needs met. The special education teachers and paraprofessionals can only be in one place at one time.

In the Pod structure, students are liberated from grade levels and grouped and regrouped throughout the day based on current learning levels and needs for a particular topic or subject. Student 1 might have strong literacy skills and be grouped with peers of similar aptitude for a reading block and assigned one teacher. Meanwhile students in need of more literacy support are grouped and getting personalized guidance from a teacher and a paraprofessional at the same time. Student 1 might struggle with math, so she would then be regrouped with peers with similar needs during a math block and get additional teacher support.

As a result, classroom teachers, special education teachers, Title I teachers, and paraeducators are far more efficient and targeted in their roles. Throughout the day, student needs are constantly assessed, groups are constantly adjusted, and teachers are constantly moving around to offer support where it's most needed.

The Pod structure fundamentally changed how teachers are accustomed to teaching. It requires different skills and a comfort sharing classrooms with the many other teachers and paraprofessionals who might pass through during a given class to bring more tailored support to students. With the "whatever it takes" attitude in mind, the principal understood that adopting the Pod structure would mean providing professional learning and support for all staff within the system.

The leadership team recognized that there is a continuum in comfort with sharing a classroom. Early professional learning around the Pod structure focused on collaboration and shared learning. Pod was implemented gradually in an effort to meet all teachers where they were in their comfort sharing their classrooms. While the expectation was that the Pod structure would eventually be full-scale, teachers were eased into the transition and were expected to voice their needs and ask for support throughout.

The innovation of the Pods structure has proven foundational, in that it unlocked capacity for many more innovations and benefits—some intentional, some happy accidents. Of intention was the facilitation of their curriculum, which they designed collaboratively—a process that lasted a year and a half. But that's the level of dedication it took to create an instructional plan to meet their students' needs and drive meaningful instructional and learning growth.

The JSA curriculum is rooted in the Iowa Common Core Standards and the JSA Magnet Standards. From there, content is integrated across subject areas and grade levels, with STEAM themes, twenty-first century career skills, and social-emotional skills embedded throughout. Content is frequently integrated into "mini" project-based learning opportunities, with technology playing a pivotal role in enhancing instruction and learning. The fluidity and flexibility of the Pod structure enables highly interdisciplinary instruction and learning.

Interdisciplinary instruction takes more planning time. To support teachers, the school created a schedule to support additional planning time during the day so that teachers have a double-prep planning period every other week. During this time, staff are used creatively to cover

classes so the teachers participating in common planning can learn, collaborate, and plan cross-content instruction or projects with other teachers.

Through an incredible increase in the school's capacity to deliver tailored support throughout the day to all students, staff are seeing dramatic improvement in student engagement levels. It's also had an unexpected yet welcomed effect of behavioral improvements for the majority of students. Since all students interact with more teachers throughout the day, they are building trusting and supportive relationships with far more staff than they would had they spent most of the school day with one grade-level teacher in one classroom. More accountability to several adults in the building means students are that much more motivated to work hard, grow, and meet high expectations on all fronts.

The staff's ability to dream big and think aspirationally gave way to the Pods innovation and its successful implementation. JSA educators report that aspirational thinking is also rubbing off on students. Students witness what can happen when big goals and high expectations are set. They, too, are developing the understanding that unlimited beliefs and unlimited creativity give way to unlimited growth.

### *Start Small—Just Start Somewhere*

When the JSA team started the work of transforming into a STEAM magnet school, it rightfully felt daunting at times. The school enlisted a magnet specialist to ground the team in the necessary details and guide them through uncharted waters. To help the magnitude of the task before them feel manageable and doable, the magnet specialist suggested to staff to start small and take it as slowly as needed. If all the team could do in the first year was three hours of STEAM integration a week, then that's all they could do—and that was ok. Commitment, focus, and perseverance were more important than speed, especially when speed can create its own issues and setbacks. Permission to move at a reasonable pace also assuaged teachers' concerns about the reality that they still had to teach standards and were still accountable to student testing.

As it usually does, slow and steady builds momentum and confidence over time. Today, instruction continues to become more integrated and innovative. Experimentation and risk-taking feeds teacher confidence; allows them to try new things that can enhance instruction and learning; make mistakes, fail forward, and learn from those mistakes; and grow more skilled and knowledgeable as a result.

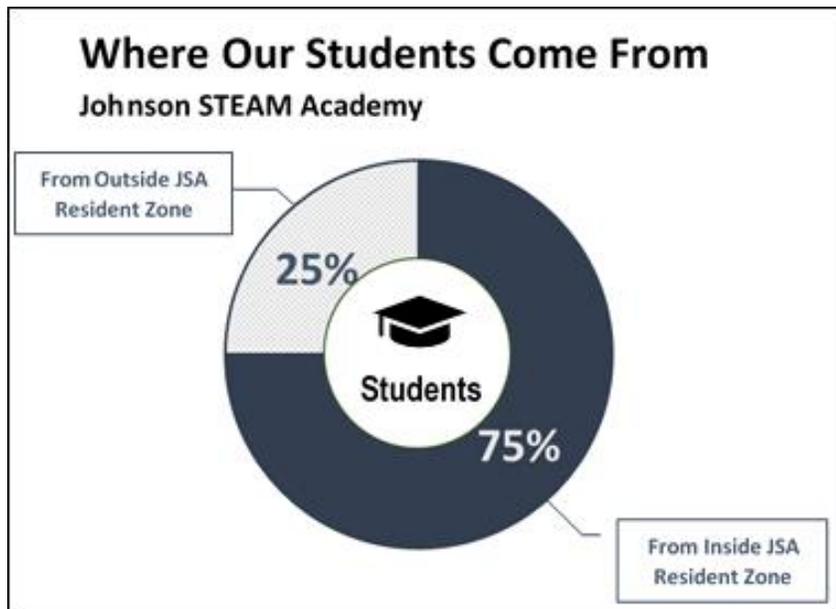
STEAM learning opportunities continue to evolve and expand, often lead by teacher ideas and initiative. One such opportunity is “Discovery Days.” Discovery Days happen five times a year outside of the typical schedule. Teachers select a topic for the full day based on self or student interest. Discovery Day class topics are presented to students in grade bands of K-2 and 3-5. Then, students choose the top three Discovery Day classes they want to attend and are matched based on availability.

