

Efficacy Study of ALEKS Adventure In an Indiana School District

Michael A. Cook, PhD, Jane M. Eisinger, MS,
Alan Cheung, PhD, Steven M. Ross, PhD

September 2025



Efficacy Study of ALEKS Adventure In an Indiana School District

Michael A. Cook, PhD, Jane M. Eisinger, MS,
Alan Cheung, PhD, Steven M. Ross, PhD

Center for Research and Reform in Education
The Johns Hopkins University School of Education
2800 N. Charles St
Baltimore, MD 21218
<https://education.jhu.edu/crre>

Preferred citation: Cook, M.A., Eisinger, J.M., Cheung, AI, & Ross, S.M. (2025). *Efficacy study of ALEKS Adventure in an Indiana school district*. Center for Research and Reform in Education, The Johns Hopkins University.

Notice of Trademark: “The Johns Hopkins University” and “JHU” are registered trademarks.

Copyright © 2025 Johns Hopkins University. No part of this report may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, website display, or other electronic or mechanical methods, without the prior written permission of the Johns Hopkins University Center for Research and Reform in Education. For permission requests, please contact CRRE.



Contents

EXECUTIVE SUMMARY	2
INTRODUCTION	3
Overview of ALEKS Adventure	3
Overview of the Evaluation	3
METHOD	3
Research Design	4
Participants	4
Measures	5
Analytical Approach.....	6
RESULTS	6
Math Achievement Gains.....	7
Associations Between Program Usage and Achievement.....	8
Teacher Perceptions of ALEKS Adventure	10
DISCUSSION	20
Math Achievement Gains.....	20
ALEKS Adventure Usage.....	20
Teacher Perceptions	21
APPENDIX A: Teacher Survey.....	22
APPENDIX B: Teacher Questionnaire Responses	28



EXECUTIVE SUMMARY

In this descriptive mixed-methods study, we examined the impacts of McGraw Hill's ALEKS Adventure program on Grades 1-2 student math achievement in an Indiana school district. The primary focus of this report was ALEKS Adventure's impacts on NWEA MAP math scores, as well as teacher perceptions of the ALEKS Adventure program.

- The study used a descriptive design, with all Grades 1-2 math classrooms within the district using ALEKS Adventure. Beginning-of-year (BOY) to end-of-year (EOY) MAP math score gains were examined as the primary quantitative analyses, with gains also analyzed by subgroup. In addition, we examined associated student-level digital ALEKS Adventure usage data and MAP math scores.
- The analytic sample consisted of 1,558 Grades 1-2 students from nine elementary schools in an Indiana school district. In addition, the survey sample consisted of 58 Grades 1-2 teachers that used ALEKS Adventure in the 2024-25 school year.
- Data sources included NWEA MAP student-level math scores from BOY and EOY of the 2024-25 school year. Additionally, McGraw Hill provided student-level digital usage data, including metrics such as total program time, course progress, and counts of skills learned. A teacher survey was also administered; this survey contained Likert-scale and open-ended questions regarding teachers' perceptions of ALEKS Adventure.
- Descriptive analyses showed that students averaged 15-point gains on MAP Math scores from BOY to EOY of the 2024-25 school year. Gains were slightly larger in Grade 2 than in Grade 1. Across both grades, patterns of MAP Math score gains were comparable to or slightly larger than NWEA national norms.
- Students averaged nearly 23 hours of total program usage time across the 2024-25 school year, with Grade 2 students averaging seven hours more of usage than Grade 1 students. Additionally, measures of course progress and topics learned were significantly positively associated with EOY MAP Math scores.
- Teachers reported high satisfaction with the math program's ease of implementation and instructional value, especially its ability to engage students and support personalized learning.
- Students responded positively to the game-like format and independent learning paths, which helped sustain motivation and focus.
- While most teachers felt adequately trained, some, particularly those newer to the program, requested more support in navigating the platform and interpreting data.
- Teachers recommended enhanced training, better differentiation, improved navigation, and expanded support features to better meet the needs of diverse learners.



INTRODUCTION

Overview of ALEKS Adventure

In the fall of 2024, McGraw Hill partnered with the Center for Research and Reform in Education (CRRE) at Johns Hopkins University to test the impact of ALEKS Adventure in an Indiana school district. As described by McGraw Hill, ALEKS Adventure is a math program intended for early elementary grades and consists of an artificially intelligent learning and assessment system that identifies a students' strengths and weakness in math and provides targeted coverage of prerequisite skills. It intermittently reassesses students to ensure retention of those skills as they advance to new topics. ALEKS Adventure also provides teachers with class management tools for monitoring student progress and directing learning remotely. To increase motivation and engagement, the program creates a game-type environment, in which students complete lessons to earn coins that can be spent for customizing their avatar and spaceship.

Overview of the Evaluation

To evaluate the impact of ALEKS Adventure, CRRE collected NWEA MAP score data from all district Grades 1 and 2 students (approximately 60 classrooms overall). As all district Grades 1-2 classrooms used ALEKS Adventure, no comparison group was available. Thus, descriptive and correlational approaches were used to derive evidence of program efficacy. MAP Math increases from fall to spring of the 2024-25 school year were analyzed descriptively. Student-level digital program usage from the ALEKS Adventure platform was also analyzed descriptively and correlationally in relation to math achievement, to examine where program dosage was associated with achievement gains. In addition, teachers were surveyed and interviewed to gain qualitative perspectives regarding teacher perceptions of the program.

The present study used a mixed-methods design to address these research questions:

1. What are teachers' perceptions of ALEKS Adventure?
2. To what extent is ALEKS Adventure associated with increased achievement for individual students?
3. Are there patterns of usage associated with achievement?
4. Are there student characteristics associated with achievement?

