Impact Evaluation of Imagine MyPath in Moline-Coal Valley School District

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EXECUTIVE SUMMARY:
Impact Evaluation of Imagine MyPath for Kindergarten Students

Program Description

Imagine Learning contracted with the Center for Research and Reform in Education (CRRE) at Johns Hopkins University to conduct a quasi-experimental design (QED) in Grades K–5 in two school districts. The current district is Moline-Coal Valley School District No. 40, which serves approximately 7,200 students in 15 schools, 12 of which are elementary schools. This report focuses on efficacy impacts and teacher perceptions of Imagine MyPath in the Moline-Coal Valley School District.

Imagine Learning's Imagine MyPath is a K–12 reading and mathematics intervention program designed to close achievement gaps and maximize academic growth for students. Per the developer, "Imagine MyPath is a supplemental curriculum that utilizes Smart Sequencer™ technology to prioritize essential skills and create individual learning paths (ILPs) in reading and mathematics. ILPs are grounded in research, and continuously adapt to ensure success among academically diverse learners. All Imagine MyPath lessons are age appropriate and intentionally designed to align with each student's grade and skill level. A student's chronological grade determines their experience in the program and the presentation of information, but their skill level determines the types of questions presented. The curriculum uniquely leverages a cycle of assessment, assignment, adaptivity, analysis, and action to create an ILP that delivers an adaptive sequence of lessons, so students efficiently catch up, keep up, and get ahead."

The evaluation's design addressed the following research questions:

1) How does participation in Imagine MyPath impact student achievement in mathematics and reading?
    a) Does level of program usage relate to student achievement effects?
    b) To what degree do effects vary across:
        i) Schools?
        ii) Grade levels?
2) What are teachers' perceptions of the program with regard to:
    a) Benefits for students?
    b) Student engagement?
    c) Implementation requirements and experiences?
    d) Strengths and weaknesses?
    e) Recommendation for implementation improvement?

Research Design

A quasi-experimental design (QED) was used to compare mathematics and reading achievement of Imagine MyPath students to matched comparison students obtained from a Similar Schools Report (SSR) provided to the district by NWEA. An SSR was used because all elementary schools in the district used Imagine MyPath. A Similar Schools Report contains data

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from students who, relative to the intervention sample, come from schools in a similar area (urban, suburban, rural), with similar percentages of free and reduced meals students (FARMS), creating a "virtual comparison group" of students, and allowing for direct comparisons of NWEA MAP Growth score growth between Moline-Coal Valley students who used Imagine MyPath and otherwise similar students who did not use the program.

The evaluation also examined teachers' perceptions of Imagine MyPath through an online teacher questionnaire. Teachers were asked about topics including experience with digital learning, program implementation, professional development, and student impact. Likert-scale items were used to collect data relating to teachers' perceptions of Imagine MyPath. Additionally, four open-ended queries provided teachers with the opportunity to indicate which program resources were most effective, what students liked most about the program, and to offer suggestions for improving the Imagine MyPath platforms for educators and students alike.

Study Sample

The present study sample consisted of 466 Grade K students from across 10 elementary schools in Moline-Coal Valley. The student population among Moline-Coal Valley students was mostly White (slightly under 50%), followed by Black and Hispanic students (approximately 20% each). The teacher survey sample consisted of 26 teachers.

Program Impact on Reading and Mathematics Achievement

Observed impacts of Imagine MyPath on student achievement were mixed. A statistically significant positive impact of Imagine MyPath on mathematics achievement was observed in Moline-Coal Valley, with treatment students outgaining virtual comparison students by more than 2 points. While treatment students also outgained virtual comparison students in reading achievement, the difference was minimal and not statistically significant.

Rates of Imagine MyPath usage varied somewhat across subjects. Moline-Coal Valley students used the program approximately 11 hours for reading and eight hours for mathematics. On average, more reading lessons were completed than mathematics lessons, although lesson pass counts were very similar across subjects with students averaging approximately 27 passed lessons in each subject. Program usage metrics were generally positively related to mathematics and reading achievement gains, with counts of lessons passed and lessons completed generally having the strongest magnitude associations with student achievement gains.

Teacher Perceptions

Teacher perceptions of Imagine MyPath were largely positive, especially regarding perceptions of the program meeting student needs with approximately 80% of program teachers agreeing that the curriculum:

- appropriately adopted instruction for students based on their needs, and

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- initially placed students at a level appropriate for their skills and presented students with content appropriate for their skill level throughout the school year.

In general, implementing teachers also reported positive perceptions of the program's impact on student learning with over 80% of teachers agreeing that Imagine MyPath improved students' math and reading skills. Teacher perceptions were somewhat lower regarding the program's ability to accelerate students who were behind in grade-level content, and in motivating students to persist through difficult content. Overall, teacher perceptions of professional development (PD) were positive although some teachers stated that additional or more focused PD, especially in relation to technical components of the program, would improve their implementation, particularly in their use of the online teacher platform.

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Impact Evaluation of Imagine MyPath for Kindergarten Students

Imagine Learning contracted with the Center for Research and Reform in Education (CRRE) at Johns Hopkins University to conduct a quasi-experimental design (QED) study in Grades K–5 in two school districts. The current district is Moline-Coal Valley School District No. 40, which serves approximately 7,200 students in 15 schools, 12 of which are elementary schools. This report focuses on efficacy impacts and teacher perceptions of Imagine MyPath in the Moline-Coal Valley School District.

In brief, as described on the program website:

> Imagine MyPath is designed to maximize student learning through personalized learning paths that prioritize the essential skills students will need for grade-level success. As students move from intervention to supplemental grade-level practice and beyond, Imagine MyPath continues to deliver adaptive lessons propelling them forward…To help meet demands in today's classrooms, Imagine Learning built a next-generation learning environment for K–12 that uses Imagine MyPath's built-in assessment data or can integrate with NWEA® MAP® Growth and Renaissance Star® to design individualized learning paths that: (a) Prioritize critical foundational skills and adapt learning based on student performance, (b) Provide accessible, explicit, and age-appropriate scaffolded instruction to ensure success among diverse learners, (c) Has the ability to translate words, screens, or entire passages into more than 60 available languages with read aloud support in over 30 languages, (d) Include Spanish language math lessons for grades K–5, (e) Incorporate evidence-based practices for teaching reading and mathematics, (f) Deliver actionable, real-time data to inform instructional decision-making, and (g) Optimize student motivation, engagement, and conceptual understanding.

Imagine MyPath was implemented three days per week in a period designated for digital learning. This period served as planning time for regular classroom teachers and was therefore led by a digital learning support assistant (DLSA). While both classroom teachers and DLSAs received Imagine MyPath professional development, DLSAs provided hands-on implementation and support to students in the program. Classroom teachers also had access to Imagine MyPath reporting and resources to utilize for individualized support to students who required additional instruction.

The evaluation's design addressed the following research questions:

1) How does participation in Imagine MyPath impact student achievement in mathematics and reading?
    a) Does level of program usage relate to student achievement effects?
    b) To what degree do effects vary across:
        i) Schools?
        ii) Grade levels?
2) What are teachers' perceptions of the program with regard to:
    a) Benefits for students?
    b) Student engagement?

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c) Implementation requirements and experiences?
d) Strengths and weaknesses?
e) Recommendations for implementation improvement?

Method

Research Design

A quasi-experimental design (QED) was used to compare mathematics and reading achievement of Imagine MyPath students to that of matched comparison student data obtained through a Similar Schools Report provided by NWEA to the intervention district. Similar Schools Reports contain data from students who, relative to the intervention students at the district, come from schools in a similar area (urban, suburban, rural), with similar percentages of free and reduced meals students (FARMS). Additionally, students as a group are matched on the basis of grade level and prior NWEA MAP Growth (MAP) achievement, as well as demographic variables including gender and ethnicity. This creates "virtual control" groups of students, allowing for direct comparisons of MAP score growth between intervention students and otherwise similar students who did not use Imagine MyPath. In addition, student-level Imagine MyPath program usage data from Imagine Learning were also obtained. Originally, implementation of Imagine MyPath was planned by the district for multiple elementary grades but was subsequently restricted to Grade K only. Qualitative data were collected through an online teacher questionnaire that was administered to kindergarten intervention teachers in Moline-Coal Valley School District (as kindergarten was the only grade level in which Imagine MyPath was used for the entire 2022–23 school year).

