



**Enhancing teaching
and learning experience
through the introduction
of Generative AI
for Edtech Leaders**

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CHI Software AI Expertise

CHI Software started working on AI/ML solutions in 2017.

In 2019 we launched our AI/ML R&D Center and started to work on Generative AI solutions. Currently, our AI team consists of 80 experts, and 14 of them have completed their Ph.D.

Proven Track Record

» **Over 20 Successful AI Assistant Deployments:**

We have developed and deployed over 20 AI Assistants for clients ranging from small businesses to large enterprises.

» **Overcoming Pitfalls:**

Our AI Assistants have successfully navigated various challenges and pitfalls, ensuring smooth operation and optimal performance.

» **Achieving Efficiency and**

Affordability: Through experience and refinement, we have achieved both speed in deployment and competitive pricing, making our solutions attractive to clients of all sizes.



The Path to Growth: AI-Powered Chatbot Revolutionizes Education

This case study will explore how edtech companies utilize AI technologies for engaging learning experience, improved teaching efficiency and sufficient workload reduction.



Enhanced Teaching Efficiency:

The chatbot streamlines assessment material creation, saving teachers up to 40% of their time for personalized instruction.



Engaging Learning Experiences:

Diverse question types enrich students' learning, maintaining engagement levels and improving overall learning experiences by 30%.



Improved Decision-Making:

Generative AI offers data-driven insights, enabling informed decision-making for tailored teaching and learning strategies, resulting in a 25% improvement in decision quality.



Scalability and Adaptability:

Generative AI ensures project scalability and adaptability, allowing for the continuous evolution of educational needs, with a 70% increase in adaptability.



Reduction in Workload:

Delegating question creation to the chatbot reduces educators' manual workload by 50%, leading to significant time savings and decreased administrative tasks.

We'll showcase the strategies and tactics employed, highlighting the potential impact of integrating AI-powered solutions into your business.

Client Details

About the client:

Our client is a leading and rapidly growing US K-12 learning solution renowned for the diverse array of courses and training programs spanning a multitude of disciplines, encompassing IT, software development, and business.

The platform has earned a sterling reputation for its interactive and captivating educational content from kindergarten to grade 12, and its user community consistently praises its user-friendly interface and wide accessibility.



Location: USA



Industry: Education



Duration: 10 months, ongoing



Showcasing Innovation: Groundbreaking EdTech Projects

EdTech Innovations: Objective Generation, AI Storytelling, Real-Time Salesforce Support, and More

01 Objectives Generation from a Large Lesson Content Data

The aim is to use AI to quickly generate state-specific lesson objectives, saving time and ensuring consistency with standards.

» [read more](#)

04 HelpMe Bot for Real-Time Salesforce Support:

The project aimed to develop and deploy the HelpMe bot for real-time Salesforce support via Slack, enhancing user satisfaction and efficiency.

» [read more](#)

02 AI-Based Story Generation Tool for Early Reading

The project aimed to create an AI tool for generating age-appropriate stories aligned with phonetic rules, streamlining the creation process.

» [read more](#)

05 AI-Based Assessment Creation Tool:

The aim is to develop an AI app to automate assessment creation, streamlining the process and freeing up teachers for individualized instruction.

» [read more](#)

03 AI-Based RFP Response Tool:

The aim is to develop an AI tool to automate RFP responses by mapping new questions to existing answers and reducing preparation time.

» [read more](#)

*These products can be used both as a part of a **comprehensive solution** or as **standalone modules**.

The client receives cloud-hosted microservices in Docker containers, providing a convenient and lightweight demo for showcasing.

Objectives Generation Based on a Huge Lesson Content Data Lake

Business Problem and Objective

? Business Problem

The company creates educational content for US schools (Pre-K, K-8) across subjects like STEM, English Language Arts, and Spanish. Each state has unique criteria for lesson objectives, requiring customization. Traditionally, this process was manual, requiring 25 full-time employees six months to align content with California standards.

Objective

Streamline and accelerate the generation of state-specific lesson objectives using AI, reducing time and manpower while ensuring consistency and adherence to state standards.

