

# BrainSpark Games Product Requirements: Math Quest 2

## Table of Contents

<b>Product Overview</b> .....	1
<b>Scope and Objectives</b> .....	1
Primary Objectives.....	1
Secondary Objectives.....	2
<b>User Personas</b> .....	2
<b>User Journey</b> .....	3
<b>Functional Requirements</b> .....	4
Shared Functional Requirements.....	4
Teacher-Specific Functional Requirements.....	4
Student-Specific Functional Requirements:.....	5
<b>Non-Functional Requirements</b> .....	5
<b>Wireframes/Mockup</b> .....	6
<b>Constraints and Assumptions</b> .....	6
<b>Core Assumptions</b> .....	6
<b>Resource Requirements</b> .....	8
<b>Human Resources:</b> .....	9
<b>Technical Resources</b> .....	9
<b>Budget Allocation (\$1,000,000)</b> .....	9
<b>Metrics and Success Criteria</b> .....	10
<b>Testing and Quality Assurance</b> .....	11
<b>Go to Market Strategy</b> .....	13
<b>Distribution Strategy</b> .....	13
<b>Marketing and Promotion</b> .....	13
<b>Customer Support</b> .....	14
<b>Teachers</b> .....	14
<b>Success Metrics</b> .....	14
Pivot Criteria.....	14
Expansion Strategy.....	15
Long-term Vision.....	15
<b>References</b> .....	15

## Product Overview

### Problem Statement

BrainSpark Games aims to redefine education through engaging and interactive games that supplement the preexisting curriculum. With the success of Math Quest, the company has set a benchmark for future success in edtech games. However, students and educators are unwilling to pay for a supplementary learning game, considering the abundance of alternative resources available. In addition, without an enjoyable experience playing edtech games would result in poor student retention. Therefore, Math Quest 2 will offer an interactive solution to enhance learning outcomes with course-aligned, adaptive gameplay.

### Goals

- Create strong partnerships with educators and institutions to align Math Quest 2 with academic goals and successfully integrate into classrooms.
- Launch a Canvas-integrated teacher dashboard with Math Quest 2 enabling Professors to align the game content with their curriculum.
- Introduce a leaderboard between different colleges for improved engagement and replayability.

### Scope and Objectives

We have carefully crafted the scope of Math Quest 2 to strike a balance between targeting a broad market and maintaining a focused approach, centering on adaptive gamified learning tools and educator-focused analytics to transform STEM education for university students.

**Two primary users:** students seeking engaging ways to master difficult STEM concepts and educators striving for effective, personalized teaching methods. For students, the platform will include adaptive gameplay mechanics that adjust to individual performance and curriculum-aligned modules to ensure relevance. Additionally, they will have interactive multiplayer modes where different universities will function as in-game clans, fostering collaborative problem-solving and light-hearted competition. For educators, the Teacher Dashboard will serve as a powerful tool for tracking student progress, identifying areas of improvement, and tailoring coursework to class needs.

**Features excluded from the project scope:** Math Quest 2 will not support K-12 curricula and will not include non-math subjects or incorporate advanced technologies like augmented or virtual reality in its initial release.

### Primary Objectives

1. **Establish Strong Partnerships with Educational Institutions:** Secure contracts with 20 universities and community colleges to license the game upon release.

2. **Drive Student Engagement and Platform Adoption:** Achieve active utilization by 20% of enrolled users within the first semester.
3. **Launch a Timely and Impactful Pilot Program:** Release the pilot by Winter 2025, aligned with academic cycles to maximize adoption.

### Secondary Objectives

1. **Ensure Continuous Platform Improvement:** Collect feedback from at least 1,000 users during the pilot phase to implement improvements before full launch.
2. **Build Brand Recognition in the Educational Space:** Increase social media following and engagement by 50% within the first year of release.

### User Personas

Our primary users are university students taking advanced mathematics courses, particularly those seeking more engaging ways to master complex concepts. These students, typically aged 18-22, range from students struggling in their courses seeking additional resources to pragmatic students juggling multiple demanding courses. Many are STEM majors who understand the importance of mathematical proficiency but struggle to maintain consistent engagement with traditional study methods.

