



# Pedagogical Recommendations & Support Using IBM Watson Assistant in Moodle

Yamna Ettarres

Vanessa McCance

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# About us

## **Yamna Ettarres**

Director, Academic Innovation and  
Technologies- KnowledgeOne  
Moodle Educator Certificate MEC  
MoodleNet- Yamna Ettarres

## **Vanessa McCance**

Learning Experience Designer and  
UDL Specialist - KnowledgeOne

# Outline



Chatbots in Education



Professor Support



Activities Recommender

# Types of Chatbots

- Flow-based chatbots
  - Rule-based chatbots
  - Keyword recognition-based chatbots
  - Menu-based chatbots
- AI chatbots
  - Contextual chatbots
  - Hybrid chatbots
  - Voice-enabled chatbots

# Chatbots in Education

Chatbot are used as:

- Teachers/Tutors
- Student support
- Teacher support
- Administrative tool
- Feedback collector

# Chatbots in Education: Challenges

- Ethical concerns
- User Attitude
- Evaluation
- Programming
- Supervision and Maintenance

**Reference:** Chatbots applications in education: A systematic review  
Chinedu Wilfred Okonkwo, Abejide Ade-Ibijola  
Computers and Education: Artificial Intelligence 2 (2021) 100033

## Adopted Technology



IBM Waston Assistant-  
Dialog skill



IBM Waston Assistant-  
Actions skill

# IBM Watson Assistant: Architecture and Technology

“IBM Watson Assistant is built on deep learning, machine learning, and Natural Language Processing (NLP) models to understand questions, find or search for the best answers, and complete the user’s intended action.”

Reference: [Watson Assistant](#)

- # Intent
- @Entity
- Dialog Skill/Actions Skill

# IBM Watson Assistant: Architecture and Technology

## # Intent:

- Purpose
- Goal
- Question
- Subject

<input type="checkbox"/> Intents (27) ↑
<input type="checkbox"/> #Glossary
<input type="checkbox"/> #goodbyes
<input type="checkbox"/> #gradebook
<input type="checkbox"/> #greetings
<input type="checkbox"/> #Main_Menu
<input type="checkbox"/> #Planning_Structuring
<input type="checkbox"/> #Profile
<input type="checkbox"/> #quiz



<input type="checkbox"/> User examples (5) ↑
<input type="checkbox"/> How to create quizzes in Moodle
<input type="checkbox"/> I want to create a quiz in Moodle
<input type="checkbox"/> I want to create Multiple choice questions
<input type="checkbox"/> I would like to assess students' learning using quizzes
<input type="checkbox"/> How to add a quiz in my course

