



# Imagine Learning Illustrative Mathematics Professional Learning for HQIM in Birmingham Public Schools

## Overview

Birmingham Public Schools is a suburban school district in Michigan that serves approximately 7,000 students across 13 schools. The district piloted Imagine Learning Illustrative Mathematics for core mathematics curriculum in a subset of their Grade K–7 classrooms during the 2022–2023 school year. Following the successful pilot year, they chose to expand their implementation of Imagine Learning Illustrative Mathematics to the entire district for students in Grades K–8 during the 2023–2024 school year.

Professional learning is crucial for the effective implementation of high-quality instructional materials (HQIM), such as Imagine Learning Illustrative Mathematics, as it ensures that educators are prepared to deliver the curriculum and meet all students' needs (Short & Hirsch, 2020). It provides opportunities for increased teacher engagement with curricular materials, which has been shown to, in turn, increase student engagement (Germuth, 2018). Research has shown that student growth is greater when teachers are provided professional learning when implementing new HQIM than in cases where they implement HQIM without professional learning (Jackson & Makarin, 2017). Imagine Learning's professional learning sessions are designed to cover the appropriate topics and provide the necessary resources to implement HQIM successfully.

Imagine Learning partnered with Birmingham staff to offer consistent professional learning opportunities for teachers throughout the 2023–2024 school year. Several professional learning sessions were conducted at the beginning of the school year to provide initial support and a combination of required and optional sessions were provided approximately monthly throughout the school year. These sessions allowed teachers time to collaborate within cohorts of their peers. They covered topics such as unit planning, utilizing student thinking, and going deeper into the Imagine Learning Classroom platform.

Imagine Learning sought to evaluate the effectiveness and value of professional learning sessions associated with the implementation of the Imagine Learning Illustrative Mathematics curriculum in Birmingham Public Schools. Specifically, Imagine Learning aimed to investigate how these professional development opportunities relate to teachers' familiarity and confidence in utilizing HQIM across Grades K–8. By analyzing data from teacher surveys conducted throughout the 2023–2024 school year, more could be learned about the impact of structured professional learning on educators' engagement with the curriculum and its subsequent influence on student learning outcomes.

## Results

Findings show that, after attending a year of Imagine Learning Illustrative Mathematics professional learning sessions, teachers were more familiar with implementing many areas of the Imagine Learning Illustrative Mathematics curriculum in the spring of 2024 compared to the fall of 2023 (such as lesson warm-ups,