STEM professors, the second group of users, are people who are teaching these students. They do not have the bandwidth to develop more study tools for their students, but recognize the utility of more creative and engaging study tools. They are eager to understand their students' progress in comprehending the course concepts while juggling a large number of responsibilities with limited time and bandwidth. They seek tools that can both engage students and provide meaningful data on learning outcomes. They are particularly interested in solutions that can identify where students struggle, enable customized content delivery, and provide concrete metrics for measuring educational impact.

This dual focus on students and educators addresses a fundamental pain point in university mathematics education: the disconnect between students' desire for engaging learning experiences and institutions' need for rigorous, measurable educational tools. Math Quest 2 bridges this gap by providing students with an immersive learning environment while giving educators the oversight and customization capabilities they need to integrate it effectively into their curriculum.

Here are specific personas who are composite figures of potential users we interviewed and represent the ideal users for our product:

- Domingo (18) is an undeclared college freshman taking his first university-level math course. While he recognizes the importance of understanding course concepts, he struggles to engage with traditional study materials, often getting distracted by social media and games. His surface-level understanding of the material puts him at risk of falling behind, but he's drawn to interactive learning approaches that incorporate gaming elements.

- Sarah (21) is a driven Computer Science senior who excels in her advanced math courses. While she's mastered the theoretical concepts through lectures and textbooks, she actively seeks diverse contexts to deepen her understanding. She's found that seeing mathematical concepts applied in different scenarios - from practical implementations to creative applications - helps solidify her knowledge. Though she uses traditional study methods effectively, she's excited by the prospect of exploring mathematical concepts through new, immersive contexts.
- Professor White (43) teaches advanced calculus to large classes and has noticed that while some students thrive with traditional problem sets, others need different approaches to stay motivated. With competing research responsibilities, she needs efficient ways to adapt to these different learning styles without creating extra work for herself. While interested in educational technology, she needs clear evidence that new tools will benefit students enough to justify the time investment in implementing them.

### User Journey

Domingo stares at his calculus textbook, trying to understand partial derivatives while his phone keeps drawing his attention. On TikTok, he spots an ad for Math Quest 2 – the fantasy art style catches his eye, particularly a scene where a mage uses mathematical “spells” to solve mystical puzzles.

Signing up for the free trial, Domingo navigates through the game's clean interface to select “Calculus” and finds a quest involving partial derivatives. He's quickly drawn in, helping a merchant optimize trading routes between kingdoms. The game keeps him engaged through immediate feedback on his solutions, experience points for correct answers, and character customization options. Most importantly, he loves the visual elements that show how changes in his equations directly affect the trading routes in real-time.

After using Math Quest 2 to study for a week, Domingo performs extremely well on his midterm, feeling confident that he truly understands the concepts rather than just memorizing procedures. When his trial expires, he's hesitant to pay for the subscription but notices a “Request Institutional Access” option. He emails his professor, Dr. White, sharing screenshots of his progress dashboard and describing how the game helped him visualize complex concepts.

Professor White, who's noticed varying levels of engagement with traditional problem sets across her large calculus classes, schedules a consultation with BrainSpark Games and the undergraduate math department head. The teacher dashboard impresses them with its curriculum alignment tools and detailed analytics on student performance. Given the department's focus on reducing drop rates in advanced math courses, they approve the licensing.

Professor White uses the dashboard to align game content with her lectures, while she and her TAs leverage the analytics to identify and address common student misconceptions. By quarter's end, what started as one student's discovery has become an essential course resource, with usage data showing improved engagement and understanding across the class.

## Functional Requirements

BrainSpark includes distinct functionalities for teachers and students while sharing some core features. Items marked as P0 are required for our initial focused launch. P1 and P2 items are medium and low priority, respectively.