Reference: Creating intents

# IBM Watson Assistant: Architecture and Technology

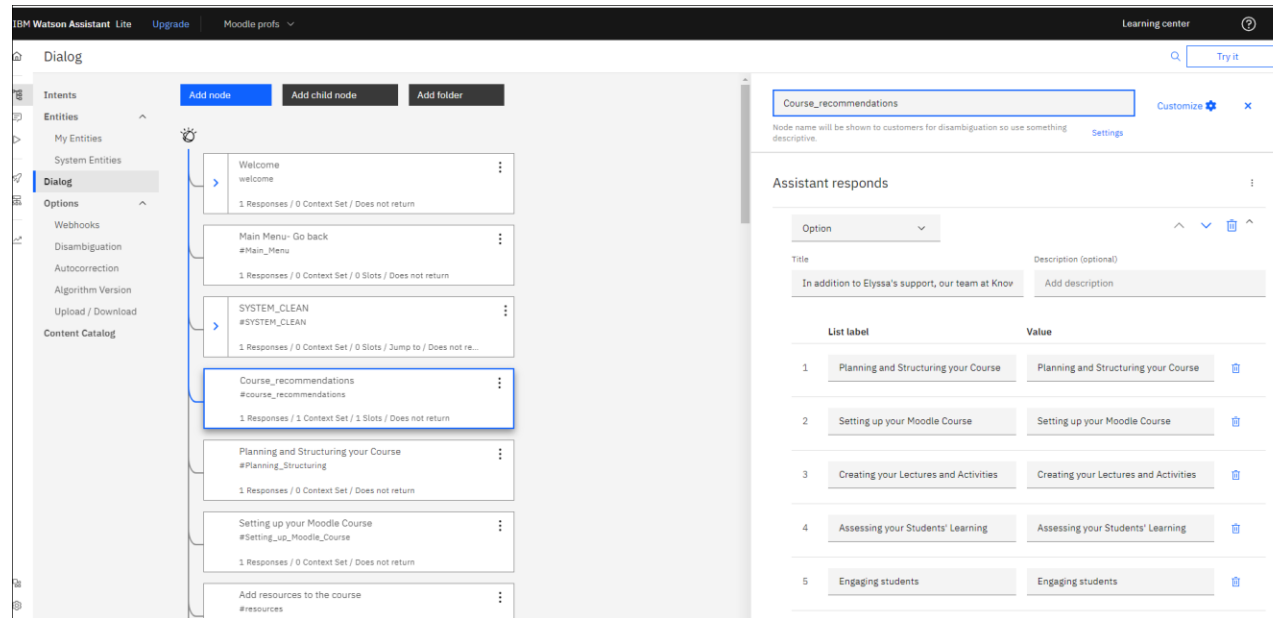
@Entity: provide context and synonyms

Intents		
Entities ^		
My Entities	<input type="checkbox"/> Entity (2) ↑	Values
System Entities	<input type="checkbox"/> @Forum	Each person posts one discussion, Q & A forum, Single simple discussion, Standard forum for general use
Dialog	<input type="checkbox"/> @group	Manual groups, automatic groups, group, group self_selection
Options ^		
Webhooks		
Disambiguation		

Reference : [Creating intents](#)

# IBM Watson Assistant: Architecture and Technology - Dialog skill

“The dialog uses the intents that are identified in the user's input, plus context from the application, to interact with the user and ultimately provide a useful response.”



Reference : How your dialog is processed

# IBM Watson Assistant: Architecture and Technology - Actions Skill

“represent the tasks you want your assistant to help your customers with. Each action contains a series of steps that represent individual exchanges with a customer.”

The screenshot displays the IBM Watson Assistant interface for a skill named "Manual Graded Assessments". The interface is divided into two main sections: "Conversation steps" on the left and a list of phrases on the right.

**Conversation steps:**

- Customer starts with:** Your recommendation for a graded assignment?
- Step 1:** Is it a group assignment? (Confirmation button)
- Step 2:** Does it need peer grading? (Confirmation button)
- Step 3:** Is the final product an upload? (Confirmation button)
- Step 4:** Do students need to interact with each other? (Confirmation button)
- Step 5:** Does it require students to self-assess? (Confirmation button)

**Phrases:**

Enter phrases that a customer types or says to start the conversation about a specific topic. These phrases determine the task, problem, or question your customer has.

The more phrases you enter, the better your assistant can recognize what the customer wants.

Enter phrases your customer might use to start this action. Total: 6

- Graded assignment
- Assessment
- Assessments
- What are the options to create a graded assignment?
- I would like to create a graded assignment
- Your recommendation for a graded assignment?

Reference: [Getting started with Watson Assistant](#)

# ChatGPT and IBM Watson Assistant

- IBM Watson Assistant can be used to create a dialogue and interact with users in a natural language and answers questions in a specific domain.
- ChatGPT (Generative Pre-trained Transformer) is trained on a massive amount of text data and able to generate human-like text based to answer a user's request.

