

inquirED & Pitcher Elementary



inquirED is an online platform that delivers a rigorous, inquiry-based curriculum with embedded personalized teacher training, designed to support a whole-school transition to inquiry-based learning.

Pitcher chose to partner with inquirED to test implementation of their inquiry-based learning model, provide teachers with science curricular materials and professional development in inquiry-based learning, and see benefits in student engagement. Thus the purpose of research was two-fold: 1) To provide feedback on implementation to improve the platform and inform the development of a "Model 0" - a new potential inquirED model used with schools starting without any previous training in inquiry-based teaching; and, 2) To test the conjectures that inquiry-based teaching practice, inquiry-based learning, and student engagement would be higher when associated with lessons taught using inquirED resources when compared to lessons taught without using inquirED resources. The two instructional coaches were the lead end users for the study.

Theory of Action

Key Levers - Innovation/ Intervention - Inputs
If we do the following...

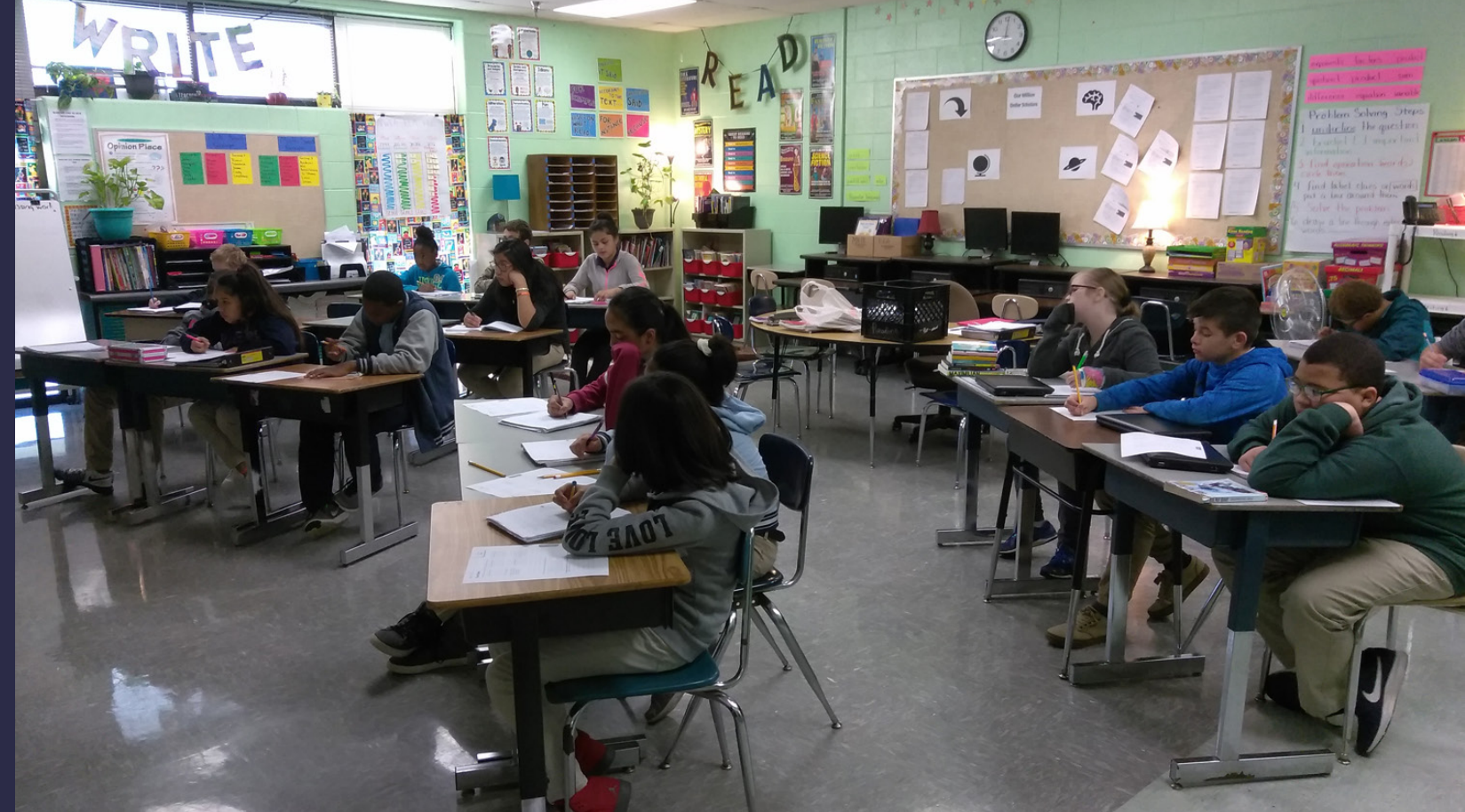
- a. Provide inquiry-based science units.
- b. Embed "Inquiry Foundation" videos.
- c. Embed lesson implementation tips.