#1

What Was Done

- » **Data Preparation:**
Digitized and organized existing educational content.
- » **Feeding AI with Content:**
Input lessons from various sources into the AI system.
- » **AI Reading and Analysis:**
Programmed AI to understand lesson content and context.
- » **Objective Generation:**
AI generated 3-5 objectives per lesson based on state standards.
- » **Proof of Concept for California:**
Demonstrated AI's capability to generate «Language Objectives» for California standards.
- » **Applying PoC to Other States:**
Expanded AI-generated objectives to meet other states' standards.

The screenshot shows the Educator app interface. At the top, there's a search bar and a user profile icon. Below the search bar are four images: a ladybug, hands reading a book, a coffee cup, and a toucan. The main content area is titled "Teaching notes" and includes a "Suggested practicing: 5 minutes" button. The notes section contains an objective, activities (Nature Walk, Sorting Game, Observation Station), and an assessment. On the right, there's a "Chat with us" window with a chatbot named "Edu Bot" and a list of state-specific lesson objectives for California for US schools (Pre-K, K-8) across STEM, English Language Arts, and Spanish. The chat window also shows "Pre-K. STEM" and "Kindergarten. STEM" sections with specific objectives for each.

Metrics and Workflow Impact

Metrics



Time Saved:

Reduced creation time from months to weeks.



Accuracy and Alignment:

Ensured objectives aligned with educational standards.



Quality:

Improved content team's satisfaction and reduced «blank page» issues.



Scalability:

Efficiently processed large volumes of content.

Workflow Impact

- » **Increased Efficiency:**
Content team focused on refining objectives.
- » **Consistency and Standardization:**
Provided consistent and standardized objectives.
- » **Enhanced Scalability:**
Scaled content preparation with fewer resources.



Technologies

- » **Natural Language Processing:**
For understanding and processing text.
- » **Machine Learning Models:**
Trained to generate lesson objectives.
- » **Data Integration Tools:**
Organized and fed content into AI models.
- » **Cloud Computing:**
Enabled scalable processing.
- » **AI Training Frameworks:**
Developed and fine-tuned AI models.
- » **Content Management Systems:**
Managed generated objectives and content.

Conclusion

By leveraging these technologies, the company automated the creation of lesson objectives, significantly reducing preparation time and ensuring accurate alignment with state standards. This enhanced their ability to efficiently serve educational institutions.

AI-based Story Generation Tool for Early Reading Intervention

Business Problem and Objective

? Business Problem

Creating engaging, educational stories for early readers is labor-intensive, requiring up to a day for writing and four hours for editing each story. This manual effort limits creativity and variety, causing production bottlenecks and delaying delivery of the 500 stories needed across 50 levels.

📊 Objective

Develop an AI-based tool to assist writers in generating stories that align with phonetic rules and age-appropriate content, streamlining the creation process, reducing time and effort, and ensuring diverse, engaging stories for early readers.

