

**LEANLAB EDUCATION**



# **EXPLORING EDUCATOR & STUDENT EXPERIENCES WITH FLEXI (STUDENT AI TUTOR)**

**A FEASIBILITY+ STUDY**

*Spring 2025*

**LEANLAB  
EDUCATION**





## AUTHOR

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Leanlab Education

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# OVERVIEW



**OVERVIEW****EXECUTIVE SUMMARY**

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Flexi (Student) is a student-facing AI tutoring tool designed to support independent learning, increase student motivation, and provide real-time academic support aligned to classroom content. In spring 2025, Leanlab Education partnered with Flexi to conduct a multi-method evaluation focused on understanding how students and teachers experienced the tool in real classroom settings.

Over the course of seven weeks, 10 middle and high school math and science teachers across five states integrated Flexi into their instructional routines. Teachers encouraged students to use Flexi both in and out of the classroom. Data was collected via surveys, user diaries, and focus groups, with the aim of identifying areas of value, challenges to implementation, and actionable recommendations for improvement.

**Key Findings:**

- Flexi increased teachers' perceptions of student engagement, confidence, and curiosity—especially among independent learners.
- Small improvements were observed in teacher attitudes toward AI, and perceptions of student improvement in academic behaviors.
- Teachers saw time-saving benefits and greater insight into student thinking.
- Common barriers included student difficulty with prompting, comprehension challenges for lower-readiness students, and varying perceptions of tone.
- Teachers expressed concern about overreliance on AI, plagiarism, and the need for more explicit instruction on how to use AI tools productively.

This report includes recommendations for improving product usability and outlines potential directions for future research.



**OVERVIEW****RESEARCH QUESTIONS**

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- Q1** What value does the AI tutor bring to students and teachers?
- Q2** How are teachers able to incorporate the AI tutor into their classrooms?
- Q3** What challenges and barriers arise when using the AI tutor?





# METHODOLOGY



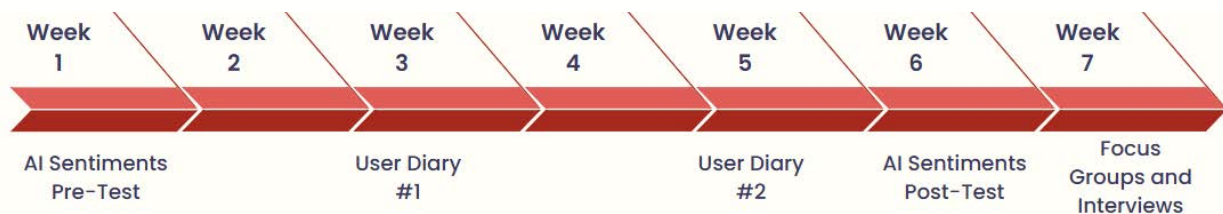


## METHODOLOGY STUDY DESIGN

### Research Design and Implementation

Over the course of six weeks, 10 middle and high school math and science teachers in the United States encouraged their students to use Flexi's student AI tutor both in and out of the classroom. The teachers completed pre and post surveys on their AI comfort and perceptions of their student outcomes. Additionally, the teachers completed user diaries at two points during the study implementation and participated in either a focus group or user interview to provide feedback about their experience and their students' experiences using the AI tutor.

**FIGURE 1: STUDY TIMELINE**



### Recruitment and Onboarding

For this study, 10 teachers were recruited from five schools across the United States (see Table 1 for teacher characteristics and Figure 2 for teacher locations). Once consenting to participate in the study, teachers were onboarded through a virtual session facilitated by a Leanlab researcher. During the session, the researcher demonstrated the platform's functionality and outlined the research expectations, including the study timeline, data collection activities, and the teacher commitments.





## METHODOLOGY STUDY SAMPLE

**TABLE 1: STUDY PARTICIPANT CHARACTERISTICS**

Participant ID	Grades	Classes Taught	% of Students with Home Internet Access	Other AI Tools Used
1	7	Science	95%	None
2	8	Science	100%	None
3*	6	Science	100%	SchoolAI
4	8	Science	100%	None
5*	7-8	Science, Technology	75%	SchoolAI
6*	8-11	Science	100%	Khanmigo, MagicSchool
7	11	Math	100%	None
8	7-8	Science	50%	ChatGPT, MagicSchool, Gemini
9	9	Science	Inconsistent Access	None
10*	9-12	Math, Financial Literacy	77%	MagicSchool AI, Quizizz, QuizletAI, ChatGPT, Gemini

\*CK-12 User





## METHODOLOGY STUDY SAMPLE

**FIGURE 2:** STUDY PARTICIPANT LOCATIONS



- 1. **California:** Participant 5
- 2. **Arizona:** Participant 6
- 3. **Missouri:** Participants 1, 2, 3, 4
- 4. **Illinois:** Participants 7, 8, 9
- 5. **Maryland:** Participant 10





# FINDINGS

**Q1**

**What value does the AI tutor bring to students and teachers?**

**Q2**

**How are teachers able to incorporate the AI tutor into their classrooms?**

**Q3**

**What challenges and barriers arise when using the AI tutor?**



**FINDINGS****OVERVIEW**

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Overall, the study findings indicate that Flexi's student AI tutor was a valuable classroom tool for supporting student independence, building curiosity, and enhancing engagement with academic content. Teachers found it particularly helpful for providing students with immediate academic support, especially during independent work and review periods. Students responded positively to the opportunity to explore concepts on their own terms, though many required guidance on how to effectively prompt the AI tutor.