Participants

Student sample. Moline-Coal Valley School District No. 40 serves approximately 7,200 students in 15 schools, 12 of which are elementary schools. Data from a total of 466 kindergarten students in Moline-Coal Valley were used in the present analyses. Available demographic data for these students is shown in Table 1.

Table 1

Student Characteristics of Moline-Coal Valley Analytic Sample

	Grade K
Group	Percentages
% Black	16.77
% White	44.00
% Hispanic	21.75
% Other Race	18.07
% Female	48.27
N	466

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Nearly half of students in the Moline-Coal Valley sample were White, followed by approximately 21% Hispanic, and slightly smaller percentages of Black and Other Race students, consistent with overall district demographic trends.

Teacher sample. A total of 38 kindergarten treatment teachers across 12 elementary schools were invited to complete the Imagine MyPath questionnaire and were offered an incentive in the form of a $15 gift card for their participation. A total of 26 participants completed the questionnaire, yielding a 68.4% response rate. Most participants were classroom teachers, with smaller numbers of digital learning support assistants, instructional aides or paraprofessionals providing feedback.

Measures

Data sources for the current study include student mathematics and reading achievement scores, as measured by progress monitoring assessments, along with program usage data and a teacher questionnaire.

NWEA MAP Growth. Moline-Coal Valley provided 2022–23 fall and spring NWEA MAP Growth Mathematics and Reading assessment scores for all kindergarten students in district elementary schools. MAP Growth RIT scores are vertically scaled so that scores can be directly compared across grade levels. Table 2 shows the ranges of MAP Growth RIT Mathematics and Reading scores for kindergarten students at the end of the 2022–23 school year.

Table 2

MAP Growth RIT Score Ranges, by Grade and Subject, Moline-Coal Valley

Subject	MAP RIT score range
Reading (n = 466)	117 - 191
Mathematics (n = 458)	120 - 201

Program usage. Imagine Learning provided student-level Imagine MyPath program usage data. Imagine MyPath usage metrics include total active minutes, as well as counts of lessons completed, and lessons passed. Percentages of passed lessons were also included in these metrics. In order to optimize student learning outcomes when using Imagine MyPath, Imagine Learning recommends that students use the program for a minimum of 30 minutes per week per subject. Students below grade level should spend 60–90 minutes per subject per week. During this time in the program, students should complete at least one lesson per subject per week.

Teacher questionnaire. The teacher questionnaire was administered to teachers of Imagine MyPath in the 2022–23 school year. The questionnaire included curriculum-specific questions relating to classroom practices, student motivation and achievement, program implementation and usage, experience with digital learning, professional development and training, and overall program perceptions. The questionnaire contained Likert-scale and yes/no questions, along with four open-ended items. Likert-scale questionnaire responses were analyzed using descriptive statistics (e.g., percentages and counts), while open-ended questionnaire

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responses were analyzed qualitatively. A copy of the teacher questionnaire can be found in Appendix A.

Analytical Approach

Achievement data for kindergarten students were analyzed descriptively by examining patterns in MAP mathematics and reading scores for the intervention and virtual control group in each district. Fall MAP mathematics and reading scores were defined as pretest measures, while spring MAP mathematics and reading scores were defined as posttest measures. As students were matched with their virtual comparison counterparts and are otherwise similar in terms of prior achievement and demographics, dependent t-tests were conducted by CRRE to examine differences in MAP mathematics and reading growth between Imagine MyPath students and virtual comparison students.

Likert-scale questionnaire items were analyzed descriptively, while open-ended responses were analyzed using qualitative analytic techniques (Miles et al., 2002).

Achievement Results

In this section, we describe the results of the QED comparing student MAP mathematics and reading score growth from fall 2022 to spring 2023 of Imagine MyPath students to that of similar virtual comparison students who did not use Imagine MyPath. Baseline equivalence on MAP mathematics and reading scores is shown in Appendix B; as students were matched by NWEA on prior achievement, this requirement is essentially routine, and baseline differences did not exceed 0.01 standard deviations on any grade-level comparisons.

Descriptive Analyses

We first descriptively compare MAP mathematics and reading score trends for kindergarten students across the 2022–23 school year. Only students with non-missing fall 2022 and spring 2023 scores are included in these analyses. Table 3 shows average MAP math and reading scores at both time points.

Table 3

Average MAP Growth Math and Reading Scores, Fall 2022 to Spring 2023, Moline-Coal Valley (Grade K)

Condition	Fall 2022	Spring 2023	Change
Reading (*n* = 470)			
Imagine MyPath	133.83	153.32	19.49
Virtual Comparison	133.88	153.02	19.14
Mathematics (*n* = 458)			
Imagine MyPath	137.61	160.70	23.09

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Condition	Fall 2022	Spring 2023	Change
Virtual Comparison	137.65	158.62	20.97

Imagine MyPath students outgained virtual comparison students on the mathematics assessment by slightly more than 2 points, while MAP reading gains for Imagine MyPath students and virtual comparison students were similar, with Imagine MyPath students slightly outgaining virtual comparison students.

Usage data. Imagine MyPath usage data were analyzed descriptively. Table 4 shows counts of provided Imagine MyPath usage metrics from across the 2022–23 school year for students with at least one non-missing outcome measure.

Table 4

Average Imagine MyPath Program Usage by Subject

Usage Type	Mean	SD	Minimum	Maximum
Mathematics (*n* = 458)				
Active Minutes	855.97	291.08	20.00	1,979
Lessons Completed	37.35	13.46	1	94
Lessons Passed	27.36	14.62	0	89
Lessons Passed Percentage	69.76	22.10	0	100
Reading (*n* = 466)				
Active Minutes	1,055.72	331.66	190.00	1,855
Lessons Completed	46.11	17.20	4	127
Lessons Passed	27.80	18.68	0	111
Lessons Passed Percentage	56.10	24.68	0	100

In Moline-Coal Valley, average Imagine MyPath usage metrics were generally higher for reading than they were for mathematics. Students averaged nearly 11 hours of reading usage, as compared to slightly more than eight hours of mathematics usage. Students also averaged approximately nine more reading lessons completed than mathematics lessons completed, although counts of lessons passed were similar in both subjects.

Impact analyses. Next, we examine the impacts of Imagine MyPath on MAP mathematics and reading gain scores, in relation to virtual comparison students, by conducting dependent (matched) t-tests on mathematics and reading gain scores from fall 2022 to spring 2023. Table 5 shows estimated Imagine MyPath impacts on MAP mathematics and reading gains for kindergarten, while Figure 1 shows adjusted fall to spring gains for Imagine MyPath and virtual comparison students. Students included in these analyses had non-missing fall 2022 and spring 2023 MAP mathematics and/or reading scores.

Table 5

Imagine MyPath Impacts on MAP Gain Scores, by Subject for Kindergarten, Moline-Coal Valley

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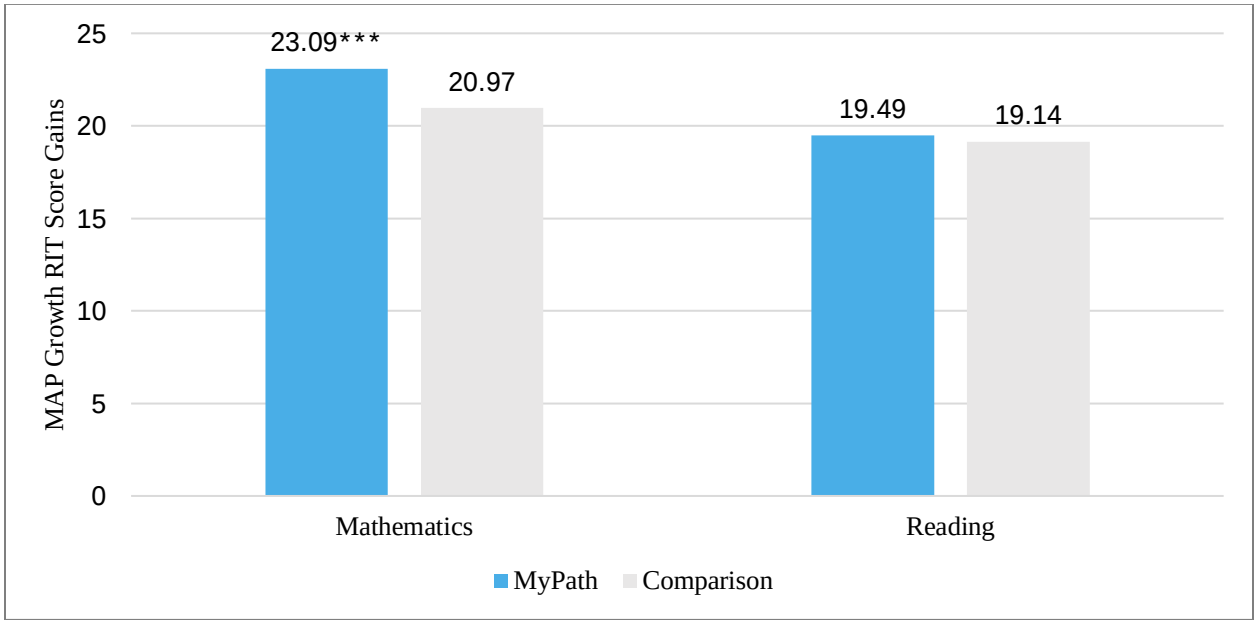
Subject	Estimate	Standard Error	*p* value
Mathematics (*n* = 458)	2.129***	0.449	<.001
Reading (*n* = 469)	0.298	0.484	.538

Note. *** $p < .001$.

