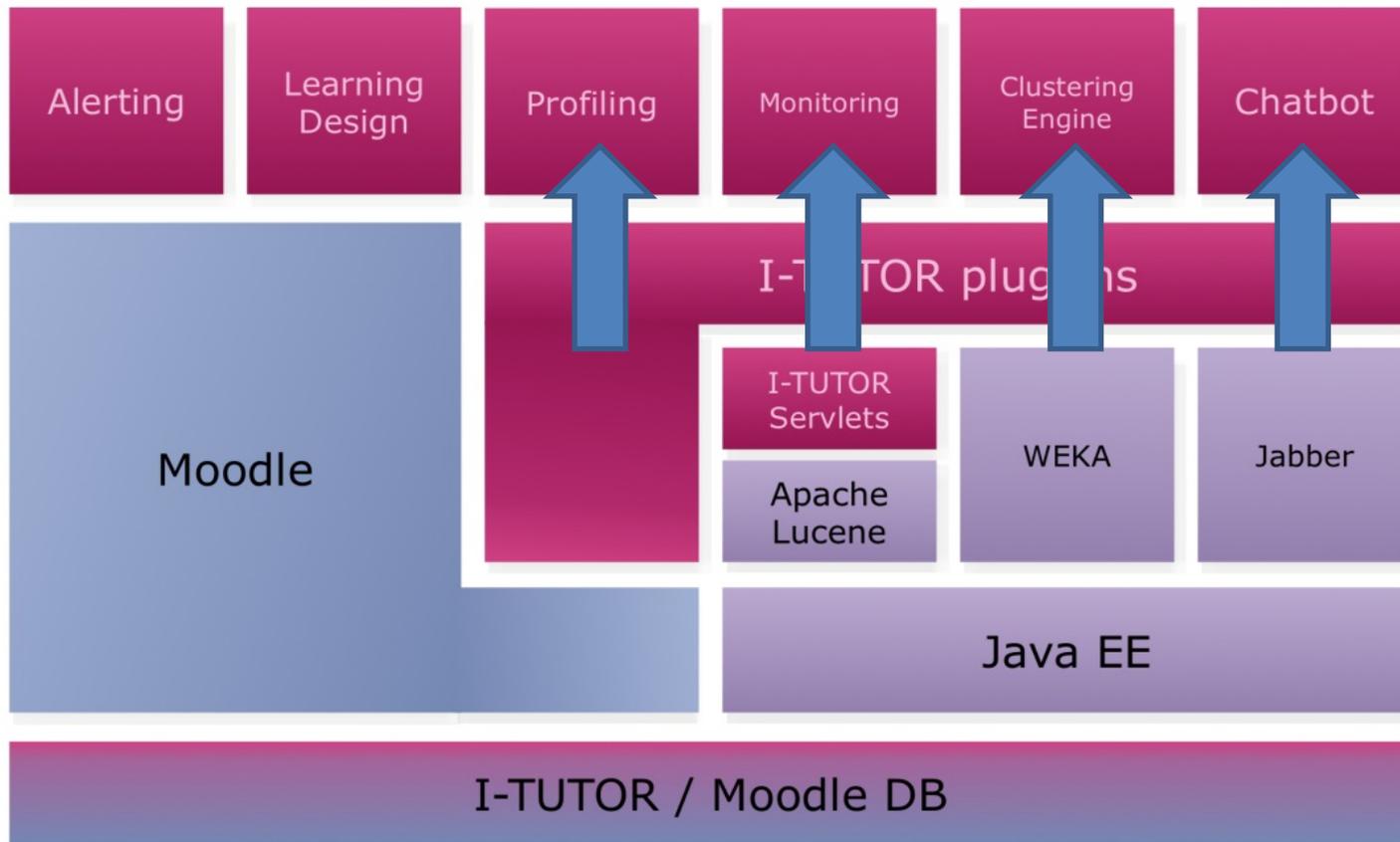


Clustering and chatbots in learning tools

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The I-TUTOR plug-in



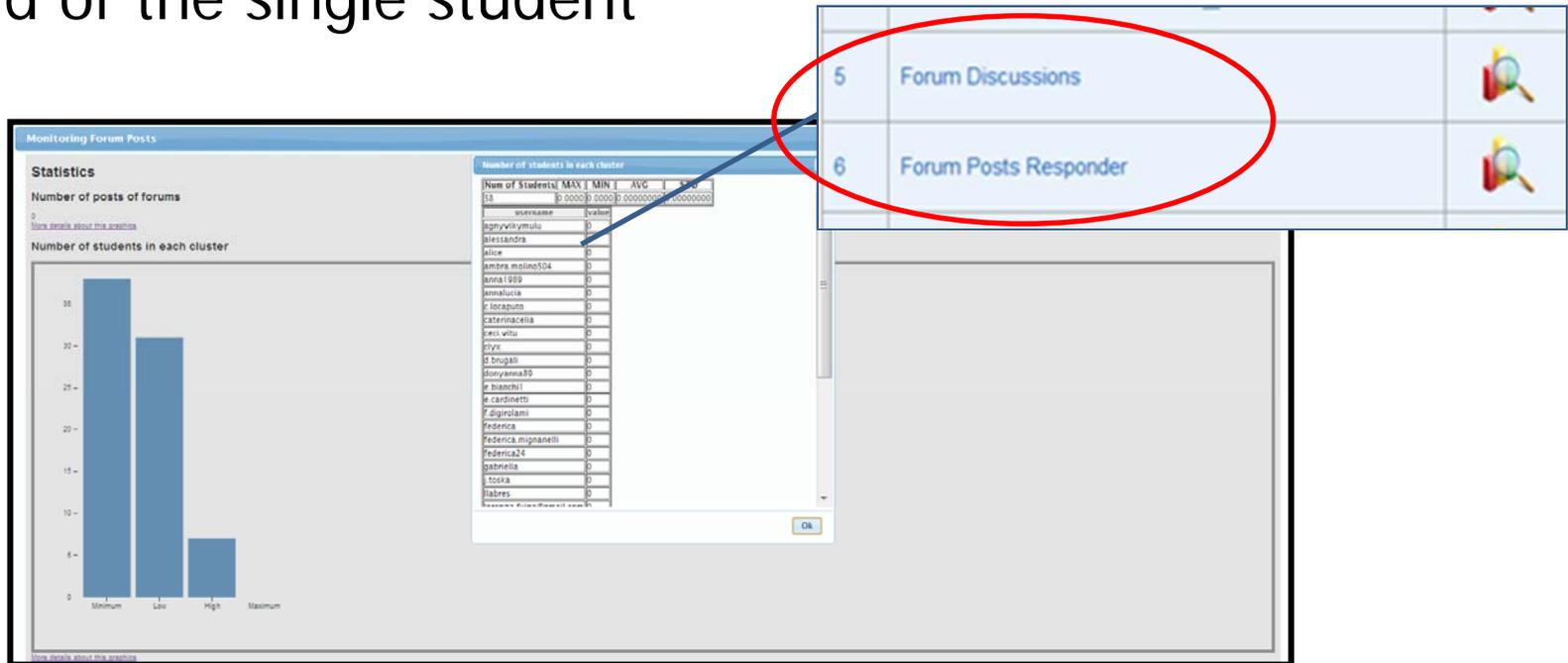
Why I-TUTOR?

Quality in online learning means to

- **monitor, track and assess what the student does within the learning environment ;**
- analyze students' writings;
- manage knowledge sources by, for instance, building representations of knowledge through conceptual maps or taxonomies;