While Flexi (Student Tutor) was well-received, implementation challenges included variation in student readiness to use AI effectively, limitations in reading comprehension, and concerns around equity and overreliance. Survey results suggested a modest but promising shift in teachers' attitudes toward AI, as well as perceived improvements in student academic behaviors. These early indicators, while not conclusive, point toward the AI tutor's potential to play a supportive role in student learning when implemented thoughtfully.



## Q1

## FINDINGS

## Q1 RESULTS

## Research Question 1: What value does the AI tutor bring to students and teachers?

Flexi (Student Tutor) was considered most beneficial for students who were previously motivated, curious, and comfortable exploring content independently. Some of the teachers observed an increase in student confidence and willingness to engage with material without fear of judgment. The AI tutor also created new entry points for student curiosity and served as a safe space for asking questions.

- “I have noticed that now our conversations are more open in regards to AI. When they use it or refer to it to help them on something, they don't try to hide it from me, they're excited about it, and they point it out to me. It has made for awesome conversations.” –Participant 2
- “My kids, who are really good students...but incredibly shy where it's almost painful for them to ask even a trusted adult a question...by far benefited the most from having something that they could refer to without bringing attention to themselves. [They] came out of their shell more than I've ever seen. I'm not saying it's definitely Flexi, but there's definitely a correlation with that group.” –Participant 5
- For teachers, Flexi served as a helpful instructional aid, giving students a “first responder” to support basic questions, which allowed teachers to focus on deeper learning needs and providing support for students with greater needs. Additionally, Flexi offered insight into how students were thinking through problems, giving teachers greater visibility into learning progress.
- “During opportunities of review and extension, I can attend more to the questions and to the students who need more help. Flexi is like an additional tool or staff in the classroom.” –Participant 10
- “With Flexi, both I and my students can clearly see progress and areas where they're struggling. This transparency keeps everyone more accountable and makes follow-up conversations more focused.” –Participant 9