#2

What Was Done

AI Tool Development

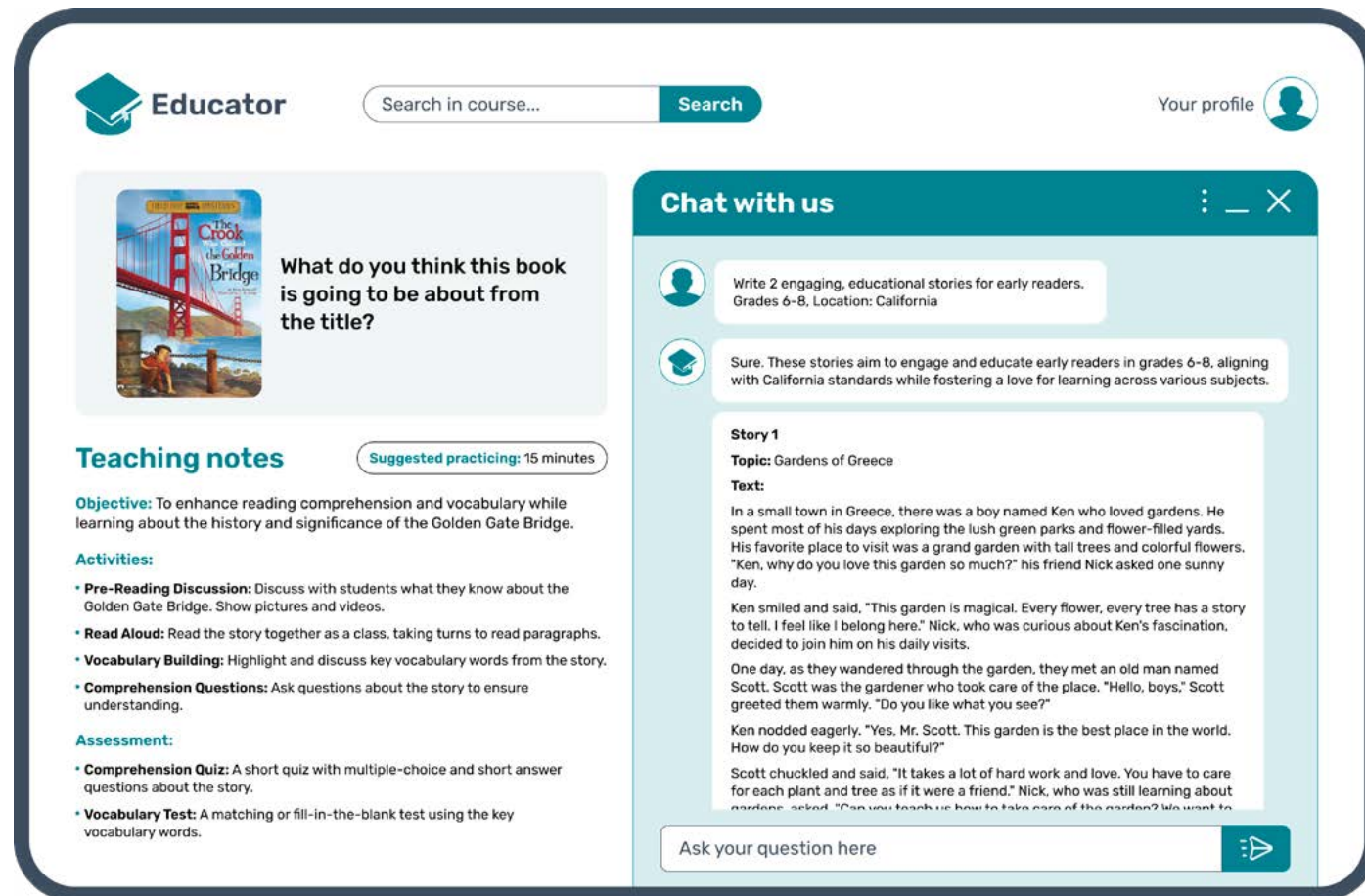
- » Designed the AI to take inputs like phonetic rules, sound patterns, topics, and reading
- » Writers select the appropriate level correlating with the reader's age and learning progress.

Implementation and Testing

- » Writers tested the tool, generating stories and reviewing outputs to ensure criteria were
- » Feedback from writers was used to fine-tune AI capabilities and improve story quality.

Story Generation

- » AI processes inputs to generate stories complying with specified phonetic rules and sound
- » Generated stories are age-appropriate and suitable for the designated reading level.



The screenshot shows the Educator interface. At the top, there's a search bar and a profile icon. Below, a book cover for 'The Crook and the Golden Bridge' is displayed with the question: 'What do you think this book is going to be about from the title?'. To the right, a chat window titled 'Chat with us' shows a conversation where the user asks for 2 engaging stories for early readers in California, and the AI responds with a story about gardens in Greece. Below the chat, there are 'Teaching notes' including an objective, activities (pre-reading discussion, read aloud, vocabulary building, comprehension questions), and assessment (comprehension quiz, vocabulary test).

Metrics and Workflow Impact

Metrics



Time Savings:

Reduced story creation and editing time from 28 hours to 2-3 hours.