Figure 1

MAP Gain Scores, by Subject and Condition



Note. *** $p < .001$.

- MyPath Mathematics Score Gains: 23.09*** (p < .001)
- Comparison Mathematics Score Gains: 20.97
- MyPath Reading Score Gains: 19.49
- Comparison Reading Score Gains: 19.14

A statistically significant positive impact of Imagine MyPath on mathematics gain scores was evidenced for kindergarten students in Moline-Coal Valley, with treatment students averaging more than 2-point larger gains in relation to virtual comparison students. No statistically significant impact of Imagine MyPath on reading gain scores was evidenced, with treatment students slightly outgaining virtual comparison students by approximately 0.3 points.

Associations between usage and achievement. As Imagine Learning provided student-level program usage for Imagine MyPath, Pearson correlations were computed between usage metrics and MAP mathematics and reading gain scores to probe potential associations between program usage and achievement. Table 6 shows these correlations for Imagine MyPath usage.

Table 6

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Associations Between Imagine MyPath Curriculum Usage and MAP Growth Score Gains, by Subject, Moline-Coal Valley

	Pearson's r			
Subject	Active Minutes	Lessons Completed	Lessons Passed	Lessons Passed Percentage
Mathematics (n = 458)	+.25***	+.37***	+.42***	+.38***
Reading (n = 466)	+.14***	+.45***	+.52***	+.44***

Note. *** $p < .001$.

Associations between Imagine MyPath usage metrics and MAP gain scores were generally statistically significant and positive, with magnitudes of these associations ranging between .25 to .52. The strongest associations were found between measures of lessons passed (counts and percentages) and achievement gains, while the weakest associations were found in relation to total active minutes.

Teacher Questionnaire Results

Major takeaways from the Moline-Coal Valley School District teacher questionnaire responses are presented in the section below. We begin with findings pertaining to teacher backgrounds and implementation of the Imagine MyPath program. These sections are followed by teacher perceptions of program impact on student engagement and achievement. Response rates varied by question and item throughout the survey, with item sample sizes reported within each figure.

Background

Respondents (n = 26) represented 10 different elementary schools within the Moline-Coal Valley School District; the majority (57.7%, n = 15) identified primarily as classroom teachers who teach in a variety of grade levels, ranging from kindergarten to Grade 5. All respondents reported teaching kindergarten, while also reporting teaching first, second, third, fourth, and fifth grades. In addition to teachers, 11 respondents (42.3%) identified as digital learning support assistants (DLSAs). Respondents estimated that the majority of students in their classrooms were either below-grade level (31.7%) or on-grade level (35.7%) readers.

Teachers reported on whether they had prior exposure to the Imagine MyPath program. The majority of respondents (69.2%, n = 18) had no previous exposure to Imagine MyPath during the previous 2021–22 school year. Most respondents to this question (85.7%, n = 12) also identified themselves as being confident or somewhat confident implementing technology in their classroom. Respondents reported prior experience using math programs including ST Math, Prodigy Math, and Imagine MyPath, and reading programs such as Imagine Language & Literacy, Kidz A to Z, and RazKidz.

Respondents were first asked about their usage of Imagine MyPath in the classroom with students. Every respondent reported using Imagine MyPath on a weekly or daily basis, evenly

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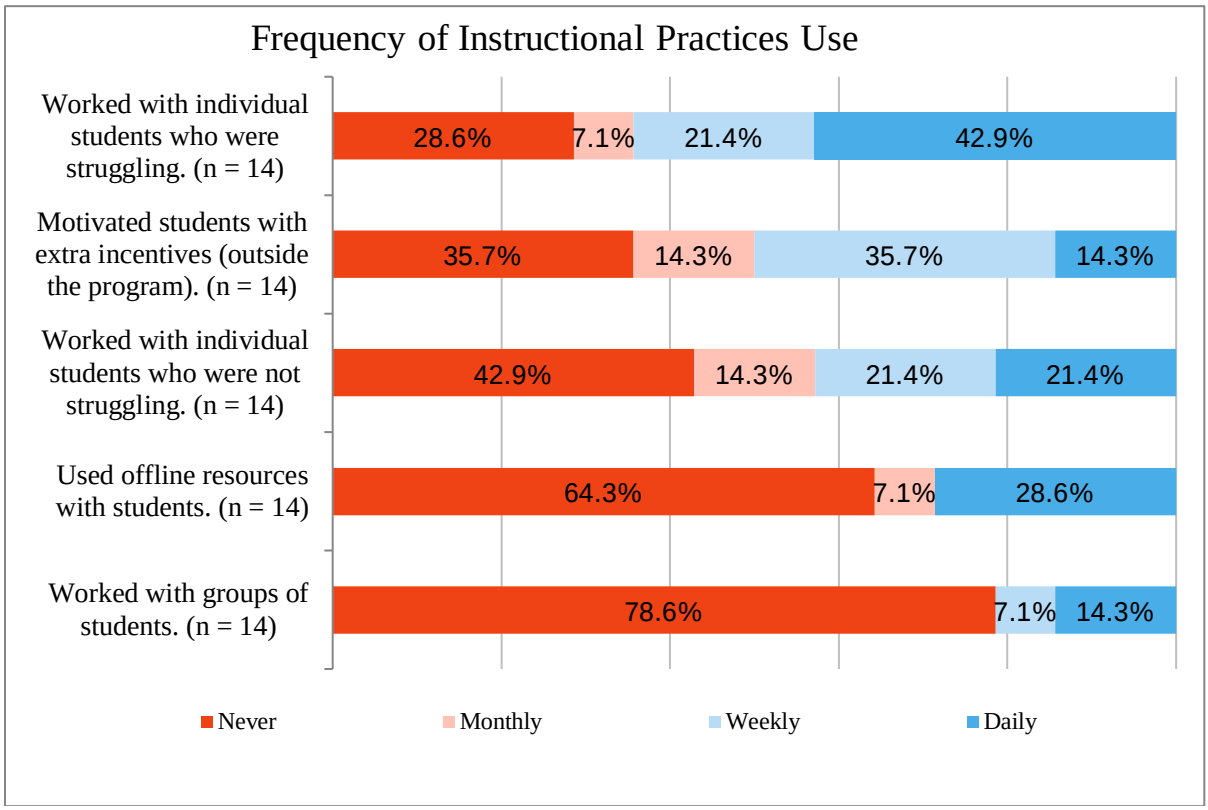
split between seven respondents reporting daily use and seven respondents reporting weekly use. They were also asked to specify their usage frequency for specific practices and aspects of the program (Figure 2). In this set of items, the percentage reported reflects the number of individuals who reported using certain Imagine MyPath instructional practices.