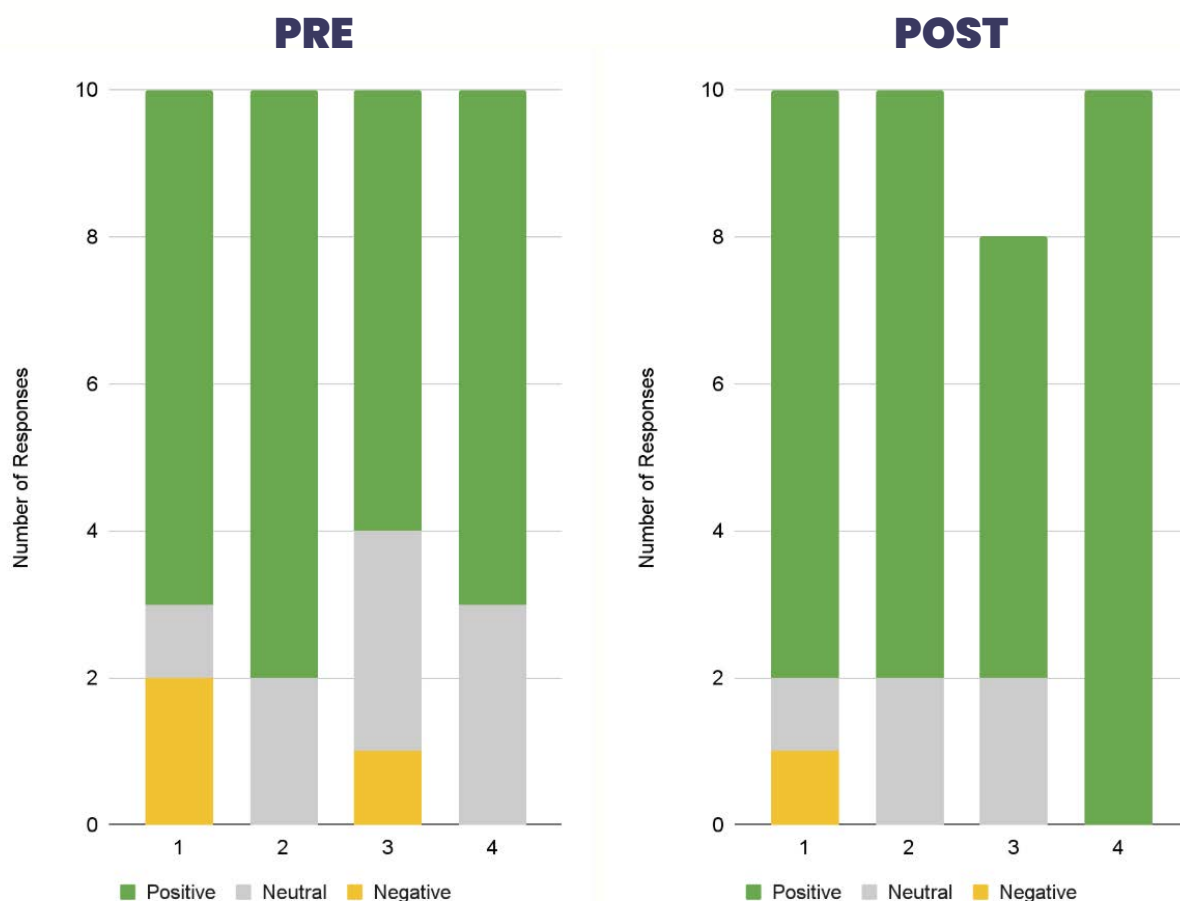
Q1

## FINDINGS

## Q1 RESULTS

The pre and post survey findings supported the qualitative data, showing small but positive shifts in teacher comfort with using AI tools, how likely they are to adopt similar tools in the future, and how beneficial they perceive AI tools like Flexi (Student Tutor) to be in improving student learning (Figures 3–5. Teachers also reported slight increases in their perceptions of student outcomes, including improvements in classwork, homework completion, and overall academic performance (Figure 6).

**FIGURE 3: TEACHER PRE AND POST AI SENTIMENTS**



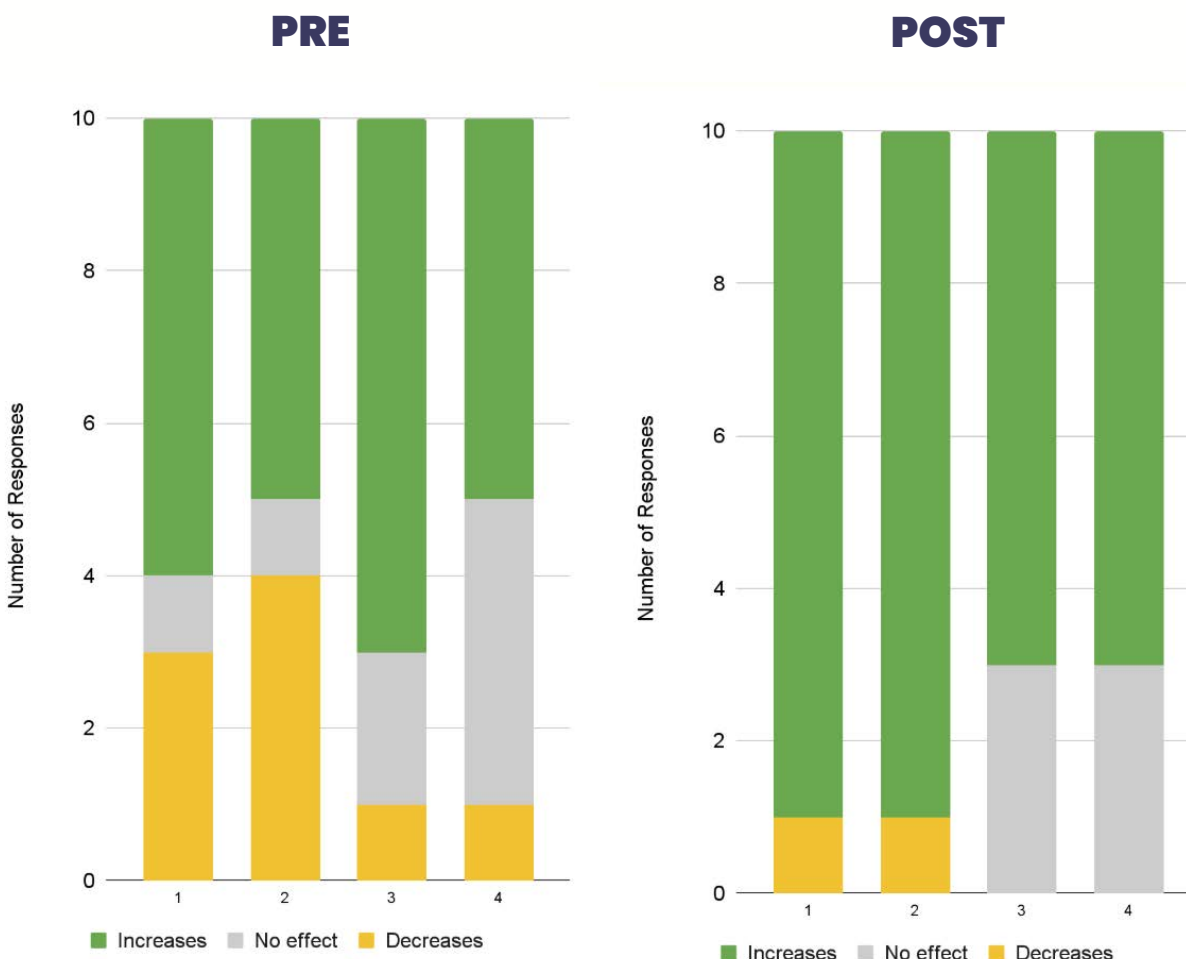
Note: (1) How comfortable are you with incorporating AI-powered student tutoring tools like Flexi in your teaching? (Pre: N = 10, Post: N = 10) (2) How beneficial do you think AI-powered student tutoring tools like Flexi can be for student learning? (Pre: N = 10, Post: N = 10) (3) How confident are you that AI-powered student tutoring tools like Flexi can support student learning effectively?\* (Pre: N = 10, Post: N = 8) (4) How likely are you to explore other AI-powered student tutoring tools for classroom use in the future? (Pre: N = 10, Post: N = 10)