# Professor Support



Context and Goals



Professor Support-  
Presentation

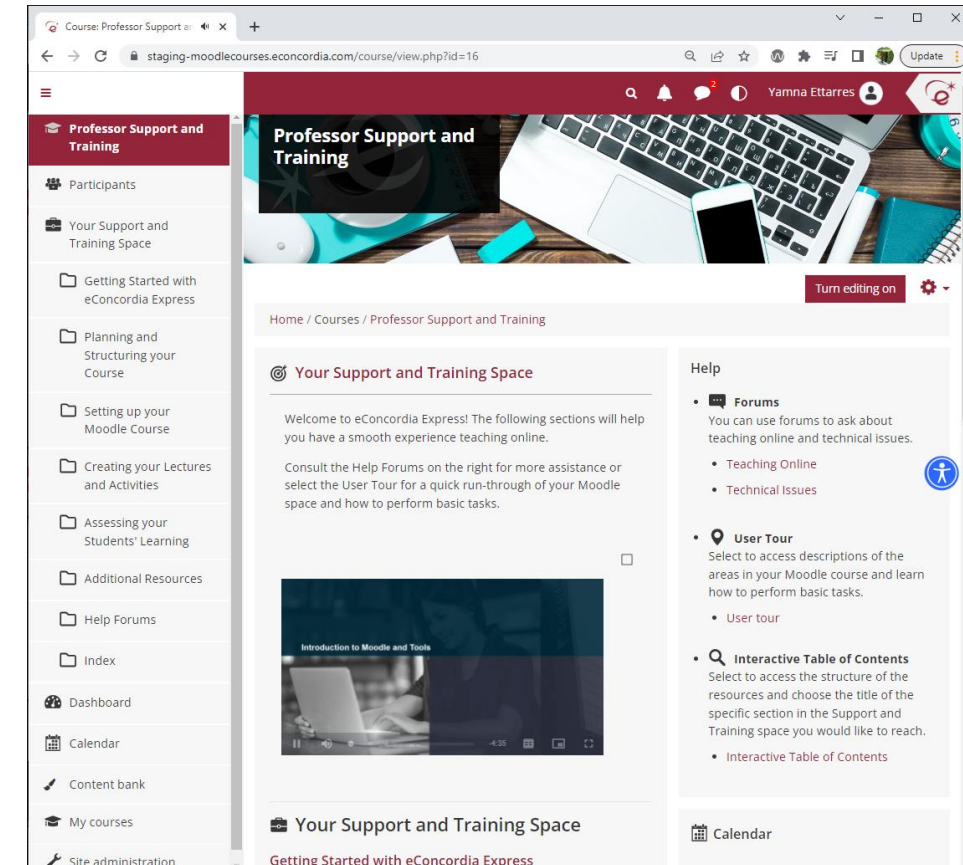
# Professor Support Context and Goals

## Context

- A prototype developed after eCon-express project
- A lot of information to navigate
- Look for the appropriate information in Professor Support and Training

## Goals

- Answer questions.
- Encourage exploration.
- Present links to documentation and multimedia productions



# Professor Support Presentation

Dashboard

dev-moodlecourses.econcordia.com/my/

KnowledgeOne-eConcordia Moodle English (en)

Home

Dashboard

Calendar

Private files

Content bank

My courses

Forums

BS4 Components

Engaging students with Moodle- Yamna Ettarres

Activities recommender

Learning plans

Competencies to review


02 Digital Resources (Student4 student4) - Waiting for review

02 Digital Resources (Student5 student5) - Waiting for review

3.1 Teaching (Student8 Student8) - Waiting for review

View more...

Recently accessed courses



Prof. Assistant

Clear History

Hello.

My name is **Elyssa** and I'm an Intelligent Virtual Assistant to support you with the design and development of engaging online courses.

What name can I call you by?

Type something...