Efficiency:

Increased the number of stories produced weekly, speeding up content generation.



Accuracy and Alignment:

AI provided a wider range of story ideas, enhancing creativity and diversity.

Technologies

- » **Natural Language Processing:**
For understanding and generating text based on phonetic rules, sound patterns, and story topics.
- » **Machine Learning Algorithms:**
Trained on a large dataset of existing stories to generate new ones meeting specified criteria.
- » **Cloud Computing Services:**
Handled large-scale processing and data storage for quick story generation.
- » **User Interface Design:**
Enabled easy input of requirements and interaction with the AI tool for generating and editing stories.

Workflow Impact

- » **Reduced Manual Effort:**
Writers spend less time on initial creation and editing, focusing more on refining content.
- » **Increased Productivity:**
Streamlined process enabled more stories to be produced within the same timeframe.
- » **Enhanced Consistency:**
AI ensured all stories adhered to phonetic rules and age-appropriate content, reducing extensive edits.

Conclusion

The AI-based story generation tool revolutionized content creation for early reading intervention by reducing creation and editing time, boosting productivity, ensuring consistency, and offering a wider variety of engaging content, thereby supporting the company's mission to provide high-quality reading intervention for young learners.



AI-based RFP Response Tool

Business Problem and Objective

? Business Problem

Responding to RFPs from various states and schools is time-consuming for sales representatives, delaying responses and reducing efficiency.

📈 Objective

Develop an AI tool to automate generating RFP responses by analyzing and mapping new questions to existing answers, streamlining the process and maintaining response quality.

#3

What Was Done

Tool Development:

- » Created an AI tool for uploading previously completed RFPs.
- » Implemented functionality for inputting new questions.

Content Analysis and Mapping:

- » AI analyzes context and searches uploaded RFPs.
- » Maps new questions to similar existing ones and retrieves.

Answer Generation:

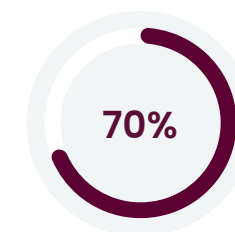
- » Generates answers based on mapped content.
- » Salespeople review and edit generated answers before

The screenshot shows the 'Automate Questionnaires' interface in the 'Educator | Sales' system. It features a search bar, a profile icon, and an 'Upload Questionnaires' button. Below is a table with columns for File name, Status, and a grid of counts (6, 6, 0) with icons for refresh and delete.

File name	Status	6	6	0	🔄	🗑️
Edu_Programmes_RFP.xls	Processing...	6	6	0	🔄	🗑️
Banking_Enterprise_RFP.xls	Processing...	6	6	0	🔄	🗑️
Questions_From_Legal_Office.xls	Processing...	6	6	0	🔄	🗑️
Enterprise_Compliance_Questionnaire.xls	Processing...	4	4	0	🔄	🗑️
Security_Questionnaire.xls	Processing...	117	117	0	🔄	🗑️
Security_Review.xls	Processing...	3	3	0	🔄	🗑️
Customer_Engagement_RFP.xls	Processing...	4	4	0	🔄	🗑️

Metrics and Workflow Impact

Metrics



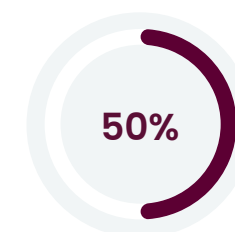
Time Savings:

Reduced RFP response time by 70%.



Accuracy and Quality:

Maintained a 95% match rate between new questions and existing answers.



Response Rate:

Increased RFP responses within deadlines by 50%.

Technologies Used

- » **Natural Language Processing:**
For understanding and mapping questions to existing answers.
- » **Machine Learning Algorithms:**
Trained on previous RFPs for accurate response generation.
- » **Data Storage and Retrieval:**
Cloud-based storage for quick information retrieval.
- » **User Interface Design:**
Intuitive interface for document uploads and receiving answers.