METHOD



Research Design

The main outcome measure of this study was NWEA MAP Growth math scores from spring of 2025. Nine elementary schools participated in the study. Analyses examined the growth of Grades 1-2 students on NWEA MAP math scores. Math achievement gains were also examined by grade level and student subgroup. Supplemental analyses were conducted to examine associations between digital ALEKS Adventure program usage data and math achievement gains. Additionally, teachers across the nine schools were given the opportunity to participate in a voluntary survey regarding their perceptions of the ALEKS Adventure program.

Participants

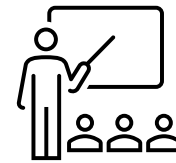
Details about study participants are presented below.



9 elementary schools



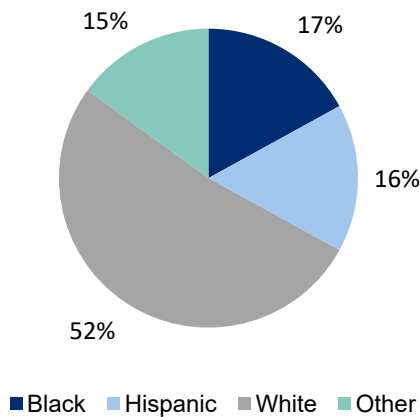
1,558 Grades 1-2 students



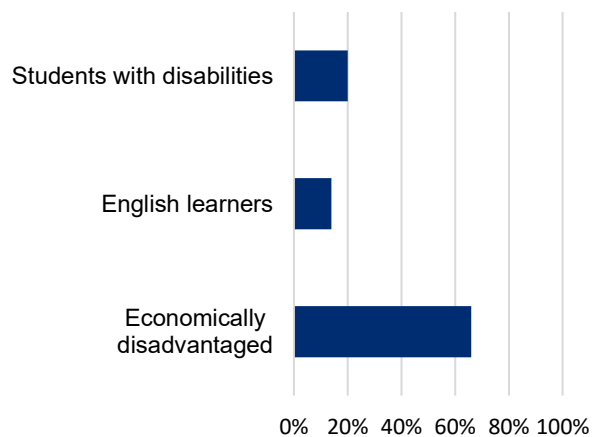
58 Grades 1-2 teachers

Demographic snapshot of student participants¹

Race / Ethnicity



Characteristics





The study was conducted in a medium-large Indiana suburban district that serves more than 10,000 students across 18 schools. Nine elementary schools participated. Slightly more than half of the students in the study sample were White, followed by Black, Hispanic, and Other Race students. Nearly two-thirds of the sample were classified as economically disadvantaged, approximately 15% of students were classified as English-language learners, and 20% of students were in special education services.

The study included a teacher survey that was made available to all 63 ALEKS Adventure teachers in early April of 2025. The response rate was very high, with 61 of 63 teachers (96.8%) responding to the survey, with a near even split between first grade teachers and second grade teachers.

Measures

To address the research questions, the study team gathered and analyzed data including student math achievement data, student-level digital program usage data, and teacher survey data (see Table 1).

Table 1

Research questions with data sources and measures.

Research questions	Student achievement data	ALEKS Adventure usage data	Teacher survey
1. What are teachers' perceptions of ALEKS Adventure?			✓
2. To what extent is ALEKS Adventure associated with increased achievement for individual students?	✓		
3. Are there patterns of usage associated with achievement?	✓	✓	
4. Are there student characteristics associated with achievement?	✓		



NWEA MAP Math. The district provided CRRE with 2024-25 BOY and EOY NWEA MAP Mathematics assessment scores for all Grades 1-2 students in district elementary schools that used ALEKS Adventure. MAP RIT Growth scores are vertically scaled so that scores can be directly compared across grade levels.

ALEKS Adventure digital usage. McGraw Hill provided CRRE with student-level digital usage data from the ALEKS Adventure program platform. The main program usage metric was student time spent in the ALEKS Adventure program. We also examined metrics relating to counts of skills learned and total progress (called pie progress within ALEKS Adventure). These data were available for all students that used ALEKS Adventure, and usage data were linked with achievement data to allow for analyses of associations between ALEKS Adventure program usage and math achievement.

Teacher survey. To address the research questions, the study team gathered and analyzed data utilizing a teacher survey. The teacher survey was co-designed by the CRRE research team and McGraw Hill to examine teachers' perceptions of the program's impacts on student engagement and learning, personal experiences with and reactions to using ALEKS Adventure and implementation fidelity, and recommendations and best practices. Data were collected through a Qualtrics survey link, which was initially shared with the district's Numeracy Coach, who then distributed the link to the district's 63 participating teachers. This instrument primarily used Likert-based (i.e., closed-ended) and open-ended questions to assess teacher impressions. A copy of this instrument is found in Appendix A.

Analytical Approach

Achievement data for students in Grades 1-2 were analyzed descriptively by examining patterns in NWEA MAP mathematics scores for students who used ALEKS Adventure. The BOY MAP math score was defined as the pretest measure, while the EOY MAP Growth math score was defined as the posttest measure. We analyzed pretest to posttest gains descriptively for the entire sample by grade level and by student subgroup. We also performed correlational analyses examining associations between ALEKS Adventure digital usage and achievement gains.

Results of quantitative and qualitative analyses of teacher survey responses from the teacher survey, including selective summary bar graphs, are presented in subsequent sections of this report.

RESULTS

This section of the report begins with findings related to student math achievement gains across the 2024-25 school year. Then, we present results pertaining to associations between ALEKS Adventure digital usage and math achievement gains. We



conclude with an analysis of teacher survey data pertaining to teacher perceptions of ALEKS Adventure.

Math Achievement Gains

To what extent is ALEKS Adventure associated with increased achievement for individual students?

Key Findings

- > Students who used ALEKS Adventure made significant NWEA MAP math gains from BOY to EOY, with students gaining 15 points on average.
- > Patterns of gains were generally comparable across grade levels and student subgroups.