Shared Functional Requirements	Priority
<p><i>Core Gameplay Mechanics:</i> Provide engaging, adaptive gameplay for math challenges that align with curriculum objectives. Include features such as narrative-driven progression and milestones.</p>	P0
<p><i>User Management and Authentication:</i> Allow secure account creation and login for teachers and students. Support integration with institutional single sign-on (SSO) systems, including Canvas authentication.</p>	P0
<p><i>Content Customization Tools:</i> Enable both teachers and students to select or adapt modules (e.g., teachers aligning with a curriculum, students focusing on weak areas).</p>	P1
<p><i>Canvas Integration:</i> Enable BrainSpark to be added directly to course modules. Automatically sync student progress and grades with Canvas's gradebook, including due dates and completion tracking.</p>	P1
Teacher-Specific Functional Requirements	
<p><i>Teacher Dashboard Functionality:</i> Provide real-time insights into individual and class-level student performance. Enable tracking of module completion rates, time spent, and areas where students struggle. Integrate with Canvas to display BrainSpark analytics alongside other course data.</p>	P0
<p><i>Data Analytics and Reporting:</i> Generate detailed reports on individual and class-level performance. Provide exportable data for institutional reporting. Allow customization of reports to include specific metrics like accuracy, time spent, or engagement.</p>	P2
<p><i>Institutional Licensing Features:</i> Support multi-user licenses for schools or districts. Manage permissions and content sharing across multiple educators within an institution.</p>	P1
<p><i>Content Customization Tools:</i> Enable teachers to adapt pre-built modules to align with their course objectives and pacing.</p>	P1

Allow the creation of custom challenges or adventures, integrated directly into Canvas assignments.	
<b>Student-Specific Functional Requirements:</b>	
<i>Interactive Learning Tools:</i> Adaptive learning based on performance and progress. Visual aids like graphs or animations for complex math concepts.	P0
<i>Engagement Features:</i> Leaderboard between different schools for collaborative problem-solving and improved engagement. Personal progress tracking with incentives like badges and achievements.	P2
<i>Canvas Integration for Students:</i> Access BrainSpark directly from their Canvas course dashboard. Automatically track progress and receive grades within Canvas without additional steps.	P1

### Non-Functional Requirements

Requirement	Priority
<i>Performance and Reliability:</i> Ensure gameplay mechanics run smoothly without lag or delays, especially during peak usage periods Guarantee synchronization of grades and progress data between BrainSpark and Canvas. Provide clear error messages and automatic recovery for disruptions in gameplay or grade syncing.	P0
<i>Security</i> Use encryption for sensitive data in transit and at rest to protect user privacy. Restrict access to sensitive data based on user roles (e.g., students, teachers, administrators). Conduct periodic assessments to ensure compliance with current security standards.	P0
<i>Scalability</i> Support scalability to accommodate increasing numbers of users, including institutional rollouts with thousands of students. Design the system to add new features (e.g., multiplayer modes) without disrupting existing functionality.	P2
<i>Platform Compatibility</i> Ensure the platform runs smoothly on modern web browsers (e.g., Chrome, Safari, Firefox, Edge) and across devices (desktop, tablet, and mobile).	P1

Maintain compatibility with multiple operating systems, including Windows, macOS, iOS, and Android.	
<p><i>Compliance with Standards and Regulations:</i></p> <p>Comply with regulations for U.S. institutions to ensure the confidentiality of student data.</p> <p>Follow standards for seamless integration with Canvas.</p> <p>Ensure accessibility for students and educators, including those with disabilities.</p>	P0

## Wireframes/Mockup

You can find BrainSpark's relevant wireframes and mockups on Figma [here](#).

## Constraints and Assumptions

### Constraints and Limitations

1. **Narrative Limitations:** While narrative-driven learning enhances engagement, feedback suggests that students under time pressure may skip story elements, potentially reducing its effectiveness for certain users.
2. **Adoption Barriers:** Assumption testing revealed that some educators perceive additional tools as burdensome due to students' existing workloads and limited time.
3. **Budget Constraints:** A total budget of \$1,000,000 is allocated for developing Math Quest2, covering development, marketing, and operations. This necessitates careful prioritization of features and strategic resource allocation.
4. **Market Competition:** Established gamified educational tools creates a competitive landscape that may hinder BrainSpark's adoption without clear differentiation.
5. **Technical Constraints:** The game must operate seamlessly on standard student devices.