Desired Practice - Implementation - Outputs
Then we will impact practice/ behavior in the following ways...

- a. Teachers will grow their inquiry-based teaching practice.

Measurable Student Outcomes by Nov 8 - Impact Goals
And we will reach our student outcome goals...

- a. Students will be more engaged during the inquirED block.
- b. Students will participate in inquiry-based learning.



SCHOOL BACKGROUND & PROBLEM OF PRACTICE

Pitcher Elementary is a public school in the Kansas City Public School System (KCPS) that serves approximately 350 children in preschool through grade six. It is one of the most diverse schools in KCPS. Twenty-five percent of the students are English Language Learners and, racially, approximately half of the students are African-American, thirty percent are Hispanic, and twenty percent are Caucasian. In addition to having an English as a Second Language program, Pitcher is the only school in the district with a Specific Language Impaired (SLI) program. The SLI is an alternative educational placement for children whose language acquisition and usage is significantly discrepant from the level expected for their age and cognitive ability. Despite facing significant student mobility, the school has received recognition for its performance on the Missouri Assessment Program test. However, the administration has been keenly aware of gaps in instruction, such as limited resources in Science and professional development that can help teachers shift from direct instruction to teaching as facilitator and leader.

METHODOLOGY

There was a mixed methods approach with data collected from a number of different sources. A survey and focus groups were utilized to collect teacher feedback on the key levers and usage of different platform features was tracked using Mixpanel. Inquiry-based teaching practices were assessed in a few ways: 1) teachers completed an inquirED teaching practices self-assessment prior to and following implementation; and, 2) the instructional coaches completed the inquirED teaching practices observation tool for teachers, during both inquirED and non-inquirED blocks of instruction. Finally, student engagement was measured in a few ways: 1) a 5-item student engagement survey was given to students as an exit ticket on a weekly basis; and, 2) the instructional coaches completed the inquirED teaching practices observation tool for students, during both inquirED and non-inquirED blocks of instruction.

FINDINGS

There were many valuable insights about implementation from teachers that were shared via focus groups. For example, the teachers felt challenged to cover the inquiry-based science units in the time allocated by their schedule, often cutting the units short or skipping parts as needed. Teachers felt that the inquiry foundation videos were helpful but sometimes setting teachers up for disappointment when things did not go the way the videos made it seem they would go.

Instructional coaches completed a total of 14 teacher observations and 14 student observations using the inquirED teaching practices observation tool. Of those, 4 were during blocks using inquirED and 10 were during blocks not using inquirED. Three teachers were observed both during an inquirED block and a non-inquirED block. Overall, inquirED teaching practices were more frequently observed in inquirED blocks than non-inquirED blocks. Teachers were found facilitating independent learning, cultivating a collaborative community, assessing and differentiating learning, and promoting a growth mindset in three out of the four inquirED blocks; teachers were found honoring student voice and choice in two out of the four inquirED blocks. The most any of these were observed among the non-inquirED blocks was twice (out of 10). Similar results were found when observing student engagement among the same practices (e.g., evidence that students were independently learning, collaborating, etc.)

In addition to this evidence (and that of the observations completed by instructional coaches), teachers expressed that there were more opportunities for different learning styles to be engaged, and that they were positively surprised by the amount of content knowledge students were retaining based on the different learning strategies employed.

MODIFICATIONS

Given the feedback from teachers about the key levers, inquirED decided to make a number of modifications to the platform. They added framing videos to curb teachers expectations, and made platform design changes such as e-mailing videos instead of embedding them in lesson plans after finding that teachers were only accessing lesson plans to print them and read them offline. inquirED is also exploring expanding their team after the study. Based on teacher comments about differentiation and the ability of curriculum to reach different learning styles, inquirED wants to become more intentional about making accommodations for special education and English Language Learner students.

CONCLUSIONS

Pitcher teachers and staff remain excited about their partnership with inquirED. Many teachers have grown enthusiastic about the content and learning a new way of teaching, seeing the impacts it has had on all of their students. Overall, the results of the study are promising. A longer study duration would allow for additional data collection which would allow for more observations and achieve even comparison groups. One concern was the potential spillover effect of comparing different instructional blocks for the same teacher. While this did not seem to occur, a different study design would generate more reliable results. inquirED has decided to continue the research at Pitcher incorporating stronger research methods, such as utilizing the Tripod engagement survey and independent observers.