Q1

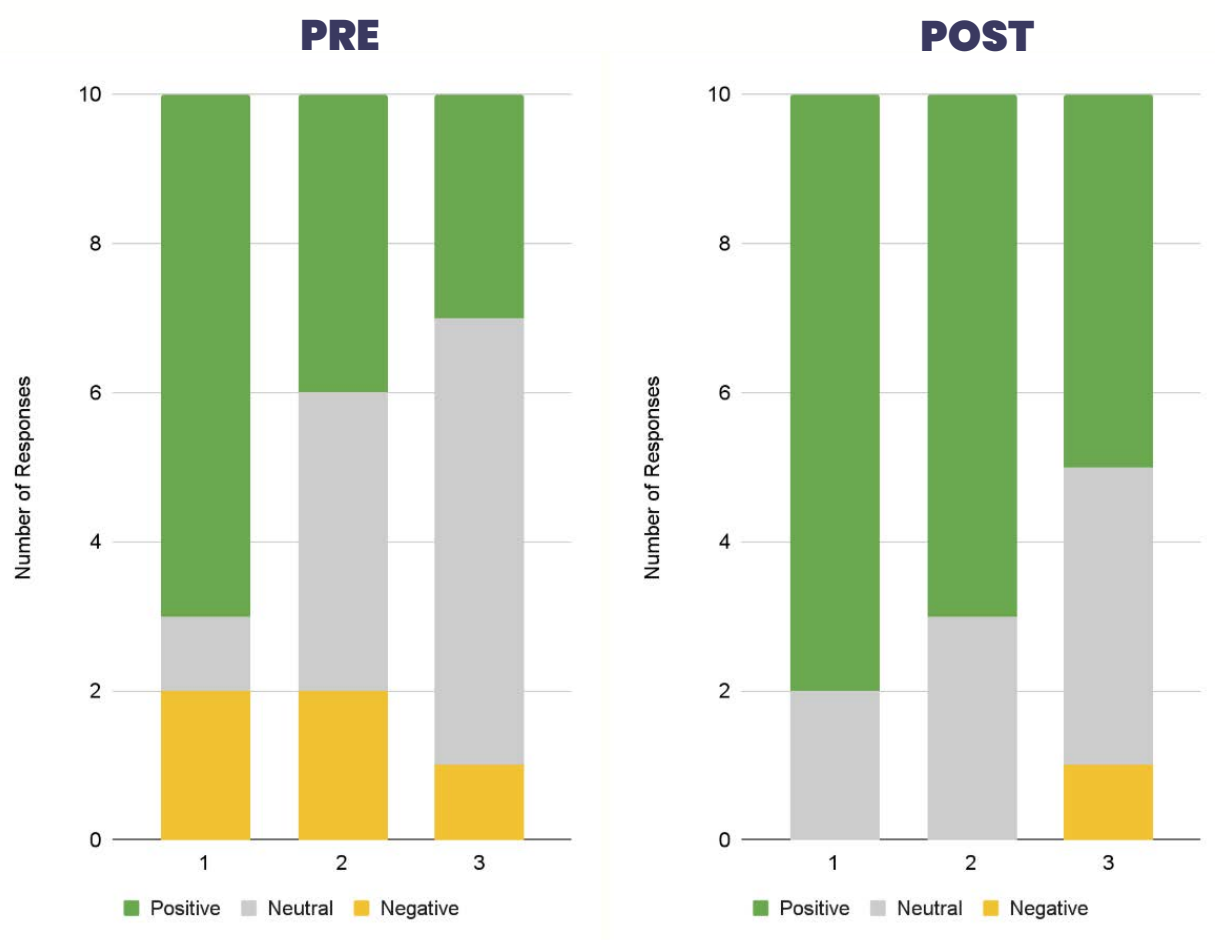
## FINDINGS

## Q1 RESULTS

**FIGURE 4: TEACHER PRE AND POST PERCEPTIONS OF THE POTENTIAL IMPACT OF AI ON STUDENT OUTCOMES**

Note: (1) How do you think using AI-powered tools could affect students' critical thinking skills (e.g., evidence-seeking, curiosity, creativity, logical reasoning)? (Pre: N = 10, Post: N = 10) (2) How do you think using AI-powered student tutoring tools could affect students' problem-solving skills? (Pre: N = 10, Post: N = 10) (3) How do you think using AI-powered student tutoring tools could affect students' ability to complete assignments independently? (Pre: N = 10, Post: N = 10) (4) How do you think AI-powered student tutoring tools could impact student motivation and engagement? (Pre: N = 10, Post: N = 10)