## Core Assumptions

1. **User Engagement Assumption:** Gamified features, such as RPG storylines, adaptive difficulty, and interactive problem-solving, will attract and retain student interest.
  - a. Assumption testing demonstrated that narrative-driven learning improves comprehension, with students in the narrative-based group scoring higher, completing tasks faster than those using expository methods. However, feedback from students under time pressure indicates the need for optional toggles to skip narratives, ensuring flexibility for different user preferences.
2. **Institutional Support Assumption:** Universities and educators will adopt BrainSpark if it aligns with academic objectives and offers customizable modules that reduce workload rather than adding to it.
  - a. Testing with STEM TAs highlighted strong interest in BrainSpark's potential to enhance engagement but also revealed concerns about overburdening students. This feedback reinforces the importance of designing BrainSpark as a

supplementary tool that educators can tailor to fit their courses, selecting specific modules and lessons to complement their existing curricula.

3. **Iterative Refinement Assumption:** Feedback from students and educators will guide iterative product development, ensuring alignment with user needs and expectations.
  - a. Insights confirm that continuous feedback loops are essential to refine features and enhance usability. Assumption tests showed that students appreciated structured math tasks within the narrative framework, while TAs emphasized the need for time-efficient solutions.
4. **Market Differentiation Assumption:** A focus on narrative-driven learning and robust educator analytics will provide BrainSpark a competitive advantage over existing tools.
  - a. Assumption testing revealed that while RPG-style elements generate enthusiasm and engagement among students, combining these with comprehensive educator-focused analytics, such as progress tracking and performance insights, will set BrainSpark apart in the educational technology market.

### **Ethical implications that ground and constrain our product:**

To ensure the product is accessible, inclusive, and respectful of users' needs, Math Quest2 is grounded in ethical principles to ensure the product is accessible, inclusive, and respectful of users' needs:

1. **Equity in Access:** The product must be affordable for diverse student populations to prevent exacerbating educational disparities.
2. **Data Privacy:** Adherence to FERPA (Family Educational Rights and Privacy Act) is critical for protecting student performance data and ensuring confidentiality.
3. **Accessibility:** Compliance with WCAG (Web Content Accessibility Guidelines) ensures usability for students with disabilities, promoting inclusivity.
4. **Minimizing Cognitive Overload:** Feedback from educators highlights the importance of not overburdening students with additional tasks, especially for those already facing heavy academic workloads.

## **Milestones and Timeline**

### **Math Quest 2 Development**

Milestone	Objective	End of	Jan-Mar '25	Apr-Jun '25	Jul-Sep '25	Oct-Dec '25	Jan-Mar '26
		2024	Y0Q4	Y1Q1	Y1Q2	Y1Q3	Y1Q4
Game Development	Finish developing core functionality, storyline, design assets, teacher dashboard	10/01/24 - 03/31/25					
Content Development	Develop core content for university math courses, both pre & post-customization (for pre-launch licensing partners)	10/01/24 - 03/31/25					
User-Research & Testing	Beta testing + quality assurance to ensure functionality, proof-of-concept, and bug-free gameplay	10/01/24 - 03/31/25			Data for future iterations		
Math Quest 2 Launch!	Release MQ2 in app stores! Will include addition of both progress tracking system (MVP) and content customization			4/1/25			
Customer Feedback	Set up customer support channels to handle growth and collect feedback for iterations			04/01/25 - Indefinite			