Built with IBM Watson®

# Activities Recommender



Goals and development  
approach



Activities recommender-  
Presentation

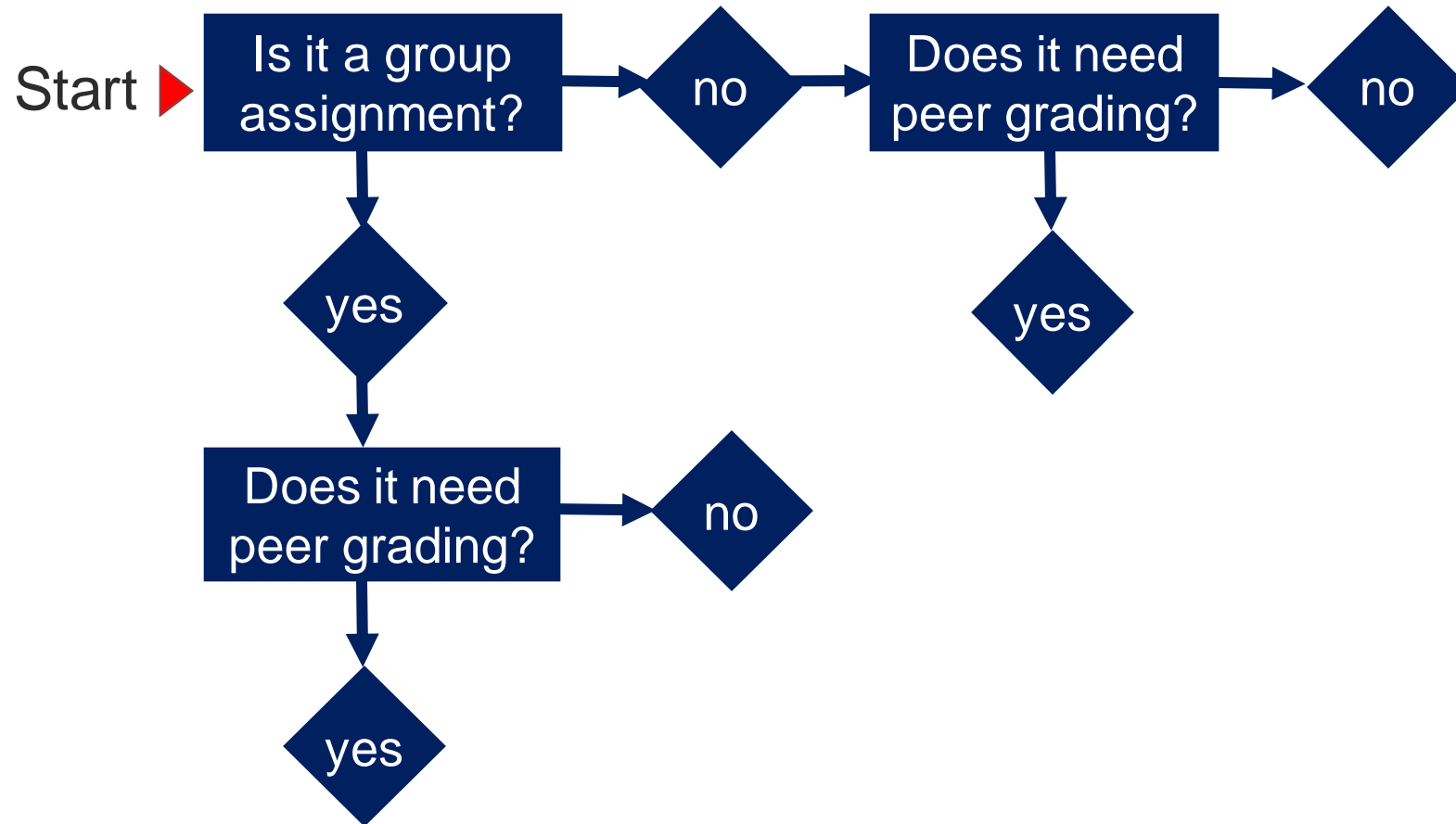


Feedback

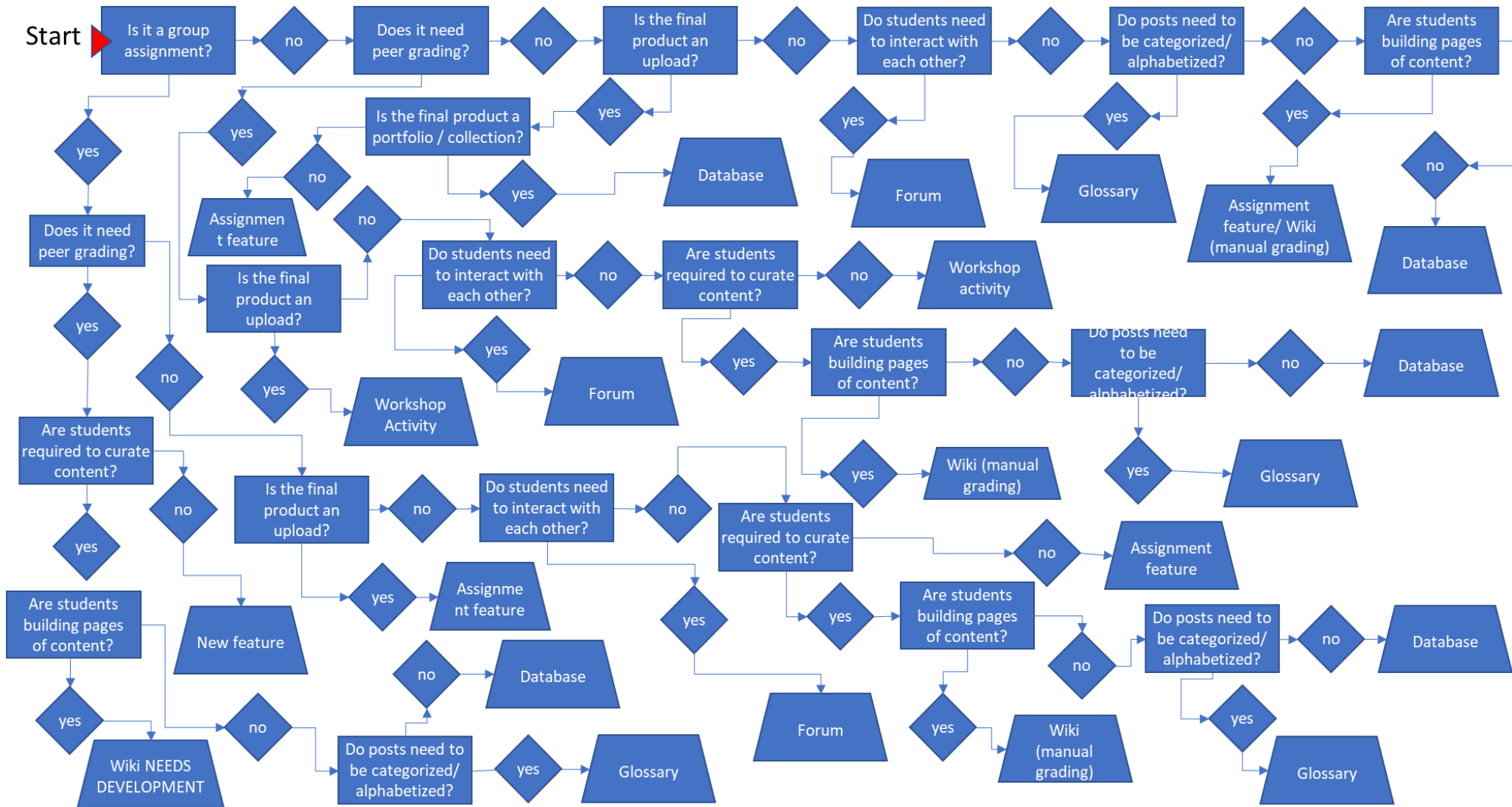
# Activities Recommender: Context and Goals