Workflow Impact

- » **Increased Efficiency:**
Reduced manual effort, allowing salespeople to handle more RFPs.
- » **Consistent Quality:**
Ensured comprehensive responses using previous knowledge.
- » **Faster Turnaround:**
Improved response time, enhancing competitiveness.

Conclusion

The AI-based RFP response tool automated the RFP response process, significantly reducing time and effort, improving efficiency, and maintaining high-quality responses. This enhanced the company's productivity and competitiveness in the market.

#4

HelpMe Bot for Real-Time Salesforce Support

Business Problem and Objective

Business Problem

The Sales Initiative team struggled to provide immediate support for Salesforce users due to resource constraints, resulting in delays and decreased user satisfaction.

Objective

Develop and deploy the HelpMe bot for real-time Salesforce support via Slack, enhancing user assistance, learning, and overall satisfaction.

What Was Done

Development of HelpMe Bot:

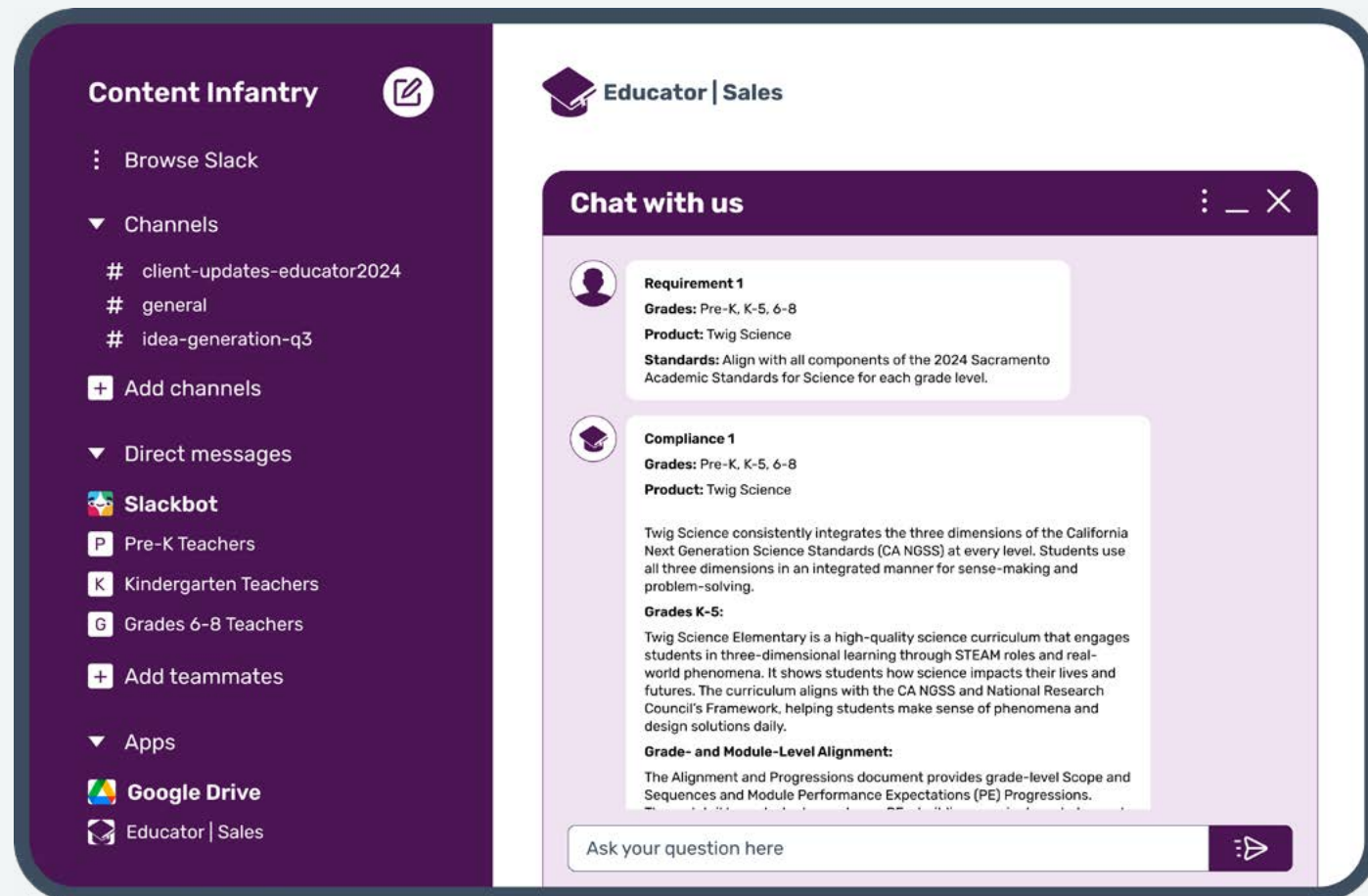
- » Created HelpMe bot for real-time Salesforce support.
- » Integrated the bot with Slack for easy accessibility.