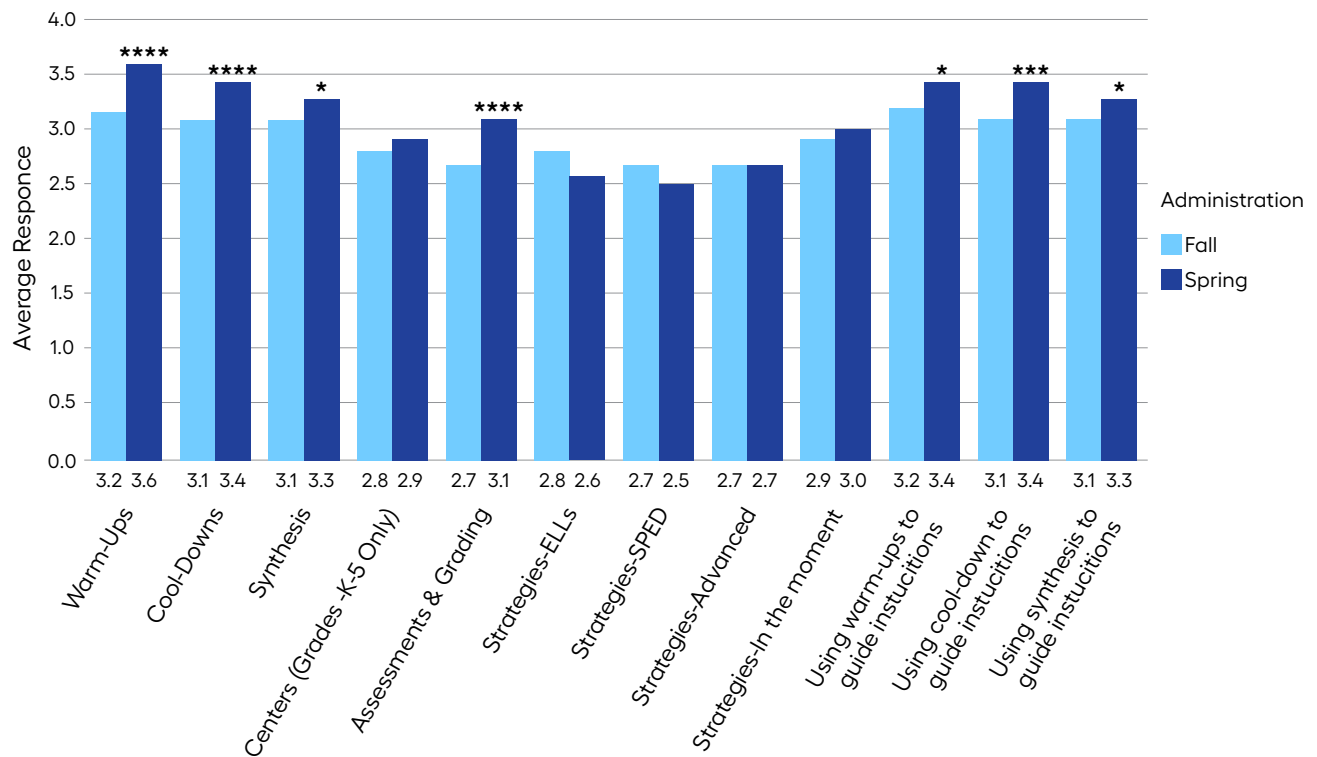


cool-downs, synthesis, and centers; see Figure 1). While teachers reported that they felt somewhat familiar with various aspects of the curriculum at the beginning of the school year, additional time in the program and access to additional professional learning increased familiarity and confidence by the end of the school year.

Throughout the entire school year, teachers were satisfied with the professional learning sessions; on average, they responded in the survey that they somewhat agreed or strongly agreed that the sessions were well-facilitated, that they received adequate information to prepare for and make the most of the time in the session, that the facilitators supported risk-taking and had high expectations to support teachers in their learning process, and that they learned from their peers (see Figure 2). Similarly, teachers responded throughout the school year that the professional learning sessions continued to be valuable; on average, they responded as somewhat or strongly agreeing that the sessions supported the district’s focus, provided useful ideas, supported their teaching, were a valuable use of their time, and were well-planned (see Figure 3). In summary, educators found the professional learning sessions to be meaningful in supporting their implementation of the Imagine Learning Illustrative Mathematics curriculum.

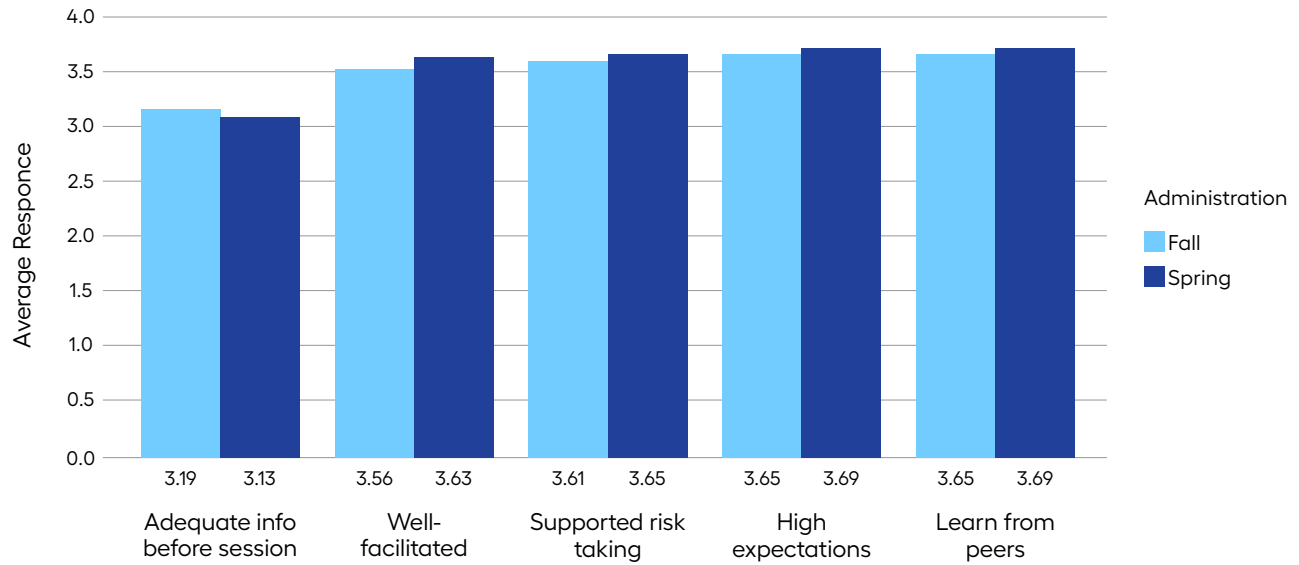
Finally, 83% of respondents in the fall and 91% of respondents in the spring said that the pacing of the professional learning sessions was “just right” rather than too slow or too fast. Over 90% of respondents throughout the school year said that they were very or extremely likely to apply learning from the sessions in practice.