Results of descriptive analysis of BOY to EOY NWEA Math score gains for all Grades 1-2 students are presented in Table 2. We conducted dependent t-tests to examine the statistical significance of BOY-to-EOY score gains..

Table 2

Average MAP math scores, overall and by grade level

Group	BOY score	EOY score	Change
Overall ($n = 1,558$)	166.63	181.63	15.00
Grade 1 ($n = 799$)	163.87	176.42	12.55
Grade 2 ($n = 159$)	169.54	187.11	17.57

Note: all BOY to EOY gains were significant at $p < .001$.

Across all students, BOY-to-EOY NWEA MAP math gains were significant, with the average gain being 15 points. Gains were larger on average for Grade 2 students, who averaged a 17.6-point gain compared to a 12-point gain for Grade 1 students. In relation to 2020 NWEA MAP growth norms, Grade 1 gains were slightly below average growth (16.35 points), while Grade 2 gains were slightly above average growth (14.38 points). It is important to note that NWEA's growth norms are computed for mean (approximately 50th percentile) scores. Grade 1 BOY scores were above national averages, while Grade 2 BOY scores were below national averages. Thus, it is possible that Grade 1 gains were slightly smaller than in Grade 2 due to students starting at a higher prior achievement level.

We also descriptively analyzed BOY-to-EOY NWEA MAP Math score gains for student



subgroups including gender, race/ethnicity, special education status, ELL status, and economically disadvantaged status. The results of these analyses can be found in Table 3.

Table 3
Average MAP Math scores, by subgroup

Group	BOY score	EOY score	Change
Female ($n = 773$)	165.64	180.83	15.19
Male ($n = 785$)	167.60	182.41	14.81
White ($n = 811$)	168.96	185.02	16.06
Black ($n = 261$)	163.05	176.16	13.11
Hispanic or Latino ($n = 248$)	162.35	177.45	15.10
Other Race ($n = 214$)	166.98	180.11	13.13
SPED ($n = 313$)	158.79	174.25	15.46
ELL ($n = 223$)	161.33	176.38	15.05
Economically disadvantaged ($n = 1,021$)	164.03	178.27	14.24

Note: all BOY to EOY gains were significant at $p < .001$.

Math achievement gains for students in various subgroups were comparable to those observed across the overall sample, with average gains ranging between 13-16 points. Gains for SPED and ELL were slightly larger in magnitude than they were for the overall sample, potentially indicating additional program efficacy for ALEKS Adventure with these student subgroups.

Associations Between Program Usage and Achievement

Are there patterns of usage associated with achievement?

Key Findings

- > Students averaged approximately 23 hours of usage, 19 skills learned, and 52% progress through the ALEKS Adventure course. Average usage was higher for Grade 2 than for Grade 1 students.
- > Course progress and counts of skills learned were significantly positively associated with Spring MAP scores. Correlations with BOY- to EOY-MAP math score gains were considerably smaller in magnitude.

Table 4 shows the results of descriptive analyses of ALEKS Adventure digital program usage.



Table 4
Average ALEKS Adventure usage, overall and by grade level

Grade level	Total minutes	Skills learned	Pie progress	<i>N</i>
Overall	1379.60	19.24	52%	1,527
Grade 1	1179.31	18.62	50%	792
Grade 2	1595.42	19.90	54%	735

Across the entire sample, students averaged approximately 23 hours of ALEKS Adventure program usage, slightly more than 19 skills learned, and slightly more than 50% progress through the course (pie progress). Notably, Grade 2 students averaged nearly seven additional hours of total program usage than did Grade 1 students. Grade 2 students also averaged more than one additional skill learned and made more course progress, on average, than did Grade 1 students. These results may help to explain the larger MAP math score gains observed for Grade 2 students in relation to Grade 1 students.

Next, we examined the results of Pearson correlations measuring the associations between ALEKS Adventure usage and MAP math achievement. These results, which are summarized for the overall sample and by grade level, can be found in Table 5.

Table 5
Associations between ALEKS Adventure usage and math achievement

Usage variable	EOY MAP score	BOY to EOY MAP gain	<i>n</i>
All students			
Pie progress	+.63**	+.09**	1,560
Total minutes	-.04	+.05*	1,560
Skills learned	+.36**	+.13	1,560
Grade 1			
Pie progress	+.60**	+.15**	800
Total minutes	-.07*	+.03	800
Skills learned	+.33**	+.09**	800
Grade 2			
Pie progress	+.70**	-.02	760
Total minutes	-.08*	.03	760
Skills learned	+.40*	+.06	760

Note. * $p < .05$; ** $p < .01$.

Total pie progress (course progress) and counts of skills learned were consistently positively associated with EOY MAP scores, with pie progress strongly associated with EOY MAP scores ($r > .60$), while counts of skills learned were moderately associated with EOY MAP scores ($.30 < r < .40$). The magnitudes of these associations decreased considerably when usage was correlated with BOY to EOY MAP score gains, with all correlations having magnitude of .15 or less (though with the large sample size,



generally remaining statistically significant). Total program time was not meaningfully associated with MAP math scores (or score gains), as these associations were all less than .10 in magnitude. This likely indicates that students with higher EOY MAP math scores tended to use ALEKS Adventure to a higher degree, but they did not necessarily make considerably larger gains than other students since they started at a higher baseline level of mathematics achievement.

Teacher Perceptions of ALEKS Adventure

Responses to the teacher survey were analyzed qualitatively and quantitatively. We report the results below.

What are teachers' perceptions of ALEKS Adventure?

Key Findings

- > Teachers were highly satisfied with program features including ease of implementation, educational benefits, and alignment with state standards.

- > They observed high student engagement and highlighted program strengths such as personalized learning, clear data insights, and support for classroom management.

- > While most teachers felt training was sufficient, many suggested enhancements, especially in navigating the platform, interpreting data, transitioning students, and tracking progress.