Deployment and Integration:

- » Configure bot for easy addition to Slack channels by mentioning it.
- » Enabled bot to respond to queries and provide Salesforce guidance.

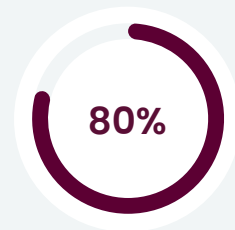
User Education and Promotion:

- » Provided instructions for adding the bot to Slack for immediate assistance.
- » Inform users about HelpMe bot capabilities.



Metrics and Workflow Impact

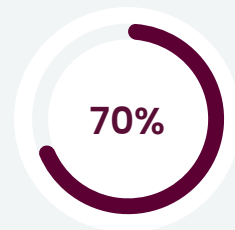
Metrics



Response Time:
Reduced by 80%



User Engagement:
Increased by 60%
in the first month.



Knowledge Retention:
70% of users reported
better understanding
and problem-solving.



User Satisfaction:
Achieved 90%
satisfaction rate.

Technologies

- » **Knowledgebase API:**
Accessed and retrieved relevant information for support.
- » **Slack API:**
Integrated HelpMe bot into Slack for seamless interaction.
- » **NLP:**
Understood and responded to user queries effectively.
- » **Machine Learning:**
Improved bot responses and adapted to new queries.
- » **Cloud Infrastructure:**
Ensured scalability and reliability for numerous interactions.

Workflow Impact

- » **Increased Efficiency:**
Instant support reduced the implementation team's workload.
- » **Enhanced User Experience:**
Timely assistance improved satisfaction and Salesforce adoption.
- » **Scalability:**
Provided consistent, scalable support for varying user knowledge levels.

Conclusion

The HelpMe bot improved real-time Salesforce support via Slack, boosting response times, user engagement, and satisfaction.

Using NLP and machine learning, the bot enhanced support effectiveness, increased user self-sufficiency, and optimized resource allocation for the implementation team.



AI-Based Assessment Creation Tool

Business Problem and Objective

Business Problem

Teachers face significant time constraints creating assessments across subjects and grade levels, consuming instructional time, lacking scalability, and leading to inconsistent assessments. Additionally, teachers may struggle with crafting unique and engaging questions, complicating the assessment process.

Objective

Develop an AI-based app to automate assessment creation for various subjects and grade levels. By using AI, teachers can input preferences to generate assessment questions and answers, saving time for individualized instruction and student engagement, thereby enhancing the overall learning experience.

#5

What Was Done

Tool Development:

- » We developed an AI-based tool to automate assessment creation.
- » Users can select a science topic, number of questions, grade level, answer options, and provide an optional description.