**Q1** FINDINGS  
**Q1 RESULTS****FIGURE 5: TEACHER PRE AND POST PERCEPTIONS OF THEIR STUDENTS' OUTCOMES**

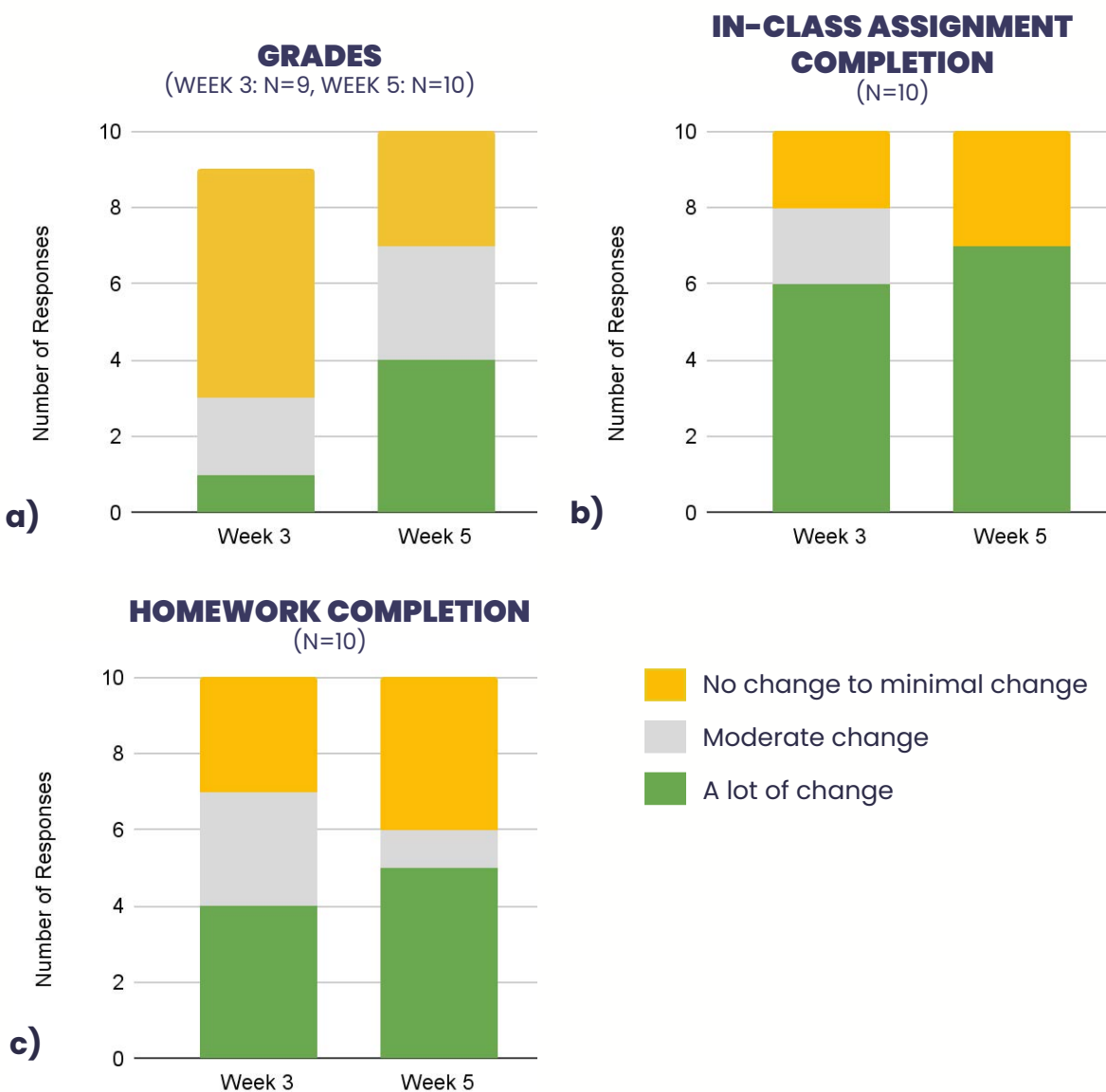
Note: (1) How engaged do you feel your students are during classroom learning activities? (Pre: N = 10, Post: N = 10) (2) How motivated do you think your students are to complete assignments and participate in class? (Pre: N = 10, Post: N = 10) (3) How comfortable do you think students are with using AI-powered student tutoring tools like Flexi as part of their learning experience? (Pre: N = 10, Post: N = 10)