Participants were evenly split between first grade teachers ($n = 30$) and second grade teachers ($n = 31$). A clear majority ($n = 48$, 78.7%) reported that the ALEKS Adventure training they had received was sufficient. Teachers who indicated that the training had not been sufficient ($n = 13$, 21.3%) were asked to elaborate. Twelve of the thirteen teachers responded, and nearly all ($n = 11$) stated that they would have liked to have had/needed more training. Specifically, these teachers requested additional training in the following areas:

- how to access, interpret, and use program reports meaningfully ($n = 3$)
- how to transition students from one grade level to the next ($n = 3$)
- how to navigate within the program itself ($n = 3$)



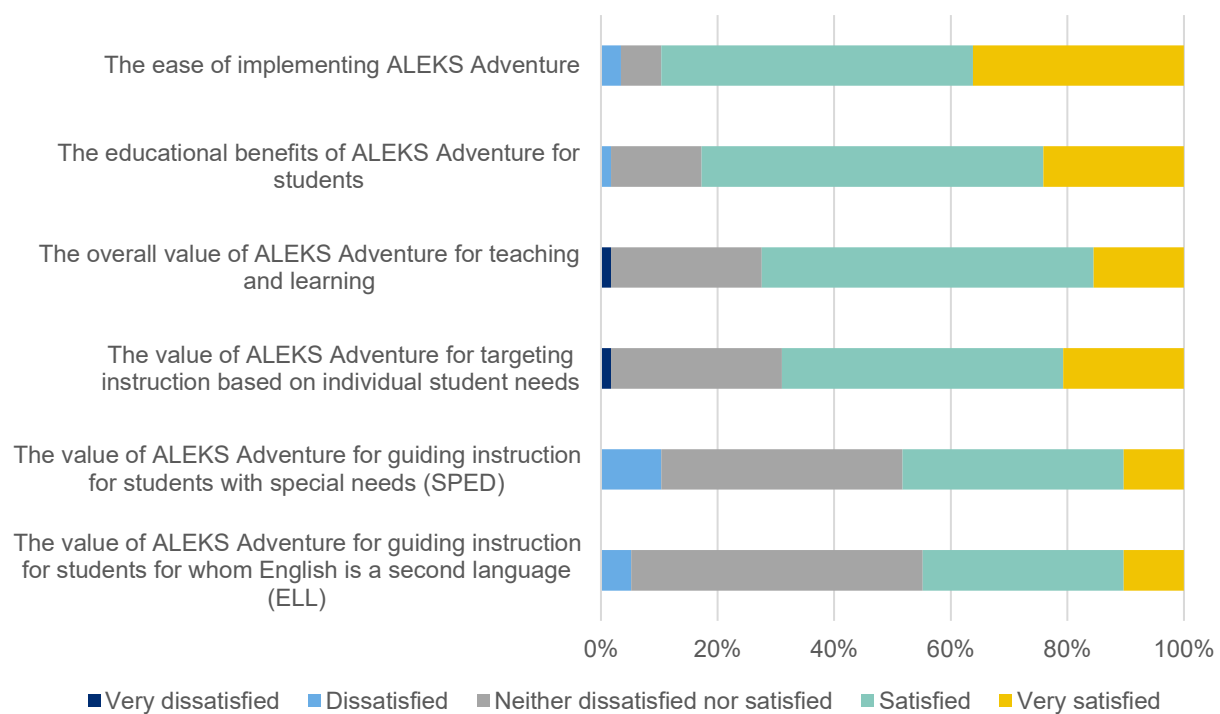
The remaining response came from a teacher who explained, “I started at my current school in the middle of the year and was not entirely sure how the program worked.”

Teachers were also asked how prepared they felt to integrate ALEKS Adventure curriculum support tools into their teaching. Of the 58 teachers who responded, nearly 70% (69.0%) felt either somewhat or very prepared, while an additional 24.1% provided a “neutral” response. Only four teachers (6.9%) indicated that they felt either somewhat or very unprepared.

Participants were asked to indicate their satisfaction with various facets of ALEKS Adventure including its value in their classrooms, both overall and in its use for specific purposes such as targeting or guiding instruction, and with respect to its ease of use and educational benefit to students. The results are illustrated in Figure 1.

Figure 1

Teachers’ perceived value of ALEKS Adventure in the classroom



Note. N = 58.

Most participants provided a rating of satisfied or very satisfied for the following statements:

- The ease of implementing ALEKS Adventure (89.6%)
- The educational benefits of ALEKS Adventure for students (82.8%)
- The overall value of ALEKS Adventure for teaching and learning (72.4%)
- The value of ALEKS Adventure for targeting instruction based on individual