**Figure 1. Teacher Familiarity with Aspects of Imagine Learning Illustrative Mathematics Curriculum**



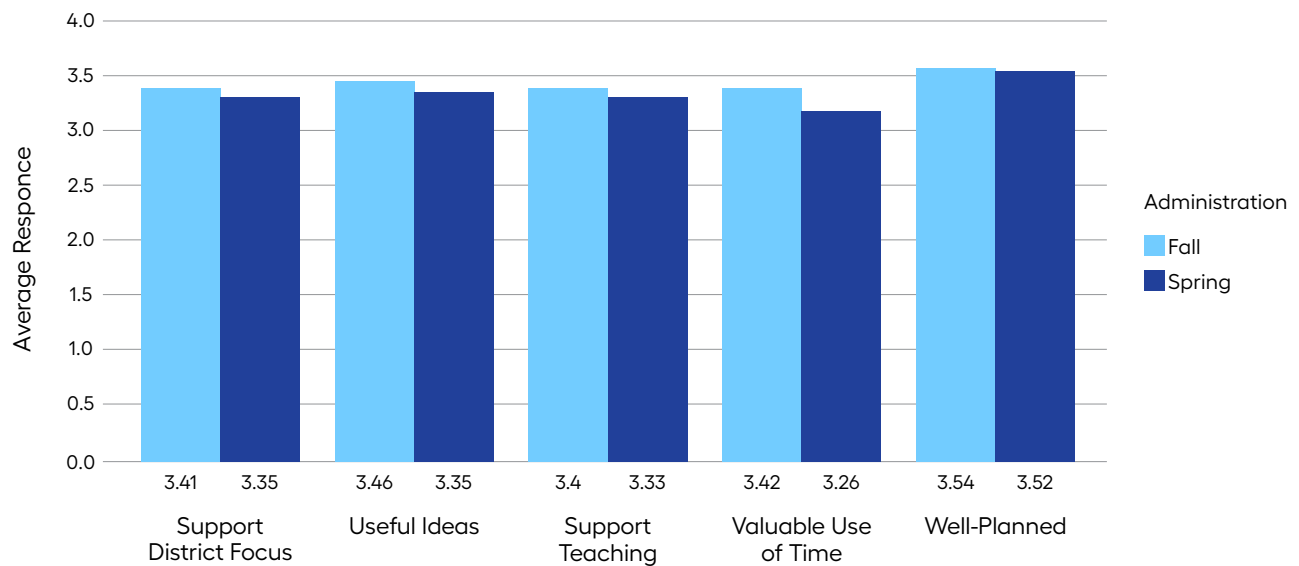
Note: 1 = very unfamiliar, 2 = somewhat unfamiliar, 3 = somewhat familiar, 4 = very familiar. \*: p < .05, \*\*: p < .01, \*\*\*: p < .001, \*\*\*\*: p < .0001. The survey asked: "Please rate the extent to which you are familiar or unfamiliar with each of the following components of the Imagine Learning Illustrative Mathematics curriculum: lesson warm-ups, lesson cool-downs, centers (grades K-5 only), assessments & grading in the ILC platform, strategies for implementing Imagine Learning Illustrative Mathematics with English-language learners, strategies for implementing Imagine Learning Illustrative Mathematics with special education classified students, using lesson warm-ups to guide instruction, using lesson cool-downs to guide instruction, using lesson syntheses to guide instruction."

**Figure 2. Quality of Professional Learning Sessions**



Note: 1 = strongly disagree, 2 = somewhat disagree, 3 = somewhat agree, 4 = strongly agree. \*:  $p < .05$ , \*\*:  $p < .01$ , \*\*\*:  $p < .001$ , \*\*\*\*:  $p < .0001$ . The survey asked: "Respond to the statement below: Before the session, I received adequate information and resources to prepare for the training; The session was well facilitated; Facilitators created a learning environment that both supported and challenged me, and made me feel safe to take risks; Facilitators held high expectations for participants and fostered a positive and forward-looking outlook; Facilitators provided ample opportunities for participants to learn from and share with peers."

**Figure 3. Value of Professional Learning Sessions**



Note: 1 = strongly disagree, 2 = somewhat disagree, 3 = somewhat agree, 4 = strongly agree. \*:  $p < .05$ , \*\*:  $p < .01$ , \*\*\*:  $p < .001$ , \*\*\*\*:  $p < .0001$ . The survey asked: "Respond to the statements below: I learned more to support my use of the district's focus on the whole child, curriculum materials, resources OR assessments; The session gave me useful ideas and tools to improve my work with students; Overall, I believe my teaching abilities have improved because of the lessons and practices shared during this session; Overall, this workshop was a valuable use of my time; Overall, the logistics of the workshops were well planned and executed."