Figure 2

Teachers' Reported Use of Imagine MyPath Instructional Practices with Students



Scale: Never, Monthly, Weekly, Daily (n = 14)

- Worked with individual students who were struggling
- Never 28.6%; Monthly 7.1%; Weekly 21.4%; Daily 42.9%

- Motivated students with extra incentives (outside the program)
- Never 35.7%; Monthly 14.3%; Weekly 35.7%; Daily 14.3%

- Worked with individual students who were not struggling
- Never 42.9%; Monthly 14.3%; Weekly 21.4%; Daily 21.4%

- Used offline resources with students
- Never 64.3%; Monthly 7.1%; Daily 28.6%

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- Worked with groups of students
- Never 78.6%; Weekly 7.1%; Daily 14.3%

Respondents reported also on the frequency with which they conducted certain activities while implementing Imagine MyPath with students. The majority of respondents reported conducting various student support activities on a daily or weekly basis. Most (64.3%, *n* = 9) respondents worked with individuals who were struggling on a daily or weekly basis, with 42.9% (*n* = 6) doing so on a daily basis. However, 78.6% (*n* = 11) of respondents reported never working with groups of students who were not struggling and 64.3% (*n* = 9) of respondents reported never using offline resources with students. Meanwhile, over one-quarter (28.6%, *n* = 4) reported never working with students who were struggling.

As noted in Figure 2, teachers implementing Imagine MyPath had the option to include additional incentives to encourage student engagement in learning and classroom activities. More than half (64.3%, *n* = 9) of respondents said they motivated students with extra incentives outside of the program at some point, with 35.7% (*n* = 5) doing so on a weekly basis and 14.3% (*n* = 2) doing so on a daily basis.

Incentives used varied from respondent to respondent, with two respondents mentioning points, such as Dojo points, “claw cards”, or as part of a campus or school award system. Prizes were another common incentive used, such as stickers or candy, extra recess, or time on fun computer websites. Celebrations of various sorts were also popular ideas, announced as an opportunity for students who reached certain learning thresholds, such as the number of lessons completed. These included Fun Fridays or class parties. One respondent also mentioned growth charts as a means of documenting and following along with progress.

Many respondents (78.6%, *n* = 11) said that these additional incentives were effective in motivating their students to pass lessons. Respondents also commented on whether incentives were effective in different ways for different groups of students. Overall, the majority felt that there were no differently influential incentives or that they had not noticed any differences. One respondent noted “It is effective for most students. I don’t see a specific type of student that it wouldn’t work for. I could see that it wouldn’t work as well with older students.”

Respondents were also asked about the equipment used when implementing the program. Every respondent for this item (100%, *n* = 24) reported that most or all of their students wore headphones while using Imagine MyPath.

Program Implementation

Respondents were asked to describe the frequency with which they used certain teacher support components of the Imagine MyPath program (see Figure 3), including student and class reports, assignment builders, and a teacher toolkit. In this set of items, the percentage reported reflects the number of individuals who reported using certain Imagine MyPath programmatic features.

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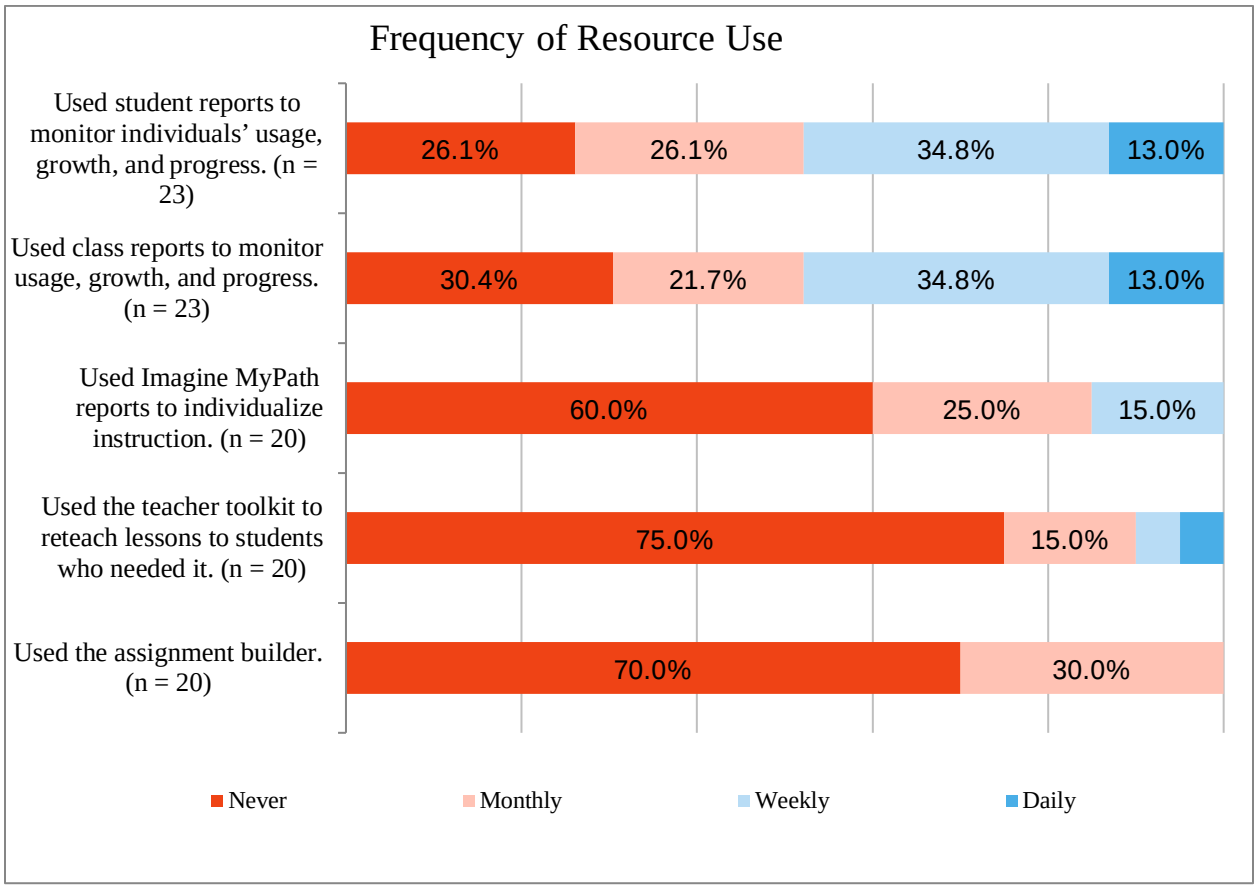
It is important to note that DLSAs (42.3%, *n* = 11) were the only respondents who were responsible for the implementation of Imagine MyPath. While classroom teachers (57.7%, *n* = 15) received some professional development on the program and were encouraged to use program resources to support their instruction, they were not directly responsible or held accountable for their student's use of Imagine MyPath.

Figure 3

Teacher Responses for Frequency of Usage for Specific Imagine MyPath Features and Resources



Note. Values less than 5% are not reported.

Scale: Never, Monthly, Weekly, Daily

- Used student reports to monitor individuals' usage, growth, and progress (n = 23)
- Never 26.1%; Monthly 26.1%; Weekly 34.8%; Daily 13%

- Used class reports to monitor usage, growth, and progress (n = 23)
- Never 30.4%; Monthly 21.7%; Weekly 34.8%; Daily 13%

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- Used Imagine MyPath reports to individualize instruction (n = 20)
- Never 60%; Monthly 25%; Weekly 15%

- Used the teacher toolkit to reteach lessons to students who needed it (n = 20)
- Never 75%; Monthly 15%; Weekly, Daily less than 5% each

- Used the assignment builder (n = 20)
- Never 70%; Monthly 30%

Most teachers reported not using the tools on a daily basis, with just 13% of teachers (*n* = 3) reporting using student reports or class reports on a daily basis to monitor individuals' usage, growth, and progress. Tools were more commonly used on a weekly or monthly basis. A total of 60.9% of respondents (*n* = 14) used the student reports either weekly or monthly, with 34.8% (*n* = 8) saying they used them on a weekly basis. Just over half (56.5%, *n* = 13) of respondents said they used class reports to monitor usage, growth, and progress on a weekly or monthly basis, including 34.8% of whom reported doing so on a weekly basis (*n* = 8).

Some tools did not seem to be utilized as frequently. While 15% of respondents (*n* = 3) used the Imagine MyPath reports to individualize instruction on a weekly basis, 60.0% (*n* = 12) of teachers claimed to have never used the reports. No respondents reported doing so on a daily basis. In addition, no respondents reported using the assignment builder on a daily or weekly basis. Meanwhile, 70% (*n* = 14) said they never used the assignment builder and 75% (*n* = 15) reported never having used the teacher toolkit to reteach lessons to students needing that support.

Teachers were also asked about their experience using the Imagine MyPath platform and reports (Figure 4). In this set of items (and those moving forward), percent agreement is defined as the percentage of teachers that somewhat agree or agree with an item, while percent disagreement is defined as the percentage of teachers who disagree or somewhat disagree with an item.