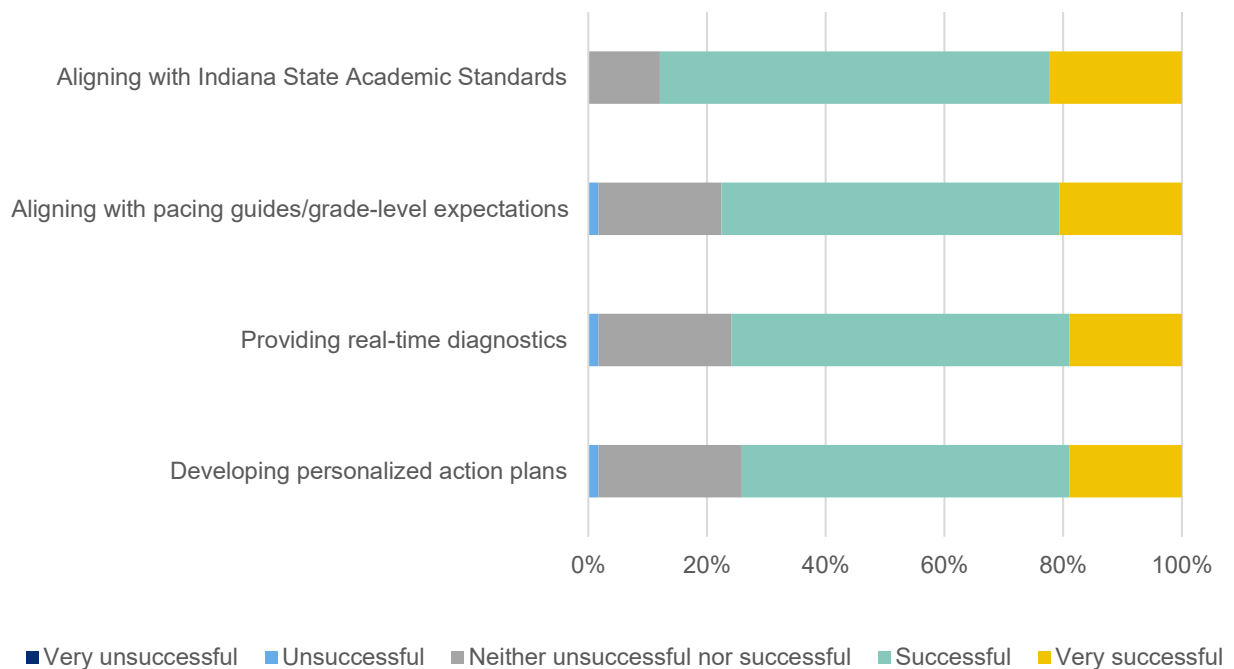


student needs (69.0%)

Levels of satisfaction were lower for the value of the program in targeting or guiding instruction for students with special needs (SPED) or for students for whom English is a second language (ELL), uses that garnered the highest numbers of teachers who were neither satisfied nor dissatisfied.

Participants were asked to rate how successful ALEKS Adventure was in several areas of focus including alignment with State Academic Standards. The results are illustrated in Figure 2.

Figure 2
Standards alignment and utilization features of ALEKS Adventure



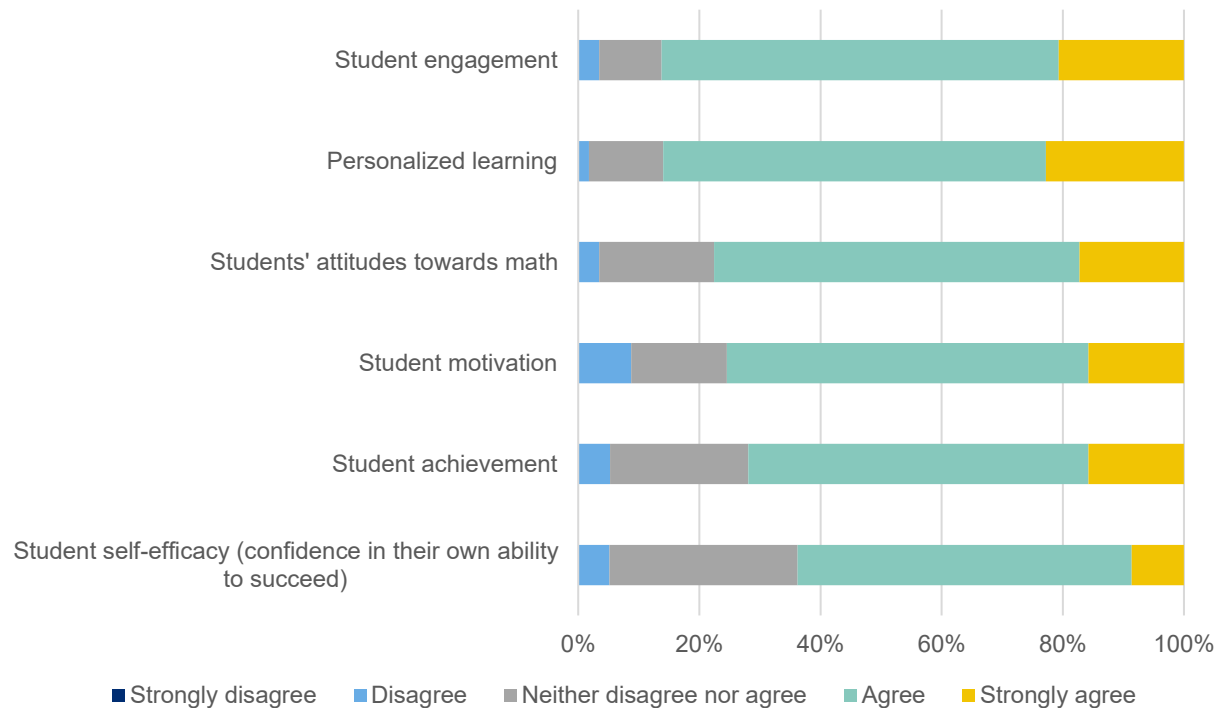
Note. N = 58.

Teachers were largely in agreement that ALEKS Adventure was successful in meeting each of these aims. This was especially true in the program’s aligning with the Indiana State Academic Standards, with nearly 90% of teachers (87.9%) indicating that this had been a success.

To explore the program’s impact on students, participants were asked to indicate their level of agreement to statements related to program effects on six student factors. The results are illustrated in Figure 3.



Figure 3
Student impact



Note. $N = 57-58$ responses per question.

Across all six areas measured, the majority of teachers responded with “Agree” or “Strongly agree,” indicating that the program had a positive effect. For example, over 85% of teachers (86.2%) agreed or strongly agreed that the program boosted student engagement. Student engagement and personalized learning were the most highly rated, suggesting that the program helped make learning more immersive and tailored. Self-efficacy had the most neutral responses, likely because this trait takes longer to build. None of the teachers strongly disagreed with any of the statements, an indicator of their general satisfaction with the program and its impacts..