- Support teams working on new eConcordia courses & working on transfer of old eConcordia to Moodle
- What assessments from eConcordia LMS translate to Moodle?
- What assessments in Moodle are new for LxDs?
- Easy one-stop place for information
- Provide resources

# The Creation of the Maps



# The Creation of the Maps



# Multiple by Seven

We created seven categories:

1. Graded - Individual Assessment – Instructor Graded
2. Group Assessment – Instructor Graded
3. Individual Assessment – Peer Graded
4. Group Assessment – Peer Graded
5. Automatically Graded Assessments
6. Ungraded Knowledge Checks
7. Ungraded Activities (Non-Knowledge Checks)



What about  
a Chatbot?

# Activities Recommender: Presentation

The screenshot shows a web browser window displaying the Moodle course page for 'Staffroom: Professional Engagement'. The browser's address bar shows the URL `training.knowledgeone.ca/course/view.php?id=206`. The page features a red header with the course title and a navigation sidebar on the left. The main content area is divided into sections for 'General', 'Modules', and 'Communication and Collaboration'. A 'Latest announcements' box on the right contains a message from Yamna Ettarres dated May 4th. A 'Upcoming events' box below it states there are no events. A virtual assistant chat bubble is visible in the bottom right corner.

**Course: Staffroom: Professional Engagement**

[training.knowledgeone.ca/course/view.php?id=206](#)

**Staffroom**  
Professional Engagement

Yamna Ettarres

Turn editing on

Home / Courses / Staffroom

**General**

**Announcements**

**Modules**

**Professional Engagement**

Professional Engagement- Presentation  
Done: View  
Hidden from students

**Communication and Collaboration**

Course development- Discussions  
Done: View To do: Start discussions: 1 To do: Post replies: 1

**Latest announcements**

Add a new topic...  
4 May, 10:01  
Yamna Ettarres  
[Presentations in conferences](#)  
[Older topics ...](#)

**Upcoming events**

There are no upcoming events  
[Go to calendar...](#)

Hi! I'm a virtual assistant.  
How can I help you today?

# Activities Recommender: Feedback

## The positive feedback

- It is a useful tool filling a need
- It is easy to navigate

## The constructive feedback

- Wording of the questions needs to be more specific
- Limited answers of yes/no are too restrictive
  - Users tried to ask their own questions

## Moving forward – Version 2

- Re-wording question to offer more specific replies in place of yes/no
- Add more variations of use cases

## Question

If you are planning to add a chatbot to your Moodle course,

- **What will be the mission of your chatbot?**

# Conclusion:

## Chatbots in Education

- Chatbots can be valuable educational tools.
- Chatbots can be used for teaching and learning, administrative tasks, student assessment, ...
- Chatbots vary in design, features, purposes, and target audience.
- Incorporating intelligent chatbots can make courses more engaging and interactive.
- The goal is not to replace teachers but to facilitate the learning.

# References

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# Questions