Figure 4

Teachers' Reported Experience Using Different Imagine MyPath Resources

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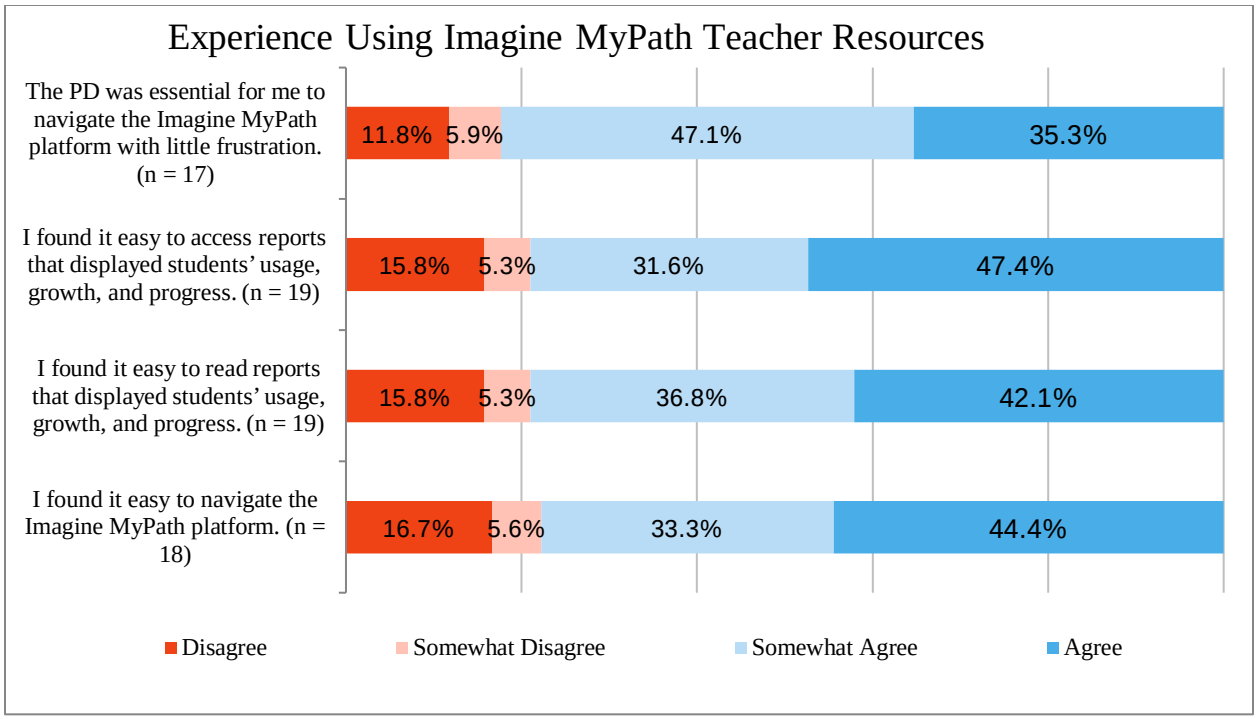

Scale: Disagree, Somewhat disagree, Somewhat agree, Agree

- The PD was essential for me to navigate the Imagine MyPath platform with little frustration (n = 17)
- Disagree 11.8%; Somewhat disagree 5.9%; Somewhat agree 47.1%; Agree 35.3%

- I found it easy to access reports that displayed students' usage, growth, and progress (n = 19)
- Disagree 15.8%; Somewhat disagree 5.3%; Somewhat agree 31.6%; Agree 47.4%

- I found it easy to read reports that displayed students' usage, growth, and progress (n = 19)
- Disagree 15.8%; Somewhat disagree 5.3%; Somewhat agree 36.8%; Agree 42.1%

- I found it easy to navigate the Imagine MyPath platform (n = 18)
- Disagree 16.7%; Somewhat disagree 5.6%; Somewhat agree 33.3%; Agree 44.4%

Responses here were largely positive, with over three-quarters of respondents agreeing or somewhat agreeing with each prompt, finding it easy to access and read reports, as well as navigating the platform. In addition, 82.4% of respondents (*n* = 14) found professional development to be essential in helping them navigate the platform with little frustration. These findings suggest that the platform itself, as well as the professional development preparing them to use Imagine MyPath, was well-designed for the target audience.

Professional Development

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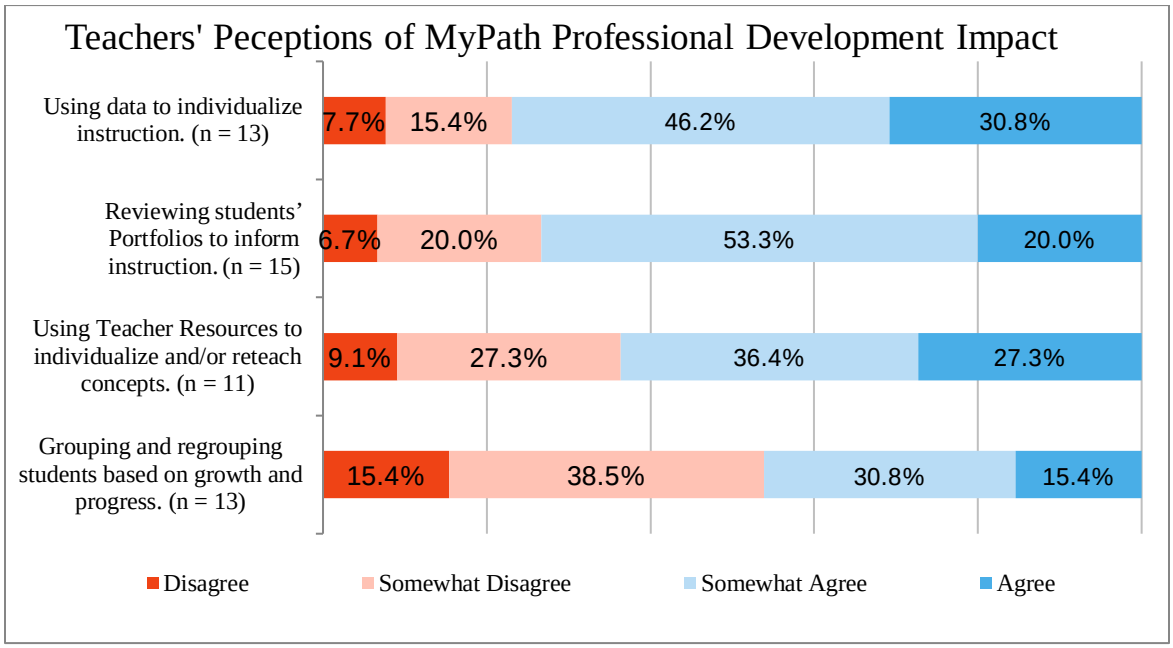
Teachers received professional development (PD) related to the Imagine MyPath program, and the related questionnaire item sought to evaluate the helpfulness of this training. In particular, teachers were asked to indicate their level of agreement with the following statements (see Figure 5).

Figure 5

Teachers' Perceptions of the Imagine MyPath Professional Development



Scale: Disagree, Somewhat disagree; Somewhat agree; Agree

- Using data to individualize instruction (n = 13)
- Disagree 7.7%; Somewhat disagree 15.4%; Somewhat agree 46.2%; Agree 30.8%

- Reviewing students' Portfolios to inform instruction (n = 15)
- Disagree 6.7%; Somewhat disagree 20%; Somewhat agree 53.3%; Agree 20%

- Using teacher resources to individualize and/or reteach concepts (n = 11)
- Disagree 9.1%; Somewhat disagree 27.3%; Somewhat agree 36.4%; Agree 27.3%

- Grouping and regrouping students based on growth and progress (n = 13)
- Disagree 15.4%; Somewhat disagree 38.5%; Somewhat agree 30.8%; Agree 15.4%

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Teachers were generally positive regarding the impact of the Imagine MyPath professional development. The majority of respondents agreed or somewhat agreed that the PD enhanced their understanding of using data (77.0%, *n* = 10) and Teacher Resources (63.7%, *n* = 7) to individualize instruction and/or reteach concepts, while 73.3% (*n* = 11) felt the PD enhanced their understanding of reviewing students' Portfolios to inform instruction. However, teachers were less positive about the impact of the PD on their understanding of grouping and regrouping students based on their growth and progress, as 53.9% (*n* = 7) of teachers disagreed or somewhat disagreed that it had improved their understanding.