In response to several open-ended survey items, teachers provided feedback on program strengths and challenges, and offered recommendations for program improvement. As shown in Table 6, teachers most appreciated the program’s ease of use, noting that it was simple for them and their students to implement, navigate, and access. They also valued clear and actionable data insights, which helped them monitor student progress and guide instruction. Additional highlighted program attributes included strong student engagement, personalized learning experiences, and support for classroom management and small group instruction. Conversely, as summarized in Table 7, a smaller group of teachers ($n = 8-11$) reported challenges with navigating and using the platform, such as assigning materials and advancing students between grade levels and accessing and interpreting data for instructional decisions or family communication. Time constraints limited some teachers’ ($n = 8$) ability to explore or



integrate the platform into routines. Some also wanted more control over student activity for better monitoring. Overall, these results imply that while the program features were generally viewed favorably, several teachers experienced difficulties with navigation or other applications and therefore could have benefitted from additional training or coaching.



Table 6
Most-liked aspects of ALEKS Adventure - for teachers

Theme	Teacher questionnaire frequencies	Teacher questionnaire key points	Related teacher quotes
Ease of use	18 (47%)	<p>Program described as easy to implement, navigate, assign, and access.</p> <p>Teachers found it effortless for both themselves and students to use.</p> <p>“User friendly” set-up” led to minimal frustration and smooth onboarding.</p>	“I like that the set-up is hands off and doesn't require me to do anything.”
Data access and insights	12 (31%)	<p>Teachers appreciated how easy it was to view, interpret, and act on student data.</p> <p>Real-time performance, pie chart analytics, growth tracking (BOY to EOY), and individualized feedback were cited.</p>	“I enjoy being able to look at the pie chart data and see in real time where my students are struggling in order to pull small groups”.
Student engagement and motivation	6 (16%)	<p>Students using the program were described as motivated, engaged, and positive.</p> <p>Teachers liked that students felt the program made math fun and interactive.</p>	“My students love ALEKS Adventure!”
Personalization and differentiation	5 (13%)	<p>The adaptive nature of the program, giving questions based on each student's academic level, made it feel more individualized.</p> <p>Teachers could easily spot skill gaps and provide targeted instruction.</p>	“I like that it is relatively easy to see where students are at in their math skills. I also enjoy the added differentiation for each student.”
Instructional support and classroom mgt	2 (5%)	<p>Teachers found value in using the program to support small group instruction, monitor independent work, and redirect fast finishers.</p> <p>The program acted as an “extra tool in the box” that reinforced core math knowledge.</p>	“I like that it follows the same teachings as they learn from the lessons in the book. The continuity of skills is nice.”

Note: Participants may have made comments that fit into more than one category



Table 7
Challenges presented by ALEKS Adventure – for teachers

Theme	Teacher questionnaire frequencies	Teacher questionnaire key points	Related teacher quotes
Platform navigation and technical barriers	11 (47%)	<p>The teacher interface wasn't intuitive for everyone. Figuring out how to move students up grade levels or reassign content proved confusing.</p> <p>Several teachers requested features like audio support for Special Education students.</p>	"I hate that I don't know how to find the reports for students and breaking down on each students' needs or the whole classes' needs."
Data and reporting	8 (31%)	<p>Some teachers struggled to access and interpret student reports.</p> <p>Communicating progress to families felt unclear or unsupported.</p> <p>Teachers were unsure how to diagnose students or plan instruction from the data.</p>	"I'm not exactly sure how to communicate the data to parents."
Time constraints	8 (16%)	<p>Some teachers lacked the time to explore the platform, analyze data, or thoughtfully integrate the program into lessons.</p> <p>One teacher joined mid-year and had to play catch-up with training.</p>	"I struggle to find time to implement the ALEKS Adventure, on top of daily content and Math Fact Lab."
Student monitoring and management	5 (13%)	Several teachers wanted more control over what students could access within the program.	"I find it challenging to monitor at times if they are solving math problems or using the fun features instead like designing their character."
Uncertainty over grade level transition	3 (5%)	A few teachers noted not knowing what to do when one of their students completed a grade level within the program.	"Students can complete the whole program and then we don't have anything for those students to work on."

Note: Participants may have made comments that fit into more than one category

Teachers were also asked to identify program strengths and challenges for their students, as summarized in Tables 8 and 9. A large number of teachers (n = 19) praised the program for making learning fun, motivating, and enjoyable for students. The game-



like format made learning engaging and less intimidating. Many responses ($n = 18$) also highlighted its individualized learning features that allowed students to work at their own pace and follow personalized paths. Teachers and students liked the independence that the user-friendly platform provided. Other valued aspects included supportive features like reteaching and audio/visual aids, and academic relevance to classroom content. Overall, the program was seen as a fun, flexible, and effective learning tool. However, when it came to challenges the program presented to their students, the most common issue ($n = 11$) was that some students struggled to understand directions and content. Smaller numbers of teachers (n 's = 4 to 7) noted challenges for students related to time to complete lesson activities, engagement, instructional content, and pacing.

Table 8
Most-liked aspects of ALEKS Adventure - for students

Theme	Teacher questionnaire theme frequencies	Teacher questionnaire key points	Related teacher quotes
Student engagement and motivation	19 (50%)	Students found the program engaging, fun, and interesting.	"The students are definitely engaged in the program and are excited to help each other while doing math."
Personalized learning and skill-based learning	16 (42%)	Teachers reported that the program emphasized personalized paths, self-paced learning, and student control	"I like that each student can be in control of their learning and it is individualized to each student's mathematic needs."
Ease of use/independence	6 (16%)	Students found the program user-friendly and rarely required assistance	"I like that students can work on this independently and it is at their own pace."
Academic relevance	4 (11%)	The program topics related to and supported the core math curriculum	"ALEKS Adventure was such a good tool to introduce all of the strategies we had been learning in the classroom and to help the students get the opportunity to use all of them!"
Supportive features	4 (11%)	Students benefitted from features such as reteaching, audio-visual aids and interactivity.	"They think the program is fun and it allows them to try things out without the fear of classmates seeing their attempts. It encourages them to master more topics."