## Sales and Fundraising

Milestone	Objective	Launch!					
		End of 2024	Jan-Mar '25	Apr-Jun '25	Jul-Sep '25	Oct-Dec '25	Jan-Mar '26
		Y0Q4	Y1Q1	Y1Q2	Y1Q3	Y1Q4	Y2Q1
Seed Fundraising	Secure funds for scaling development, marketing, and partnerships with universities.	10/01/25 - 06/31/25					
Partnerships	Outreach to universities via discussions and host seminars to contract licensing deals. Goal: 5+	10/01/25 - 06/31/25					
Marketing	Mass campaign with university students, professors, and ed. influencers via social media, app stores, and direct outreach.		01/01/25 - 03/31/26 for current campaign				
Revenue Streams	Collect data of revenue made from students (free vs premium sub.), in-app purchases, licensing, etc. Use to optimize prices/offers.				07/01/25 - 03/31/26		
Post-Launch Fundraising	Series A Fundraising: Leverage MVP launch + data as proof points for investors + angels				07/01/25 - 03/31/26		

## Resource Requirements

## Human Resources:

1. **Game Developers (4):** Responsible for coding the core gameplay features, including adaptive learning mechanics and multiplayer functionality.
2. **Backend Developer (2):** Ensures smooth server-side operations, including data storage, user authentication, and analytics integration.
3. **UI/UX Designer (1):** Focuses on creating an intuitive, accessible, and engaging user interface for both students and educators.
4. **STEM Content Specialist (1):** Curates curriculum-aligned modules and ensures educational accuracy.
5. **Narrative Designer (1):** Develops storylines and dialogue to enhance engagement in the RPG-style gameplay.
6. **QA Specialist (1):** Conducts rigorous testing to identify and fix bugs, optimize performance, and ensure a seamless user experience.
7. **Marketing Specialist (1):** Oversees promotional campaigns, targeting both educators and students through conferences, social media, and digital ads.
8. **Customer Success Manager (1):** Acts as a liaison for educators and institutions, addressing concerns and guiding implementation.
9. **Project Manager (1):** Ensures that the project remains on schedule and within budget, while coordinating efforts across teams.

## Technical Resources

- **Game Engine:** Unity, for its versatility in creating 2D and 3D educational games.
- **Version Control:** GitHub, to manage collaborative development and track code changes.
- **Programming Languages:** C# for game development and Python for backend analytics.
- **Cloud Hosting:** AWS, for scalable and reliable backend services, including data storage, user authentication, and real-time analytics.
- **Database Management:** PostgreSQL or MongoDB, to handle user data and performance metrics.
- **Prototyping Tools:** Figma, for creating wireframes and mockups of the user interface.
- **Design Tools:** Adobe Creative Suite, for designing visuals and assets.
- **Testing Platforms:** TestRail or Jira for managing QA workflows and tracking bugs.
- **Analytics Tools:** Tableau or Google Analytics for monitoring user engagement and system performance post-launch.

## Budget Allocation (\$1,000,000)

- **Game Development: \$380,000**
  - Complete Math Quest 2, integrating new features such as the teacher dashboard and tailored content modules.

- **Salaries for New Hires: \$220,000**
  - Funding for three additional employees specialized in game and backend development and math content creation.
- **Student and University Outreach: \$50,000**
  - Hosting seminars, building university affiliations, and direct outreach to faculty and students.
- **Partnership Development: \$50,000**
  - Sponsorships and collaborations with educational institutions to foster strategic partnerships.
- **Marketing and Promotion: \$100,000**
  - Social media campaigns, advertisements, and other promotional efforts to drive visibility and engagement.
- **Software Licensing: \$25,000**
  - Renew existing licenses and acquire new software required for feature integration.
- **Office Rent: \$50,000**
  - Renewal of current workspace lease for Year 1.
- **Utilities and Overhead: \$25,000**
  - Operational costs for office essentials such as internet, electricity, and maintenance.
- **Server and Infrastructure: \$75,000**
  - Upgrades to handle an anticipated influx of new users, ensuring reliability and scalability.
- **Iteration and Contingency: \$25,000**
  - Reserved for addressing growth-related challenges and iterative improvements to meet user demands.

## Metrics and Success Criteria

### Key Performance Indicators (KPIs):

#### Engagement Metrics

- **Active User Rate:** The percentage of students and educators who regularly engage with BrainSpark games and features.
- **Frequency of Use:** How often users interact with the platform, including student’s gameplay and educator’s involvement.
- **Session Duration:** The average time users spend on the platform per session.