Perceived Impact

Teachers were asked to provide their overall perceptions of the Imagine MyPath program in terms of how the program met the needs of diverse learners, and how it improved student engagement and learning.

In order to better understand the effectiveness of the program's assessment, structure, and materials, respondents answered questions (see Figure 6) related to how well Imagine MyPath placed students based on their skill level, adopted instruction and provided content based on student needs, moved students through the material, and addressed the needs of diverse learners and emergent multilingual learners. In particular, teachers were asked to indicate their level of agreement with the following statements.

Figure 6

Teachers' Perceived Impact of Imagine MyPath on Student Needs

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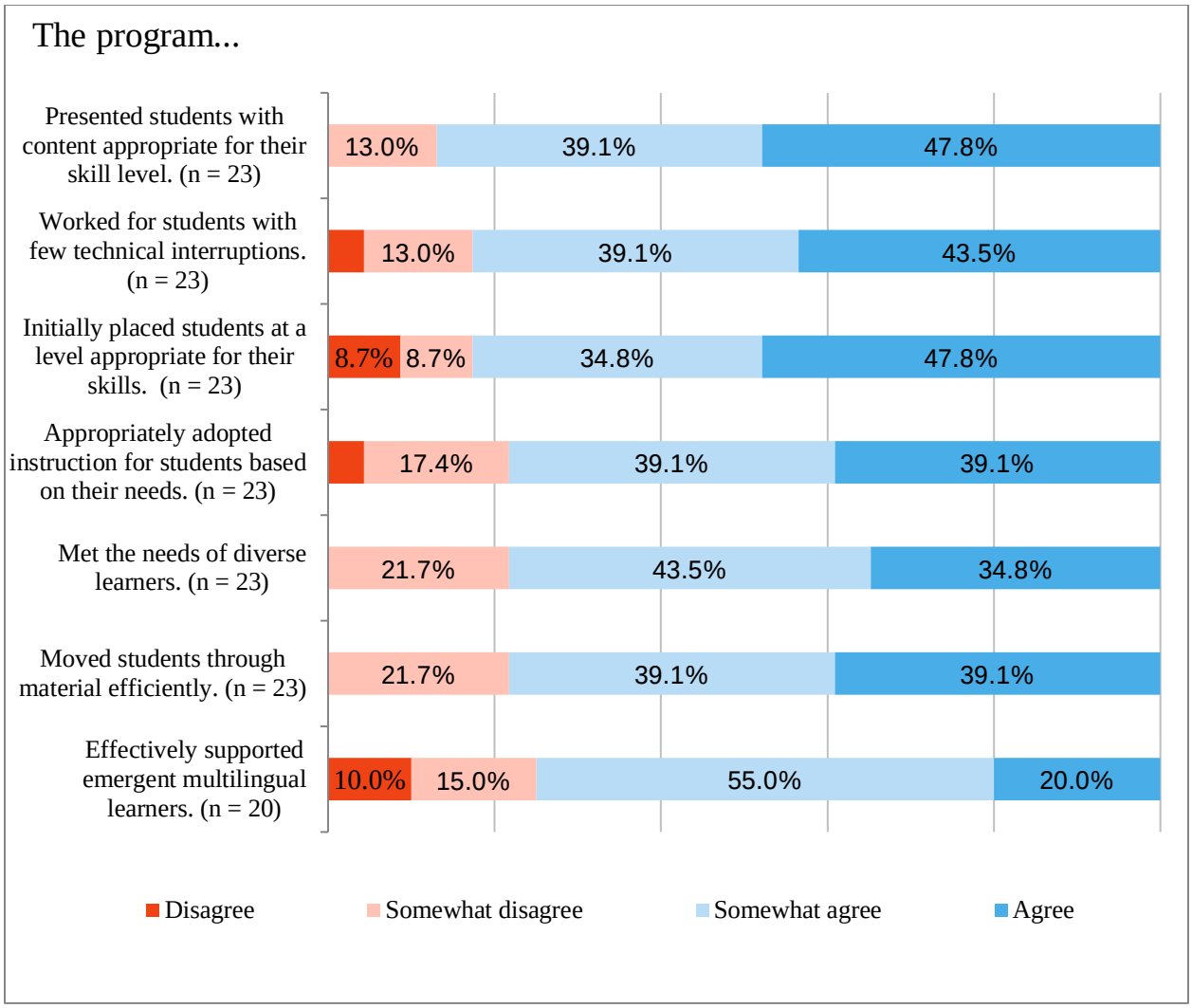

Note. Values of less than 5% are not reported.

Scale: Disagree, Somewhat disagree; Somewhat agree; Agree (n = 23 unless otherwise noted)

- MyPath presented students with content appropriate for their skill level
- Somewhat disagree 13%; Somewhat agree 39.1%; Agree 47.8%

- MyPath worked for students with few technical interruptions
- Disagree less than 5%; Somewhat disagree 13%; Somewhat agree 39.1%; Agree 43.5%

- MyPath initially placed students at a level appropriate for their skills
- Disagree 8.7%; Somewhat disagree 8.7%; Somewhat agree 34.8%; Agree 47.8%

- MyPath appropriately adopted instruction for students based on their needs
- Disagree less than 5%; Somewhat disagree 17.4%; Somewhat agree 39.1%; Agree 39.1%

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- MyPath met the needs of diverse learners
- Somewhat disagree 21.7%; Somewhat agree 43.5%; Agree 34.8%

- MyPath moved students through material efficiently
- Somewhat disagree 21.7%; Somewhat agree 39.1%; Agree 39.1%

- MyPath effectively supported emergent multilingual learners (n = 20)
- Disagree 10%; Somewhat disagree 15%; Somewhat agree 55%; Agree 20%

Respondents were largely positive regarding the program's structure and adaptability. Most teachers (86.9%, *n* = 20) agreed or somewhat agreed that the program presented students with content appropriate to their skill level throughout the year, and 82.6% (*n* = 19) that the program initially placed students at a level appropriate for their skills. Similarly, teachers felt that the program worked for students with few interruptions (82.6%, *n* = 19). Almost as many (78.2%, *n* = 18) felt that the program appropriately adopted instruction for students based on their needs (78.3%, *n* = 18), moved students through material efficiently (78.2%, *n* = 18), and met the needs of diverse learners (78.3%, *n* = 18). Two-thirds (75.0%, *n* = 15) also agreed that the program supported emergent multilingual learners (or "English learners").

Teachers were asked specifically about how participating students engaged with the Imagine MyPath program, with a focus on motivation and whether students were appropriately challenged by the program. Specifically, teachers were asked to indicate their level of agreement with the following statements. The majority of respondents felt that the program appropriately challenged students (73.9%, *n* = 17), while more than half (65.2%, *n* = 15) of respondents agreed or somewhat agreed that the program content motivated students to persist through difficult content.

Respondents were also asked to share their perceptions on students' growth in math and reading skills, and the ability of the program to address students' knowledge gaps (see Figure 7).