Note: Participants may have made comments that fit into more than one category



Table 9
Challenges presented by ALEKS Adventure - for students

Theme	Teacher questionnaire frequencies	Teacher questionnaire key points	Related teacher quotes
Accessibility and comprehension	11 (34%)	Some students struggled with reading directions, understanding concepts, and navigating the content.	<p>“Some of the directions for topics were confusing to some of the students.”</p> <p>“The kids would get stuck and not understand how to get past it.”</p>
Engagement challenges	7 (22%)	Some students lost interest, became tired of repetitive tasks, or were hard to motivate.	“Students can get discouraged when they keep getting answers wrong or they just don't want to engage with it.”
Time constraints	6 (19%)	Teachers noted limited time for practice, particularly for struggling learners.	“Some of students struggle with the problems and need more time.”
Instructional limitations	4 (13%)	Some noted that the program did not reteach concepts or offer alternative explanations.	“I wish there was a way for them to review "learned" topics that were not the same questions.”
Pacing and progression	4 (13%)	Issues included students finishing too quickly, struggling to move forward, or lacking clear transition points.	“Students can complete the whole program and then we don't have anything for those students to work on.”

The challenges identified, both for teachers and for students, led to recommendations (see Table 10) that included giving teachers more control over assigning topics and providing additional or continuous training to teachers to improve their implementation.



Table 10
Recommendations for program improvement

Theme	Teacher questionnaire frequencies	Teacher questionnaire key points	Related teacher quotes
Teacher training and support	7 (24%)	Offer more/continuous training, easier progress tracking, and better teacher tools.	"I would like training on how to track the students' progress."
Student leveling and differentiation	6 (21%)	Simplify the process for students to move beyond or below grade level based on their needs.	"Have the program available for all grade levels and allow the screener at the beginning to place them in the appropriate grade level to help fill in any gaps students may have."
Content customization	5 (17%)	Give teachers more control over assigning content, managing avatars, and customizing class settings.	"More teacher abilities to control use of the character abilities, outfits, and store." "Allow teachers to assign content."
Program features and navigation	4 (14%)	Improve usability and limit distractions like avatars and greetings.	"Make the teacher portal a little friendlier to navigate. Also, do not give students the option to customize their avatar."
Student engagement	4 (14%)	Reduce distractions and improve focus, such as shortening videos and limiting customization.	"Shorten some of the introductory videos."
Progress monitoring and reporting	3 (10%)	Provide easier reporting tools and weekly progress summaries.	"I would make it easier to run reports."
Accessibility and inclusion	3 (10%)	Better support special education, ELL students, and involve families.	"Be able to turn on features to help SPED and ELL students. Maybe we can do that already and I haven't figured out to do it."

Note: Participants may have made comments that fit into more than one category

The most common recommendation ($n = 8$) was to enhance teacher training and support, with specific requests for clearer guidance on tracking student progress, navigating the teacher portal, and using program features effectively. Several teachers ($n = 6$) also suggested the need for better student leveling and differentiation, resulting from challenges faced in trying to transition students from one grade level to another within the program. There also were calls for more content customization and assignment options, allowing teachers greater control over what students could work on



and how they interacted with features like avatars and the store. Improvements to program navigation and usability were also suggested, including simplifying the interface and limiting distractions. To boost student engagement and focus, educators recommended shortening videos and reducing time spent on non-academic features.

DISCUSSION

The purpose of the present study was to evaluate the impact of ALEKS Adventure on Grades 1-2 student math achievement in an Indiana school district. A mixed-methods evaluation was conducted in which NWEA MAP math scores from BOY and EOY of the 2024-25 school year were analyzed descriptively to examine trends in achievement gains, and program teachers were surveyed regarding their perceptions of the program.

Math Achievement Gains

Results of the main descriptive analyses showed that Grades 1-2 students made significant gains on the NWEA MAP math test from BOY to EOY of the 2024-25 school year. Across both grades, gains averaged 15 points, with larger gains observed for Grade 2 students. Grade 2 MAP math gains for district students were comparable to or slightly higher than NWEA national norms, suggesting that ALEKS Adventure usage may have been associated with increased math achievement gains. Grade 1, however, which averaged seven less hours of usage than Grade 2, demonstrated gains lower than the norms. Descriptive analyses of MAP math gains by student subgroup showed similar patterns of gains across all subgroups, with gains averaging between 13-16 points.

ALEKS Adventure Usage

Across the entire sample, students averaged approximately 23 hours of ALEKS Adventure usage in the 2024-25 school year. As noted above, usage was considerably higher in Grade 2, averaging nearly seven hours more than in Grade 1. Measures of total course progress and topics learned were significantly positively associated with Spring 2025 MAP math scores, with observed correlations of .33-.70 in magnitude. These same measures were also significantly correlated with BOY-to-EOY MAP math score gains, although the magnitudes of these correlations were considerably smaller. These patterns suggest that students who were more frequent and successful users were also those who tended to perform higher on the EOY MAP. However, the relationship between program usage and MAP gain may have been attenuated due to some students, mainly higher achievers, completing the program more successfully but being less dependent on its activities for improving MAP achievement than were lower-achieving students.

The usage results should be considered in interpreting the student achievement outcomes. As a supplemental program, ALEKS Adventure's time usage by students averaged only 23 hours (less than 40 minutes a week) across the school year. Expectations regarding impacts on achievement gains from fall to spring therefore should be tempered accordingly. Promising evidence is offered by the positive direction



of Grade 2 gains relative to MAP norms and that the associated usage averaged seven hours longer than for Grade 1, for which the gain fell slightly short of the norm.