Q1

## FINDINGS

## Q1 RESULTS

**FIGURE 6: TEACHER PERCEPTIONS OF STUDENT IMPROVEMENT WHILE USING FLEXI (STUDENT TUTOR)**



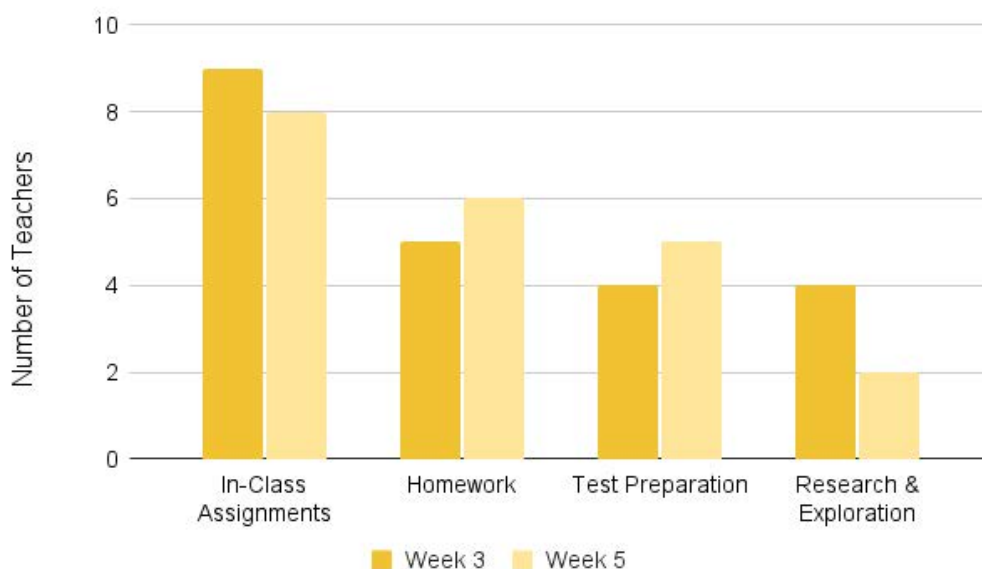
## Q2

## FINDINGS

## Q2 RESULTS

**Research Question 2: How are teachers able to incorporate the AI tutor into their classrooms?**

Teachers integrated Flexi (Student Tutor) into various moments of classroom learning, including review periods, homework support, and enrichment or test prep activities (Figure 7). While implementation varied, most teachers used the AI tutor to supplement instruction rather than replace it. Teachers appreciated the flexibility of the tool, noting that it worked best when paired with existing curriculum resources like CK-12.

**FIGURE 7: PRIMARY USE CASES OF FLEXI (STUDENT TUTOR)**

Teachers also saw value in how Flexi (Student Tutor) encouraged independent exploration. Some used it to extend learning beyond the classroom, encouraging students to pursue topics that interested them.

- **“When I first introduced Flexi to students, I showed them how they could select topics in the test prep section to create a test review. A few have used this for math questions.” –Participant 4**
- **“Flexi is a big help with review and recap of past topics. The ‘Challenge Me’ feature aided my students to go further with their current learning.” –Participant 10**



## Q2

## FINDINGS

## Q2 RESULTS

- “What I see is how personalized the curiosity is. So if we are studying genetics...you can see how people go to completely different paths...it was really interesting for me to see how the same theme now can be adapted and personalized to the interest in the moment, and completely different.” -Participant 5

The teachers also appreciated how the tool effectively supported a wide variety of differentiated learning experiences, specifically:

- **Special education students:** “Once [my SPED students] were familiar with it, they ended up enjoying it, too, because [Flexi had] some of those accommodations that they have which requires them to listen and text to speech and stuff like that.” -Participant 9
- **Struggling readers:** “By providing options on possible questions, my students who have deficit skills on language processing and spelling make it more accessible to them.” -Participant 10
- **English language learners:** “One thing is the possibility to speak in Spanish. We are in a bilingual school where some of our students, a lot of them, are second English learners. So this is a powerful tool.” -Participant 5
- **Less engaged students:** “For students who tend to do more surface level work, Flexi is great to have them check-in with to go deeper into what they are learning.” -Participant 2



## Q3

## FINDINGS

## Q3 RESULTS

**Research Question 3: What challenges and barriers arise when using the AI tutor?**

While the AI tutor was considered a valuable resource for their students, the teachers did highlight some challenges that were experienced by their students. Many students lacked familiarity with how to interact with AI tools and needed explicit instruction in prompting and formulating questions. Some students approached the AI tutor like a search engine, expecting instant answers rather than engaging in productive struggle. Others became frustrated when the tool didn't give a direct solution while some students found the amount of resources or information provided by the tool a little overwhelming. And while the AI tutor does support image uploads, some students weren't accustomed to the additional typing and conversation required to receive an answer.

- **"Most of them are used to a search engine, and are not good at prompting during a conversation." –Participant 6**
- **"A few have received limited results because they did not know how to ask Flexi for specific info." –Participant 4**
- **"They are used to using AI by simply taking pictures of problems, not by typing questions." –Participant 7**
- **"More pictures and more videos will make the long texts less intimidating for certain students." –Participant 1**

Reading level, tone, and length of responses posed barriers for struggling readers and multilingual learners. Some older students felt the tone of the AI chatbot was too informal or juvenile.