AI Integration:

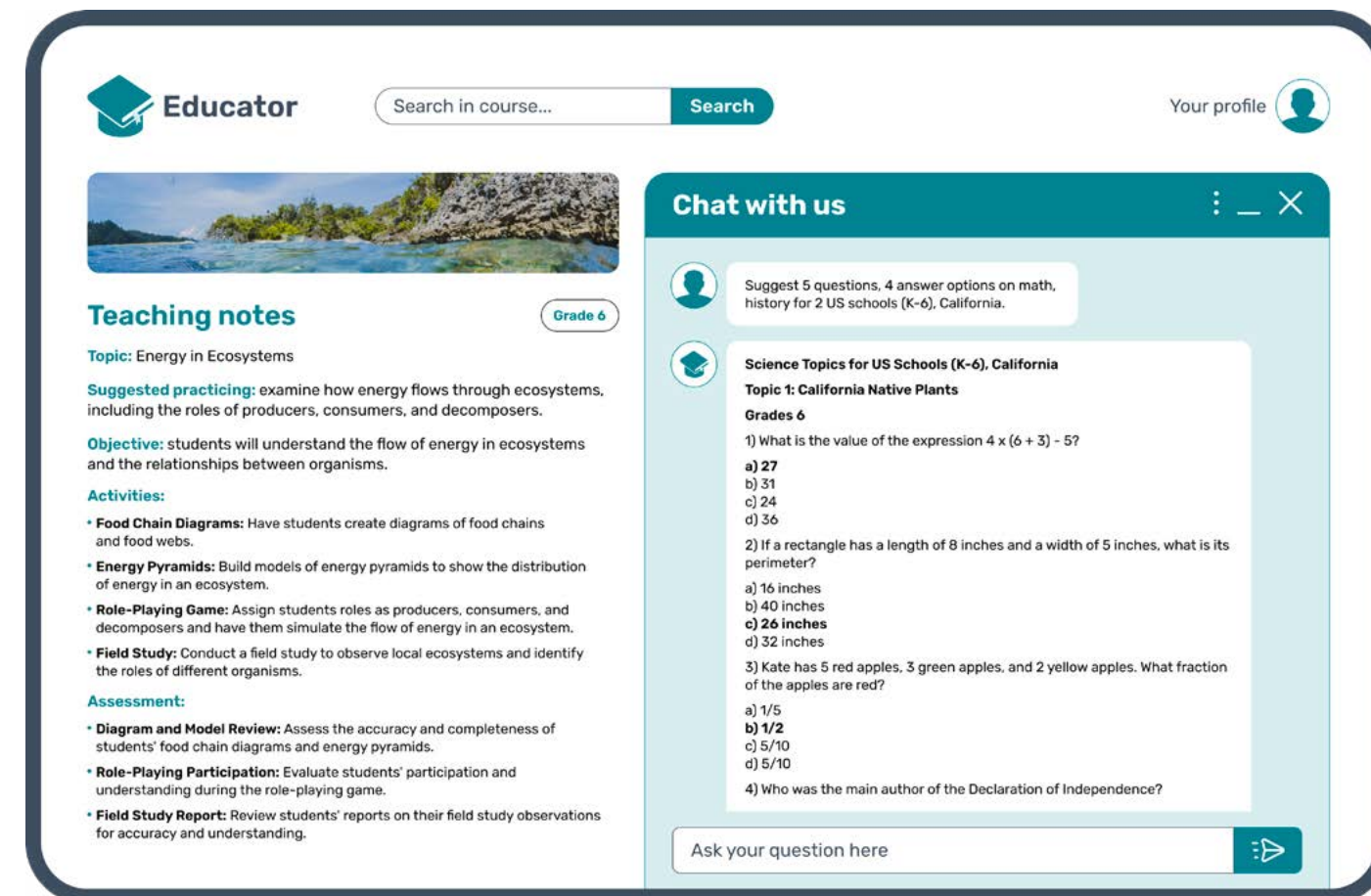
- » The AI model generates tailored assessment questions and answers based on user inputs and educational standards.

User Interface:

- » A user-friendly interface allows teachers to easily input preferences and receive generated assessments.