#### Learning Outcome Measurements

- **Skill Mastery Rates:** The percentage of users demonstrating improved performance in subjects covered by BrainSpark games, as tracked through in-game or outside assessments and analytics.

- **Curriculum Alignment Impact:** Feedback from educators on how well BrainSpark supports academic goals and enhances classroom instruction.
- **Student Progress Metrics:** Measured improvements in student understanding, as captured through gameplay analytics and educator reports via Canvas dashboards.

### Business Metrics

- **Revenue Per User:** The average revenue generated per user from subscriptions, game sales, and licensing.
- **Cost of Customer Acquisition (CAC):** The expense incurred to attract each new user, broken down by marketing channel.
- **Licensing Revenue:** Income from educational institutions using BrainSpark as part of their curriculum.

### Adoption Rates

- **Platform Registration Growth:** The rate of new student and educator registrations on BrainSpark over time.
- **Premium Conversion Rate:** The percentage of free trial users who become paid subscribers.

### Customer Satisfaction and Feedback

- **Customer Satisfaction:** Surveyed satisfaction levels from students and educators using the platform.
- **Net Promoter Score (NPS):** The likelihood of users recommending BrainSpark to peers and institutions.
- **User Reviews and Feedback:** Insights collected from surveys and app store ratings to identify strengths and areas for improvement.

### Brainspark Specific Metrics

- **Canvas Integration Satisfaction:** Educator feedback on the ease and effectiveness of using BrainSpark within Canvas LMS workflows.

## Testing and Quality Assurance

Post-launch validation testing was conducted to explore Math Quest 2's core assumptions in universities:

### 1. Effectiveness of Narrative-Based Learning

Math 19 students compared narrative-based explanations of the product rule to standard expository explanations. The narrative group averaged a score of 4.125/5 and completed tasks 0.5 minutes faster, showing an advantage in comprehension and retention. These findings align with existing research from Urmia University, finding that RPG elements in learning can enhance speed, attention, and consistency in math scores by 10%.

## 2. Engagement for Storylined Studying

Student engagement was examined by immersing participants in RPG trigonometry problems. Students responded enthusiastically, adopting character roles and expressing enjoyment of storyline elements, with 100% of students showing increased engagement. This is further supported by Chiayi University, which found as far as a 20% engagement increase of tasks when gamified.

## 3. Course Adoption Potential

Feedback from TAs in Math Quest as a supplementary teaching tool was generally positive, with TAs appreciating the platform's ability to personalize and gamify learning. One TA suggested that the tool could foster more active student feedback and reduce "social loafing" in group activities. An average interest rating of 6/10 indicates moderate interest, which can be improved if Math Quest were marketed as an optional tool that engages students at their own pace outside of class.

These assumption tests ensure that the core goals of Math Quest- engaging, effective, and adoptable- were backed. Initial feedback strongly supported BrainSpark's potential to enhance learning in math education.

Post-launch, we plan to implement strategies to ensure Math Quest 2 continues to meet its standards. Our validation process involves user feedback, analytics, and testing:

### Ongoing Quality Assurance

**Regression Testing:** Every new feature or update will undergo regression testing to ensure existing functionality is not disrupted. Updates made will be seen through validation testing. For instance, new storyline elements or reward mechanisms will be compared with existing features to assess impact on user engagement and performance.

**Bug Reporting:** A built-in bug reporting tool within Math Quest will allow users to report issues directly, allowing the BrainSpark team to quickly identify and address technical issues.

**Customer Feedback:** Through our customer feedback email and support channels, we will be made aware of what features are received well and what can be improved upon based on user consensus (e.g. features that are not bugs, but may not be as intuitive/harder to navigate that could be simplified in an update). Feedback will also be gathered via in-app surveys, focus groups, and interviews.

**Beta Testing:** Before releasing feature updates, we will engage a small group of beta testers to provide feedback on functionality, usability, and engagement.