- **"The language and reading level are kind of high to some students, especially those who are struggling readers. Visual learners have minimal to moderate access to pictures and videos." –Participant 10**
- **"To make Flexi more useful for students, it would help if the information was categorized by difficulty level or content level. This way, students could more easily find resources that match their understanding." –Participant 5**
- **"Some of my older, more mature, maybe more subdued students thought**



Q3

FINDINGS

Q3 RESULTS

it was a little in your face and enthusiastic about its responses, where I could see that an elementary school kid would love that.” -Participant 6

Some teachers also noted limited access to devices or the internet at home as a persistent equity issue while also raising broader concerns about how AI tools might affect learning habits. Table 2 provides an overview of the concerns mentioned by the teachers across both user diaries as well as the total number of times each one was mentioned.

TABLE 2: TEACHER CONCERNS ABOUT AI

Concerns	Number of Times Mentioned in the User Diaries	Example Teacher Quotes
Overreliance on AI	7	“My concern is probably the most common concern, that kids will rely on it too much to complete work without learning the concept.” -Participant 2
Loss of Critical Thinking	5	“I worry that it would stifle curiosity and limit critical thinking... not just get the answer but pursue deeper understanding.” -Participant 3
Academic Integrity	4	“I think the biggest concern any of us have would be the difficulty between balancing how to use AI as a support, guide, aide and how to manage the cheating aspect of it.” -Participant 2
Difficult Learning Curve	2	“Students not being able to properly use the platform.” -Participant 9
Accessibility	2	“In a class of students with IEPs, the language deficit can be seen more since language plays a very important role in the prompt.” -Participant 10
Trust in AI Accuracy	2	“I am concerned that some students can put too much trust in AI as offering error-free explanations/ solutions and not understand that AI can be wrong at times.” -Participant 7
Equity	2	“Students with access to the internet and a computer at home might benefit more, which could potentially create a gap among students.” -Participant 5
Educator Inexperience	2	“I don't really have any concerns... but I'm new and not confident on how to teach it myself.” -Participant 1





## NEXT STEPS



**NEXT STEPS****PRODUCT RECOMMENDATIONS**

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**Improve the Accessibility and Readability**

For example:

- Make the reading level adjustment capability more prominent for students
- Incorporate more visual elements in the AI tutor's responses
- Create an in-chat vocabulary definition feature

**Enhance the Teacher Tools & Resources**

For example:

- Incorporate a conversational assessment tool via student conversations with the AI tutor to provide insights into student learning and understanding of concepts
- Develop a teacher dashboard that highlights common trends, questions, and misconceptions across all student conversations with the AI tutor to increase teacher transparency
- Develop a detailed teacher-facing guide with strategies on how to effectively incorporate the AI tutor in their classroom instruction to facilitate adoption by their students

**Enhance Equity and Access Issues**

For example:

- Develop a "lite", SMS texting version of the app for students with limited internet access outside of the classroom
- Enable easy conversion to printables or an offline mode where students can still view their chat history in instances of limited internet access

**Bolster Safety Measures**

For example:

- Develop a flagging system that monitors student conversations with the AI tutor for harmful or dangerous words and phrases and alerts appropriate school officials, allowing for intervention when necessary



**NEXT STEPS****FUTURE RESEARCH**

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The responses to the pre and post AI sentiments surveys from this study suggest that Flexi (Student Tutor) could have a potential positive effect on teachers' attitudes about the use of AI in the classroom, decreasing the stigma often associated with AI tools. This aligns with the qualitative feedback received from the teachers regarding how the AI tutor allowed them to have productive conversations with their students about responsible AI usage.

A correlational pre and post study on educator AI beliefs with a larger sample of teachers using the AI tutor with their students would allow for significance testing of this hypothesis, which wasn't possible in the current study due to the small sample size. A study of this nature could also qualify Flexi (Student Tutor) for ESSA Tier III (Promising Evidence) qualification by meeting the following criteria:

- Well designed and implemented correlational study
- Statistical controls for baseline scores
- Statistically significant positive results with no significant negative effects





# APPENDIX





## APPENDIX

**TEACHER PRE / POST SURVEY****Completed at the beginning and the end of implementation**

1. On a scale from 1-5, how comfortable are you with incorporating AI-powered student tutoring tools like Flexi in your teaching?
2. On a scale from 1-5, how beneficial do you think AI-powered student tutoring tools like Flexi can be for student learning?
3. On a scale from 1-5, how confident are you that AI-powered student tutoring tools Flexi can support student learning effectively?
4. On a scale from 1-5, how likely are you to explore other AI-powered student tutoring tools for classroom use in the future?
5. Are you using other AI-powered tools in your classroom? If so, which ones?
6. On a scale from 1-5, how engaged do you feel your students are in classroom learning activities? Post-Test: Do you think Flexi played a role in this?
7. On a scale from 1-5, how motivated do you think your students are to complete assignments and participate in class? Post-Test: Do you think Flexi played a role in this?
8. On a scale from 1-5, how often do students actively seek additional learning resources or support outside of class?
9. On a scale from 1-5, how comfortable do you think students are with using AI-powered student tutoring tools like Flexi as part of their learning experience?
10. How do you think using AI-powered tools affects students' critical thinking skills (e.g., evidence-seeking, curiosity, creativity, logical reasoning)?
  - Greatly decreases
  - Decreases
  - No effect
  - Increases
  - Greatly increases