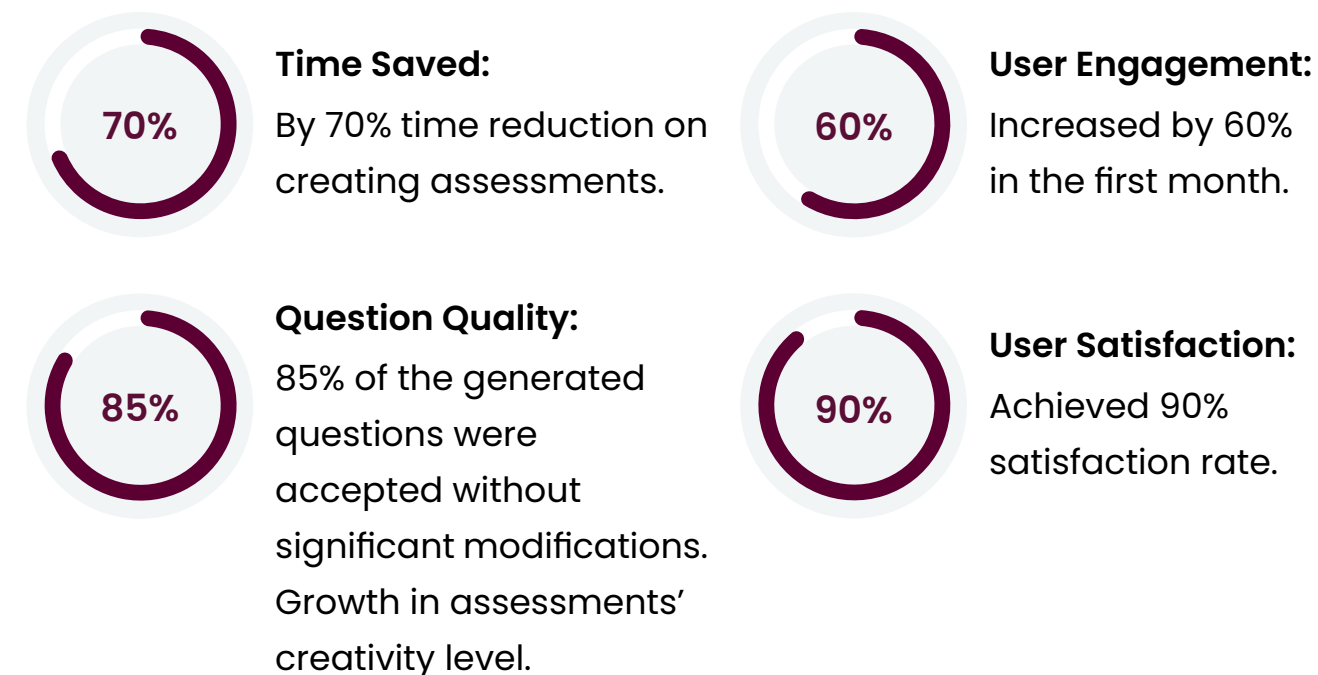
Tool Development:

- » The tool was rigorously tested for accuracy and relevance.
- » Teacher feedback was incorporated to improve performance.



Metrics and Workflow Impact

Metrics



Technologies Used

- » **Artificial Intelligence:**
AI algorithms generate assessment questions and answers from user inputs.
- » **NLP:**
Implemented NLP techniques to understand input descriptions and generate relevant questions.
- » **Machine Learning (ML):**
ML models improve assessment quality based on user feedback.
- » **Web Technologies:**
Developed a user-friendly web interface for easy tool interaction.
- » **Cloud Infrastructure:**
Used cloud services for scalability, reliability, and efficient data processing and storage.

Impact on Workflow:

- » **Efficiency:**
Our tool significantly streamlined the assessment creation process.
- » **Consistency:**
The tool provides standardized questions across different subjects and grade levels.
- » **Creativity Support:**
Our solution allows teachers to focus more on other essential teaching tasks.
- » **Scalability:**
The tool complies with various educational settings by creating many assessments quickly and efficiently.

Conclusion

The AI-based assessment tool has effectively addressed time constraints and creativity challenges for teachers in traditional education. Automating assessment creation has improved efficiency, consistency, and teacher satisfaction, enhancing the learning experience for students. Advanced AI and machine learning technologies have created a scalable solution supporting teachers across subjects and grade levels.

Have an AI edtech innovation in mind? Let's explore it together!



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