## Go to Market Strategy

Math Quest 2's initial release will focus on calculus content, starting with a carefully curated pilot program at select West Coast universities. This phased approach ensures our content aligns perfectly with university curricula while gathering valuable feedback for expansion.

<b>Phase 1: Initial Pilot</b> (Winter 2025)	<b>Phase 2: Soft Launch</b> (Spring 2025)	<b>Phase 3: Hard Launch</b> (Fall 2025)
Partner with 3-5 West Coast universities Focus exclusively on Calculus I content Close collaboration with math departments for content alignment Gather efficacy data and testimonials	Expand to Calculus II and III Add 5-10 additional universities Implement improvements based on pilot feedback	Expand to complete mathematics curriculum Open licensing to all universities Scale up marketing and sales efforts

## Distribution Strategy

<b>Universities</b>	<b>Students</b>
B2B licensing model (\$10,000 per institution per year) Direct integration with Canvas Teacher dashboard accessible via browser extension or web portal Students access premium features through university email sign-in	Free basic access through Steam, App Store, and Google Play Premium features unlocked through university licensing Self-service purchase option for non-university students at \$10/month

## Marketing and Promotion

<b>“Play &amp; Shape the Future” Campus Program</b>	<b>University Outreach</b>	<b>Digital Campaign</b>

<p>Interactive beta testing stations in high-traffic campus areas at initial partner schools</p> <p>Student ambassadors collecting feedback and usage data</p> <p>Incentives for participation (coffee gift cards, game credits)</p> <p>Creates buzz while gathering valuable user insights</p>	<p>Cold email to math department heads inviting them to product demonstrations</p> <p>EdTech conference presentations highlighting pilot results</p> <p>Partnership with early-adopter professors for testimonials</p>	<p>Social media advertising (emphasis on TikTok)</p> <p>Educational influencer partnerships</p> <p>Targeted ads in academic spaces</p> <p>Student testimonial videos</p>
---	--	--

## Customer Support

Teachers	Students
<p>Concise video tutorials (2-3 minutes)</p> <p>Step-by-step integration guides</p> <p>Curriculum alignment templates</p> <p>Teacher-specific FAQ</p> <p>Dedicated email support</p>	<p>Student-facing FAQ and support documentation</p> <p>Regular feedback surveys for continuous improvement</p>

## Success Metrics

We will evaluate success based on:

Adoption Metrics	Educational Impact	Technical Performance
<p>Number of university partnerships</p> <p>Student engagement rates</p> <p>Teacher dashboard usage</p>	<p>Student performance improvements</p> <p>Course completion rates</p> <p>Teacher satisfaction scores</p>	<p>System uptime</p> <p>Response times</p> <p>Bug report frequency</p>

## Pivot Criteria

We will consider pivoting if:

- University adoption falls below 5 partners after first semester
- Student engagement drops below 30% in licensed universities
- Teacher dashboard usage falls below 40% of licensed professors

## Expansion Strategy

Upon successful launch, we will:

1. Expand to additional math courses based on university demand
2. Consider expansion to other STEM subjects
3. Develop additional features based on user feedback
4. Scale to East Coast universities

## Long-term Vision

Build Math Quest 2 into the standard for gamified university-level mathematics education, creating a platform that seamlessly integrates with university curricula while maintaining the engaging gameplay that made Math Quest 1 successful.

## References

Mahmoudi, H., Koushafar, M., Saribagloo, J. A., & Pashavi, G. (2015). The effect of computer games on speed, attention and consistency of learning mathematics among students. *Procedia - Social and Behavioral Sciences*, 176, 419–424. <https://doi.org/10.1016/j.sbspro.2015.01.491>

Zi-Xuan Ding, T.-S. W. (2023). Using a level-based RPG educational game to enhance students' knowledge of mathematics. *Tuijin Jishu/Journal of Propulsion Technology*, 44(4), 6998–7007. <https://doi.org/10.52783/tjjpt.v44.i4.2503>

Insivia. (2024, May 17). *Crucial kpis every EdTech company should track for marketing success*. <https://www.insivia.com/important-kpis-for-b2b-companies/>