Teacher Perceptions

Survey participants included a nearly equal number of first grade ($n = 30$) and second grade ($n = 31$) teachers. Most participants (78.7%) felt the training they received was sufficient. Suggestions for additional training noted difficulties in accessing and interpreting program reports, transitioning students between grade levels, and navigating the platform. The highest ratings of program features were for ease of implementation (89.6%), educational benefits for students (82.8%), overall value for teaching and learning (72.4%), and its usefulness in targeting instruction based on individual student needs (69.0%). Nearly 90% (87.9%) agreed it successfully aligned with Indiana State Academic Standards. Notably, the majority of teachers agreed or strongly agreed that the program positively influenced students in multiple areas, especially student engagement (86.2%).

Teachers highlighted the program's strengths, including ease of use, clear data insights, strong student engagement, personalized learning, and support for classroom management. However, a smaller group also identified challenges such as difficulty navigating the platform, assigning materials, advancing students, time constraints, and interpreting data. Time conveyed that students enjoyed working independently on a user-friendly platform. Supportive features like reteaching and audio/visual aids were also valued. When asked about challenges for students, several teachers noted difficulties in understanding directions and content, insufficient time to complete lessons, and lack of engagement. The most frequent recommendation was to improve teacher training and support, especially in tracking progress and using the platform effectively. Several teachers also called for better student leveling and differentiation, more control over content and features, improved navigation, and reduced distractions.



APPENDIX A: Teacher Survey

McGraw Hill ALEKS Adventure Teacher Questionnaire - Spring 2025 GCCS

Johns Hopkins University is working with McGraw Hill to evaluate McGraw Hill's ALEKS Adventure Math Program. Feedback from teachers is essential to this work.

Thank you for taking the time to complete this questionnaire. By completing this questionnaire, you are consenting to be in this research study. Your participation is voluntary, and you can stop at any time.

What is the grade of the majority of your students?

- First
- Second

Was the ALEKS Adventure training you received sufficient?

- Yes
- No

Display this question:

If Was the ALEKS Adventure training you received sufficient? = No

You replied "no" when asked whether the ALEKS Adventure training you received was sufficient. Please explain why.

How prepared do you feel to integrate ALEKS Adventure curriculum support tools into your



teaching?

- Very unprepared
- Somewhat unprepared
- Neutral
- Somewhat prepared
- Very prepared



Please indicate your satisfaction with the following:	Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very satisfied
The overall value of ALEKS Adventure for teaching and learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The value of ALEKS Adventure for targeting instruction based on individual student needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The value of ALEKS Adventure for guiding instruction for students with special needs (SPED)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The value of ALEKS Adventure for guiding instruction for students for whom English is a second language (ELL)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ease of implementing ALEKS Adventure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



The educational benefits of ALEKS Adventure for students

How successful is ALEKS Adventure at:

	Very unsuccessful	Unsuccessful	Neither unsuccessful nor successful	Successful	Very successful
Aligning with Indiana State Academic Standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aligning with pacing guides/grade-level expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing real-time diagnostics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing personalized action plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate your level of agreement to the following statements. ALEKS Adventure has been



beneficial in improving:

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
Student engagement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student motivation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student self-efficacy (confidence in their own ability to succeed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students' attitudes towards math	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student achievement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personalized learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q9 What do you like best about ALEKS Adventure for yourself?

Q10 What do you like best about ALEKS Adventure for your students?

Q11 What do you find challenging about ALEKS Adventure for yourself?



Q12 What do you find challenging about ALEKS Adventure for your students?

Q13 What are your recommendations for improving ALEKS Adventure program use in the future?



APPENDIX B: Teacher Questionnaire Responses

1. Please indicate your satisfaction with the following:

	Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very satisfied	N	M	SD
	%	%	%	%	%			
The overall value of ALEKS Adventure for teaching and learning	1.7	0.0	25.9	56.9	15.5	58	3.84	0.74
The value of ALEKS Adventure for targeting instruction based on individual student needs	1.7	0.0	29.3	48.3	20.7	58	3.86	0.80
The value of ALEKS Adventure for guiding instruction for students with special needs (SPED)	0.0	10.3	41.4	37.9	10.3	58	3.48	0.81
The value of ALEKS Adventure for guiding instruction for students for whom English is a second language (ELL)	0.0	5.2	50.0	34.5	10.3	58	3.50	0.75
The ease of implementing ALEKS Adventure	0.0	3.5	6.9	53.5	36.2	58	4.22	0.72
The educational benefits of ALEKS Adventure for students	0.0	1.7	15.5	58.6	24.1	58	4.05	0.68



2. How successful is ALEKS Adventure at:

	Very unsuccessful	Unsuccessful	Neither unsuccessful nor successful	Successful	Very successful	N	M	SD
	%	%	%	%	%			
Aligning with Indiana State Academic Standards	0.0	0.0	12.1	65.5	22.4	58	4.10	0.58
Aligning with pacing guides/grade-level expectations	0.0	1.7	20.7	56.9	20.7	58	3.97	0.69
Providing real-time diagnostics	0.0	1.7	22.4	56.9	19.0	58	3.93	0.69
Developing personalized action plans	0.0	1.7	24.1	55.2	19.0	58	3.91	0.70

3. Please indicate your level of agreement to the following statements. ALEKS Adventure has been beneficial in improving:

	Strongly disagree	Disagree	Neither disagree mor agree	Agree	Strongly agree
--	----------------------	----------	----------------------------------	-------	-------------------



	%	%	%	%	%	N	M	SD
Student engagement	0.0	3.5	10.3	65.5	20.7	58	4.03	0.67
Student motivation	0.0	8.8	15.8	59.7	15.8	57	3.82	0.80
Student self-efficacy (confidence in their own ability to succeed)	0.0	5.2	31.0	55.2	8.6	58	3.67	0.70
Students' attitudes towards math	0.0	3.5	19.0	60.3	17.2	58	3.91	0.70
Student achievement	0.0	5.3	22.8	56.1	15.8	57	3.82	0.75
Personalized learning	0.0	1.8	12.3	63.2	22.8	57	4.07	0.65