



EASE Summit Transcript

Using Chatbots in Education

Hi everyone!

My name is Camille, and I am here to tell you about using Chatbot in Stem Education.

I'm sure you've all, at some point in your life, talked to chatbot. Whether it was as a customer online that needed assistance, or to Siri and Alexa to know what the weather was going to be like today, chatbots are increasingly more present in our everyday life.

And while it may seem cold and impractical, chatbots have clear benefits that can easily transfer to education.

But first, how does a chatbot work?

A chatbot is an Artificial Intelligence designed to respond to user messages by simulating a conversation.

It's like a round of tennis, every inquiry receives a response instantly and intelligently. The length of the interaction depends on the question itself, but these conversation agents never tire from interactions.

Their whole purpose is to streamline interaction and improve effectiveness.

Chatbots are developed using machine learning algorithms which enable them to understand, analyze and replicate human language.

This is called Natural Language Processing (NLP) and it serves to recognize patterns (in the form of user messages) and their corresponding templates (in the form of chatbot replies to the user).

The chatbot's NLP enables it to: identify user intent (What is the user's goal in sending the message?) and extract user context (What is the profile of this user?), after which the chatbot can generate an appropriate response.

What are the benefits of chatbots in education?

1. **LEARNING WITH CHATBOTS IS RESPONSIVE & MISTAKE -FRIENDLY**
Chatbots offer accurate and immediate feedback to learners about their



performance. Unlike typical grading that is limited to end-of-the-semester assessments, chatbot feedback is given after task completion. The discreet yet encouraging nature of the chatbot platform also lessens student anxiety and ensures that they are not discouraged by their errors. Chatbot feedback can also lead to improved metacognitive thinking: students have a better self-perception of their skills the more often they are assessed.

2. LEARNING WITH CHATBOTS IS PERSONALISED & ADAPTIVE

The pace at which learners understand and absorb information differs. Chatbots are designed to assess proficiency levels and create individualized content, instructions, and feedback, according to different student profiles. Therefore, chatbots offer learning experiences that are adapted to the needs of each student.

3. LEARNING WITH CHATBOTS IS USER-FRIENDLY

The chatbot is designed to be interactive and breed user engagement. Learning content is organized in such a way that it turns lessons into a series of messages that resemble a chat conversation. In addition, chatbots are already reminiscent of the social platforms that students use on a day-to-day basis. Users stay engaged thanks to the conversational style of the chatbot and its choice of mixed-media resources.

4. LEARNING WITH CHATBOTS IS CONSISTENT & REGULAR

Tutor chatbots are able to encourage regular and consistent learning by sending out reminders to users on different occasions: for reviewing old lessons which may not be as fresh in learners' minds and for implementing a study routine based on the principle of microlearning.

5. LEARNING WITH CHATBOTS IS TEACHER-FRIENDLY

Students are not the only ones who reap the benefits of chatbot interactions. Not only do chatbots simplify the process of receiving and implementing feedback, they also ease teacher responsibilities in the areas of monitoring student performance, memorizing lessons, and they take over repetitive tasks.

Now, all of this is especially relevant when working with learners with specific needs.

Chatbots and learners with Specific Learning Disorders

Conversations that resemble a chat dialogue and content is presented in small chunks of information is especially relevant for learners with dyslexic who have difficulty following



along and not losing their place when reading long texts, as well as for learners with ADHD who experience difficulties focusing for a long period of time.

For learners with motor skills or writing difficulties, having all the information in one place and easily accessible is important.

The format of the lessons provided by the chatbot usually allows for multisensory teaching: the chatbot is able to provide resources that are text-based, video-based, audio-based, which in turn create a more inclusive and a more engaging pedagogical practice.

Conclusion

It is important to note that a chatbot is not here to replace teacher-student relationship, those are not replaceable, but chatbots can act as a complement to teaching practices.

Overall, chatbots have many usages and purposes, and in the STEM field, they act as strong pillar of using technology in class.

If you're interested in chatbot in Stem education, I invite you to look into it or get in touch with us. There are lots of projects and possibilities out there that we are happy to discuss.

Thank you all for listening; this was Camille from Logopsycom on chatbots.