Figure 7

Teachers' Perceived Impact of Imagine MyPath on Student Growth

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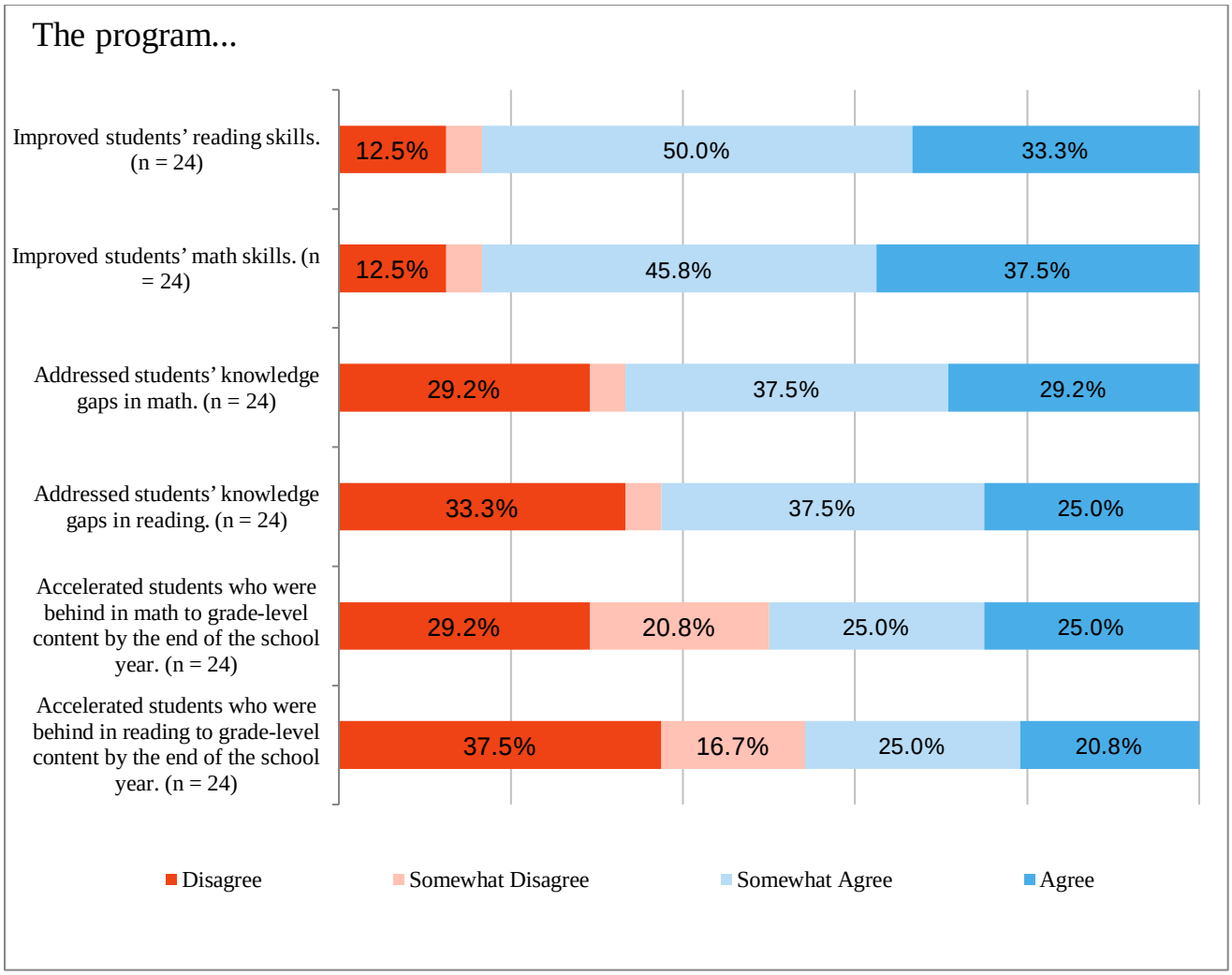

Note. Values of less than 5% are not reported.

Scale: Disagree, Somewhat disagree; Somewhat agree; Agree (n = 24)

- MyPath improved students' reading skills
- Disagree 12.5%; Somewhat disagree less than 5%; Somewhat agree 50%; Agree 33.3%

- MyPath improved students' math skills
- Disagree 12.5%; Somewhat disagree less than 5%; Somewhat agree 45.8%; Agree 37.5%

- MyPath addressed students' knowledge gaps in math
- Disagree 29.2%; Somewhat disagree less than 5%; Somewhat agree 37.5%; Agree 29.2%
-

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- MyPath addressed students' knowledge gaps in reading
- Disagree 33.3%; Somewhat disagree less than 5%; Somewhat agree 37.5%; Agree 25%

- MyPath accelerated students who were behind in math to grade-level content by the end of the school year
- Disagree 29.2%; Somewhat disagree 20.8%; Somewhat agree 25%; Agree 25%

- MyPath accelerated students who were behind in reading to grade-level content by the end of the school year
- Disagree 37.5%; Somewhat disagree 16.7%; Somewhat agree 25%; Agree 20.8%

A large majority of respondents felt that students improved in math (83.3%, *n* = 20) and reading (83.3%, *n* = 20) due to use of the Imagine MyPath program. A majority of respondents also agreed or somewhat agreed with the program's ability to address students' knowledge gaps in math (66.7%, *n* = 16) and reading (62.5%, *n* = 15). Responses were less positive regarding the impact of the program on accelerating the learning for students who were behind in grade-level content, as half of teachers disagreed it accelerated students in math (50.0%, *n* = 12) and more than half disagreed to some extent with the statement regarding reading acceleration (54.2%, *n* = 13) by the end of the school year.

Overall Perceptions

Teachers were asked specifically about their satisfaction with the program and whether they would use or recommend the program in the future using the following statements. Most respondents were positive about the program and would like to use Imagine MyPath again in the future, with 60.9% (*n* = 14) agreeing or somewhat agreeing with the statement. Fewer (52.2%, *n* = 12) said they agreed or somewhat agreed that they would recommend Imagine MyPath to other teachers.

Open-Ended Responses

Teacher impressions of the Imagine MyPath online educator platform resources supportive of effective classroom instruction.

Educators provided open-ended responses to several questions related to their satisfaction with the program and areas for improvement. They were first asked to provide comments on the Imagine MyPath resources that they found to be most helpful in enabling them to be effective in the classroom. Roughly one-quarter of the participants responded (26.9%, *n* = 7,) to the query. Only two participants provided information on helpful resources, namely the program worksheets and the student progress page which the participant liked because it "showed at a glance how many lessons were being passed/failed." From the remaining five responses to the query, one participant replied, "N/A," another stated that they "didn't like [the resources] and went out on my own to find better material," and three explained that someone else from their

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school “does” or “oversees” the utilization of Imagine MyPath resources. In explanation, one stated, “Our computer specialist is the one who looks at the reports and does all the online stuff. Teachers in our building do not alter the programs or look at reports usually.”

Teacher recommendations for improving Imagine MyPath online educator platform to better support teachers in the classroom.

Respondents were asked about recommendations to make the Imagine MyPath online educator platform more effective for helping teachers in the classroom. Four participants replied to this query (15.4%) with two answering, “N/A.” The remaining two participants provided fairly detailed suggestions for how the platform might provide more options for working with lessons and reports. Their comments were as follows:

> *Have the capability to reassign more than one lesson at a time. When running reports, be able to sort on lessons passed or not passed or active time. Have the capability to print multiple lesson resources at once identified with student names on the papers as well as a teacher copy.*
>
> *The program placed all students in their grade level track. While I think this has the benefit of ensuring that high achieving students showed mastery of all of these skills, my most advanced students then spent quite a bit of time doing the mastery checks and it took much longer for them to get to the content that fit their ability level.*

Teacher impressions of student satisfaction with the Imagine MyPath student platform.

Teachers were asked to comment on their perceptions of what components of Imagine MyPath their students most enjoyed. Eleven participants (42.3%) responded to the query with one recording “N/A” and another stating that “students don’t enjoy the program.” The remaining participants’ responses fell equally into the following two categories:

1. Program-generated rewards and feelings of accomplishment obtained by completing program problems/lessons (n = 7). Teachers stated that their students enjoyed receiving “stars” or “tickets” when they completed work correctly, and one teacher recounted that students liked “showing me the screen when they passed a lesson.”
2. Engaging program features including the songs, stories, and avatars (n = 7).

Teacher suggestions for improving the Imagine MyPath student platform to increase student learning.

Finally, teachers provided suggestions that they felt would help the Imagine MyPath student platform to be more effective in increasing student learning. With nine participants responding (34.6%), two replied, “N/A,” and two more responded either “Nothing,” or “Not sure.” Of the others, several participants suggested that the program difficulty level should be

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adjusted, noting that program content was “difficult, confusing or difficult to understand,” particularly for students at the kindergarten level, who also found the explanation videos to be over their heads. One teacher provided the following example:

> *Students who don't know their numbers need more lessons on 1-5 before counting to 100. It seemed some students were over their heads right off the bat and just kept moving along without passing lessons, so a slower approach would be better if they keep failing lessons.*

Other than simplifying content, teachers also recommended that changes be made to make the program more engaging for kindergarten students. Some suggested adding more games, activities, or incentives for students. Individual teacher comments suggested “better, more enticing and relatable videos pertaining to the subject matter” or noted that students had trouble distinguishing between the sounds of different letters when having to choose an answer.

Discussion

The current study was a mixed-methods evaluation designed to provide efficacy evidence for Imagine Learning’s Imagine MyPath program, as well as data regarding program implementation and teacher perceptions. Achievement impacts were determined by comparing treatment students in kindergarten in the Moline-Coal Valley School District to comparison students identified by NWEA’s Similar Schools Report who did not use the program.