Ideas for grades K-2 have included days about: making toys to take home; learning fitness skills in coordination with others; reading comic books and creating comic book characters and books; and reading and discussing *Winter Mittens* and then making mittens. For grades 3-5, Discovery Days have included days about: journalism, where students gather stories, interview people, and report on stories as part of the JSA News Team; using a design process to build a rollercoaster; learn from real-life scientists about DNA; and engage in a STEAM challenge with residents of a local retirement home.

The free before and after school STEAM enrichment program has also grown and evolved significantly. Offerings are broad and seek to expose students to a range of skills and interests. Options include, but are not limited to: a pottery club, advanced dance, digital photography, and the LEGO League.

### **The Impact**

Students who live within a magnet school resident zone are allowed to enroll in the magnet school without entering the magnet school lottery. Students who live outside of the JSA resident zone can enter the lottery. The lottery is open to students within the district and those who live in other school districts. Currently, about 75% of the students at JSA live in the JSA resident zone. About 25% of students come from schools throughout the district and city via the blind magnet school lottery. Transportation is provided for free to students living within the district. The school has gained such a positive reputation that today there are more than 6X requests than there are open seats at JSA.



JSA's efforts have also gotten attention from beyond the district. The Magnet Schools of America recently awarded JSA a 2019 Merit School of Distinction award. And the School Administrators of Iowa named JSA's principal the state's 2019 Elementary Principal of the Year.

Much qualitative data show that JSA's efforts to transform into an engaging, rigorous, and relevant school are working. JSA created their own magnet school standards for all students aligned to four indicators: 1) Self-Efficacy/Resiliency/Student Ownership, 2) Academics, 3) Social-Emotional-Behavioral, 4) Future Ready Learners/Employability Skills. Each indicator is described and expectations are communicated in proficiency scales for students in grade bands of K-2 and 3-5. Teachers actively work to integrate the indicators into learning experiences. Leadership continues to brainstorm, design, and advocate for a report card aligned to the JSA Magnet Standards and Common Core Standards that captures the innovative learning that happens at JSA. The goal is to develop a report card flexible enough to clearly communicate how students progress on standards at the individual level, whether that is below, at, or above a student's grade level.

Observational and anecdotal evidence of satisfaction across all key stakeholder groups is consistent and strong. Student attendance and engagement continue to increase, while behavioral issues continue to decline for the majority of students. Students report feeling cared for and safe at school. They feel they have choice in what they learn and enjoy so many opportunities to make things and create.

The staff feel part of an innovative team and on the same page in terms of their commitment to students. Absenteeism is low. Staff are in the habit of celebrating and supporting each other. Parents wholeheartedly believe that their children are learning skills far beyond academic skills; they see that the school is helping them think about and plan for long, happy, productive futures.

The reputation of JSA continues to improve within the larger community. The surrounding JSA community had for a long time been viewed as one with entrenched economic issues and avoidable when possible. When Johnson was considered a failing school, it offered little in the way of attracting families to the community. Now, JSA is viewed as a desirable, even sought-after school, and perceptions about the community-at-large are shifting.

As is so often the case with turnaround models that put equal weight on social-emotional skills, engagement measures, and career learning, JSA's standardized test scores remain flat. While this is a frustration to staff, parents are generally not alarmed. JSA has been successful in communicating the school's longer-term goals for all students, and parents appreciate that their children are learning in ways that will serve their futures. Yet the teachers continue to work tirelessly to see improvement gains in test scores.

### **Discussion Questions**

- 1) Do we have any systems or structures that are impeding our ability to meet all students' needs as frequently as possible? What have we considered to be un-changeable that we can thought-experiment our way through changing? Where can we look for ideas?
- 2) Are our teachers—particularly paraprofessionals, special education teachers, and Title 1 teachers—siloeed such that they cannot reach all students in need of their support? Is there a way we can reimagine the schedule to use them more effectively and efficiently? How can we support such a shift?

- 3) How empowered are our teachers to take on leadership roles and lead initiatives based on their ideas? Do our words and our actions around distributed leadership align? How do we create a culture of vulnerability and collaboration to support this work?
  
- 4) Is our staff motivated—in general and to take on big challenges? If not, how can we change to bring more purpose to their work and more autonomy to navigate it? What is in our circle of influence, and what changes can we make immediately?