**APPENDIX  
CYCLE 1**

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11. How do you think using AI-powered student tutoring tools could affect students' problem-solving skills?
- Greatly decreases
  - Decreases
  - No effect
  - Increases
  - Greatly increases
12. How do you think using AI-powered student tutoring tools could affect students' ability to complete assignments independently?
- Greatly decreases
  - Decreases
  - No effect
  - Increases
  - Greatly increases
13. What concerns do you have about your students using AI-powered student tutoring tools in the classroom? (*Open-ended*)
14. How do you think AI-powered student tutoring tools could impact student motivation and engagement? (*Open-ended*)
- 15. Post-Test Only:** How have your perceptions of AI in education changed? (*Open-ended*)
- 16. Post-Test Only:** How do your students feel about the layout and design of Flexi? Please add any relevant quotes and feedback from your students. (*Open-ended*)





## APPENDIX

**TEACHER USER DIARY #1****Completed week 3 of study implementation**

1. On average, how often do your students interact with Flexi in the classroom?
  - Less than once a week
  - 1-3 times a week
  - Almost daily
  - Multiple times a day
2. Have your students experienced any specific challenges while using Flexi?
3. What improvements would make Flexi more effective for your students?
4. Have students started using Flexi on their own outside of class time? Why or why not?
5. Do you find yourself encouraging students to interact with Flexi for additional support? Why or why not?
6. What changes to the platform would make you more likely to encourage students to engage with it?
7. How are your students using Flexi? (e.g., test preparation, completing in-class assignments, homework aide)
8. Have you seen improvements in your students'
  - test scores, (scale from 1 a little - 5 a lot)
  - assignment submission rate, (scale from 1 a little - 5 a lot)
  - homework completion, (scale from 1 a little - 5 a lot)
9. Do your students feel supported by Flexi when using it for:
  - Test prep
  - In-class assignments
  - Homework





## APPENDIX

**TEACHER USER DIARY #2****Completed week 5 of study implementation**

1. Have you noticed any changes in your students' motivation to complete assignments independently?
2. Have you noticed any early indicators of improvements in your students' learning outcomes (e.g., improved scores)?
3. Have you noticed any changes in your students' level of participation in class?
4. How are your students using Flexi?
  - test preparation
  - completing in-class assignments
  - homework aide
5. Are your students using Flexi on their own outside of class time? Why or why not?
6. Even though it's a student-facing tool, have you found that introducing Flexi to your students has benefited you and your classroom instruction in any ways?





## APPENDIX

## FOCUS GROUP QUESTIONS

**Teacher Perspectives on the Student Experience**

1. How have your students responded to Flexi so far?
2. Are there certain groups of students who seem to benefit more or less?
3. What aspects of Flexi do your students gravitate toward most?
4. What factors influenced how often and when your students used Flexi in class?
5. Were there any factors that made it easier or harder for students to use Flexi in your classroom?
6. Have you noticed any changes in how students approach assignments or class activities since using Flexi?
7. Have any students struggled to engage with or understand how to use Flexi?
8. What support (if any) did you provide?
9. Were there any students who didn't use Flexi much?
10. What do you think is holding them back?
11. If possible, can you describe what it looked like when your students were interacting with Flexi?
12. Were they typing full questions or just keywords?
13. Did they try to "talk" to Flexi like a person, or treat it more like a search tool?
14. How did they react when Flexi gave them an answer they didn't expect or didn't understand?
15. Would you say the way Flexi "talks" to students is tone appropriate and clear?
16. Was there anything confusing about the way it "talks"?
17. If you could give Flexi feedback on how it could communicate better with students, what would you say?





## APPENDIX

**FOCUS GROUP QUESTIONS**

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**Teacher Benefits**

18. Has Flexi influenced how you plan or deliver instruction?
19. Are there topics or assignments you now approach differently?
20. Some teachers noted improvement in in-class and homework completion. If you did, can you describe what those improvements looked like? Were there specific types of assignments or students where the impact was clearer?
21. If you could change anything about Flexi to better support students as a supplement to your instruction, what would it be and why?
22. Even though Flexi is student-facing, have there been indirect benefits or drawbacks for you as a teacher?
23. Do you see yourself continuing to encourage students to use Flexi in the future?



## Leanlab Education

**Leanlab Education** is a nonprofit organization that conducts rigorous code-sign research to support the development and scale of transformational innovations in K12 education. Through partnerships with education technology companies and K12 learning communities, Leanlab facilitates codesign product research that elevates the assets, needs, and voices of stakeholders. This approach ensures that solutions are evidence-based and designed to achieve measurable impact.

## Author Bio

**Dr. Akila Raoul** received her Ph.D. in Applied Social Psychology from Loyola University Chicago. Upon graduation she served as Research Coordinator and later as Director of Research & Evaluation at an EdTech company specializing in social and emotional learning, where she supported the development of resources and assessments geared towards enhancing student outcomes. Dr. Raoul's passion lies in leveraging mixed methods research and data analysis to advocate for equitable education—values she brings to her current role as a Principal Researcher at Leanlab Education.