Results of the main impact analyses showed mixed patterns of results regarding the efficacy of Imagine MyPath. A significant positive impact of Imagine MyPath on student mathematics achievement gains was evidenced, with treatment students outgaining virtual comparison students by slightly more than 2 points on the NWEA MAP Growth Mathematics assessment. Perceptions of the Imagine MyPath program from Moline-Coal Valley School District teachers were generally positive. Overall, the majority of teachers agreed they would like to use the program again in the future and would recommend it to others. Teachers were highly positive regarding the organization of the program and its impact on student learning. Most teachers agreed that Imagine MyPath helped students improve their reading and mathematics skills and that the program addressed gaps in their knowledge about these subjects. They also largely agreed that the program placed students at the appropriate level initially, challenged them appropriately throughout the program, presented them with content appropriate to their skill level, motivated them to persist through difficult content, and met the needs of diverse learners.

Teacher perceptions of professional development relating to Imagine MyPath were also positive, but more mixed. While teachers generally agreed that the professional development enhanced their understanding of using data and Teacher Resources to individualize instruction and review students’ Portfolios to inform instruction, fewer teachers felt it enhanced their understanding of grouping and regrouping students based on their growth and progress. These findings were reflected in many of the open-ended survey responses that highlighted teacher appreciation for data use. Some respondents highlighted a need for greater training on Imagine MyPath in general and how to use its resources, while others sought training in specific technical components of the program and computer interface. These discrepancies may be attributed to the

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mixed role of respondents and how they perceived the usefulness of training: some were DLSAs who were directly responsible for student activity in Imagine MyPath, while others were classroom teachers who were not.

It is important to note that teachers' attitudes toward the Imagine MyPath program were generally positive, especially as they related to student achievement and engagement, as well as professional development. However, program implementers may wish to reconsider and integrate more closely certain Imagine MyPath resources which teachers reported low levels of use. These include the assignment builder, teacher toolkits, and reports. In particular, all teachers reported either never using the assignment builder or using it only on a monthly basis, while most teachers reported never or monthly use of the teacher toolkit to individualize instruction and over half of teachers reported never using Imagine MyPath reports to individualize instruction. In addition, while responses were generally positive, teachers rated the ability of the Imagine MyPath program to accelerate learning for those behind grade level and motivate students to persist as lower than in other areas. Consideration may be taken to attempt to address these issues in future versions of the Imagine MyPath program.

The above interpretations should be considered in view of several limitations of the present study. Results are derived from data in one unique district; as such, we caution against wider generalization of the results found here. Another limitation is related to the nature of the comparison group. While NWEA matches students on the basis of prior achievement, school type (urban, suburban, or rural), and school-level FARMS percentage, it is possible that comparison students are still fundamentally different from treatment students. Thus, while the comparison group is similar to the treatment group in terms of baseline achievement and school-level characteristics, it is still possible that important differences may exist between treatment and comparison students, especially on individual-level variables. Further, given that the analyses were conducted at the student level using NWEA comparison-student matches unique to the district, the district constitutes a single context in which core curricula and other potentially influential district conditions are confounded with Imagine MyPath. For example, if a particular district were excelling or struggling with its reading and math curricula or with retaining effective teachers in those subjects, the overall achievement effects could reflect the latter factors much more than the impacts of a supplementary program.

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Appendix A: Imagine MyPath Teacher Survey

Imagine MyPath Teacher Survey

Background Information

Please indicate your school.

_____

What is your primary role?

- Classroom teacher
- Instructional Aide/Paraprofessional
- Other (please specify): _____

What grade(s) do you teach? Select all that apply.

- Kindergarten
- First grade
- Second grade
- Third grade
- Fourth grade
- Fifth grade
- Other (Please specify): _____

About what percentage of students in your classroom are...? (Values must add up to 100%.)

- Below-grade level readers: _____
- On-grade level readers: _____
- Above-grade level readers: _____
- Unknown: _____
- Total: _____

Experience with Digital Learning

Did you use *Imagine MyPath* during the **previous school year (2021-2022)?**

- Yes
- No

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Please list any additional digital learning tools you use to support students' *literacy* development during the **current school year (2022-23)**.

Please list any additional digital learning tools you use to support students' *math* development during the **current school year (2022-23)**.

How confident are you implementing technology in your classroom?

- Unconfident
- Somewhat unconfident
- Somewhat confident
- Confident

Program Implementation

The following questions ask about your implementation of *Imagine MyPath* during the 2022–2023 school year.

How often did you implement *Imagine MyPath*?

- Never
- Monthly
- Weekly
- Daily

When implementing *Imagine MyPath*, how often did you do the following?

- Never
- Monthly
- Weekly
- Daily

Worked with individual students who were struggling.
Worked with individual students who were not struggling.
Worked with groups of students.
Used offline resources with students.
Motivated students with extra incentives (outside the program).

Were the additional incentives you put in place effective at encouraging students to pass lessons?

- Yes
- No

What types of incentives did you use? Briefly describe.

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Were these incentives differentially effective for various groups of students (e.g., different grades, genders)?

What percentage of students wore headphones while using *Imagine MyPath*?

- None
- Few
- Most
- All

How often did you do the following in *Imagine MyPath*?

- Never
- Monthly
- Weekly
- Daily
- N/A

Used the class reports to monitor usage, growth, and progress.
Used the student reports to monitor individuals' usage, growth, and progress.
Used Imagine MyPath reports to individualize instruction.
Used the assignment builder.
Used the teacher toolkit to reteach lessons to students who needed it.

To what degree would you agree or disagree with the following statements about *Imagine MyPath*?

- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- N/A

I found it easy to access reports that displayed students' usage, growth, and progress.
I found it easy to read reports that displayed students' usage, growth, and progress.
I found it easy to navigate the Imagine MyPath platform.
The professional development was essential for me to navigate the Imagine MyPath platform with little frustration.

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To what degree would you agree or disagree with the following statements about *Imagine MyPath*?

- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- N/A

The program initially placed students at a level appropriate for their skills.
The program appropriately adopted instruction for students based on their needs.
Throughout the school year, the program presented students with content appropriate for their skill level.
The program moved students through material efficiently.
The program met the needs of diverse learners.
The program worked for students with few technical interruptions.

Professional Development

Please rate the extent to which you agree or disagree about whether *Imagine MyPath*

Professional Development enhanced your understanding of the following.

- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- N/A

Grouping and regrouping students based on growth and progress.
Using data to individualize instruction.
Using Teacher Resources to individualize and/or reteach concepts.
Reviewing students' Portfolios to inform instruction.

Teacher Perceptions

Student Engagement

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Please rate the extent to which you agree or disagree with each of the following statements about student engagement with *Imagine MyPath.*

- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- N/A

Students were motivated to persist through difficult content in the program.
Students were appropriately challenged by the program.

Student Growth

Please rate the extent to which you agree or disagree with each of the following statements about student growth with *Imagine MyPath.*

- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- N/A

The program improved students' math skills.
The program improved students' reading skills.
The program accelerated students who were behind in math to grade-level content by the end of the school year.
The program accelerated students who were behind in reading to grade-level content by the end of the school year.
The program addressed students' knowledge gaps in math.
The program addressed students' knowledge gaps in reading.

Teacher Satisfaction

Please rate the extent to which you agree or disagree with each of the following statements about student engagement with *Imagine MyPath*.

- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- N/A

I would like to use the program in the future.
I would recommend the program to other teachers.

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Extended Response

Educator platform

What *Imagine MyPath* resources helped you be more effective in the classroom?

What could the *Imagine MyPath* online educator platform do differently to help you be more effective in the classroom?

Student platform

What did students enjoy most about the *Imagine MyPath* student platform?

What could the *Imagine MyPath* student platform do differently to increase student learning?

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Appendix B: Baseline Equivalence Tables

Table B1

Unadjusted Baseline Equivalence, Fall 2022 MAP Mathematics and Reading Scores (Grade K Only)

	Overall Mean	Treatment Mean (SD)	Control Mean (SD)	Adjusted T v C Difference	Pooled Unadjusted SD	Stan. Mean Diff.
Mathematics	137.63	137.61 (10.34)	137.65 (10.22)	-0.037	10.279	-0.004
Reading	133.86	133.83 (7.89)	133.89 (7.77)	-0.055	7.827	-0.007

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