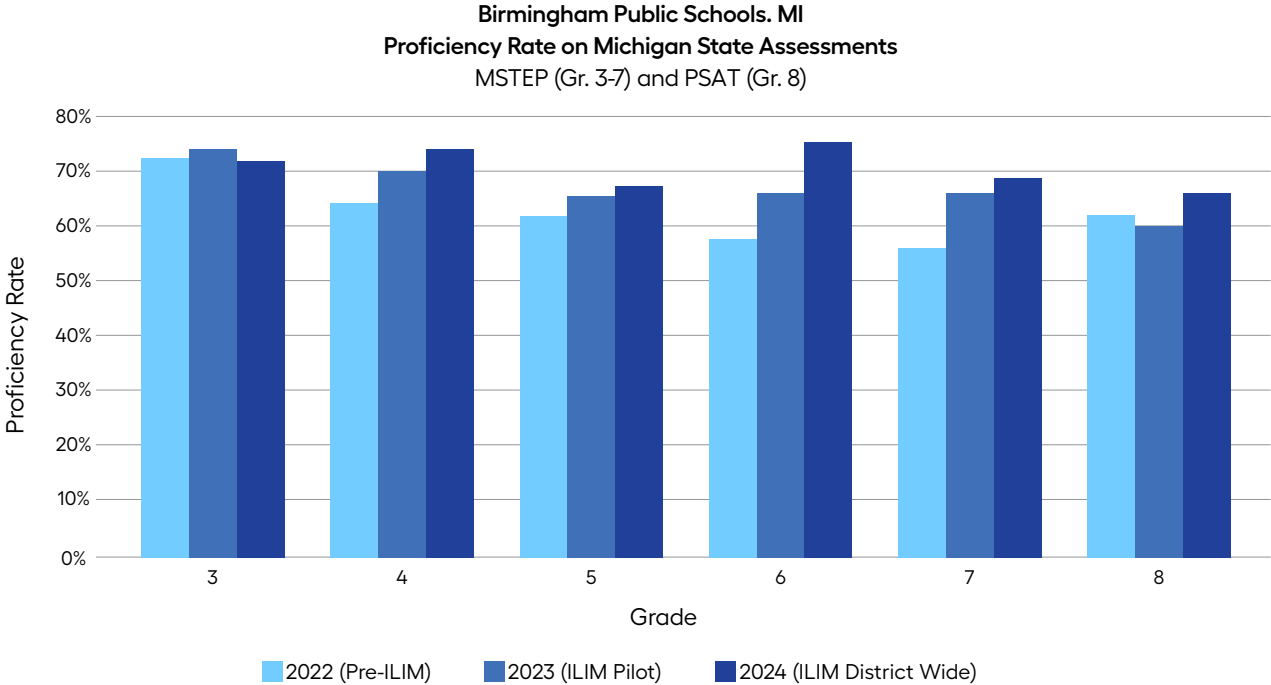
# Conclusion

Overall, these findings demonstrate that the Imagine Learning Illustrative Mathematics professional learning sessions contributed to teachers' familiarity with aspects of the new curriculum, were well-facilitated, and were a valuable use of teachers' time. Increased teacher confidence is crucial, as research suggests that teachers who feel competent in their instructional materials are more likely to engage students effectively (Darling-Hammond et al., 2017). The structured professional learning sessions provided educators with the necessary tools and strategies to navigate the curriculum, thereby fostering a more confident teaching environment.

As teachers became more familiar with the instructional materials, it is anticipated that their enhanced confidence and competence would translate into more dynamic and engaging classroom experiences for students. This is particularly relevant in the context of HQIM, where effective implementation can lead to improved student outcomes (Jackson & Makarin, 2018). The professional learning sessions thus serve as a foundational element in creating a positive feedback loop between teacher development and student success.

Math proficiency levels in Grades 4 through 8 increased in Birmingham Public Schools between 2022 and 2024 (see Figure 4, more information about academic outcomes can be found [here](#)). The positive outcomes observed in this study suggest that ongoing professional learning will be essential as districts continue to implement and refine HQIM. Based on these findings, it is recommended that districts implementing HQIM continue to invest in professional learning opportunities that are iterative and responsive to teacher feedback.

**Figure 4.** Math Proficiency Rate in Birmingham Public Schools on Michigan State Assessments by School Year



## References

Darling-Hammond, L., Hyster, M. E., & Gardner, M. (2017). *Effective Teacher Professional Development*. Palo Alto, CA: Learning Policy Institute.

Germuth, A.A. (2018). Professional Development that Changes Teaching and Improves Learning. *Journal of Interdisciplinary Teacher Leadership*, 2(1), 77–90.

Jackson, K., & Makarin, A. (2018). Can Online Off-the-Shelf Lessons Improve Student Outcomes? Evidence from a Field Experiment. *American Economic Journal: Economic Policy*, 10(3), 226–54.

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