- **watch the network of formal and non-formal relationships as it develops within the class, fosters its strengthening and supports the inclusion of all individuals; and**
- **give formative evaluation and feedback.**

What the tutor can do? Statistics

Check behaviours and performances of the classroom and of the single student

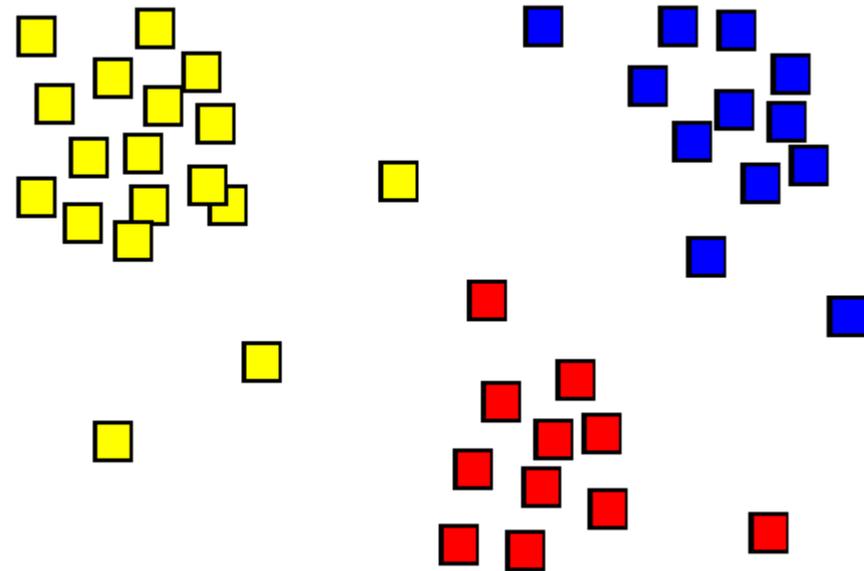




Clustering

The data mining technique that underpins this is “clustering”. Many techniques exist, but this has some important benefits:

- Easy to understand
- Measure against others
- Different learning styles
- Anomaly detection



Clustering

Technically there are also many reasons:

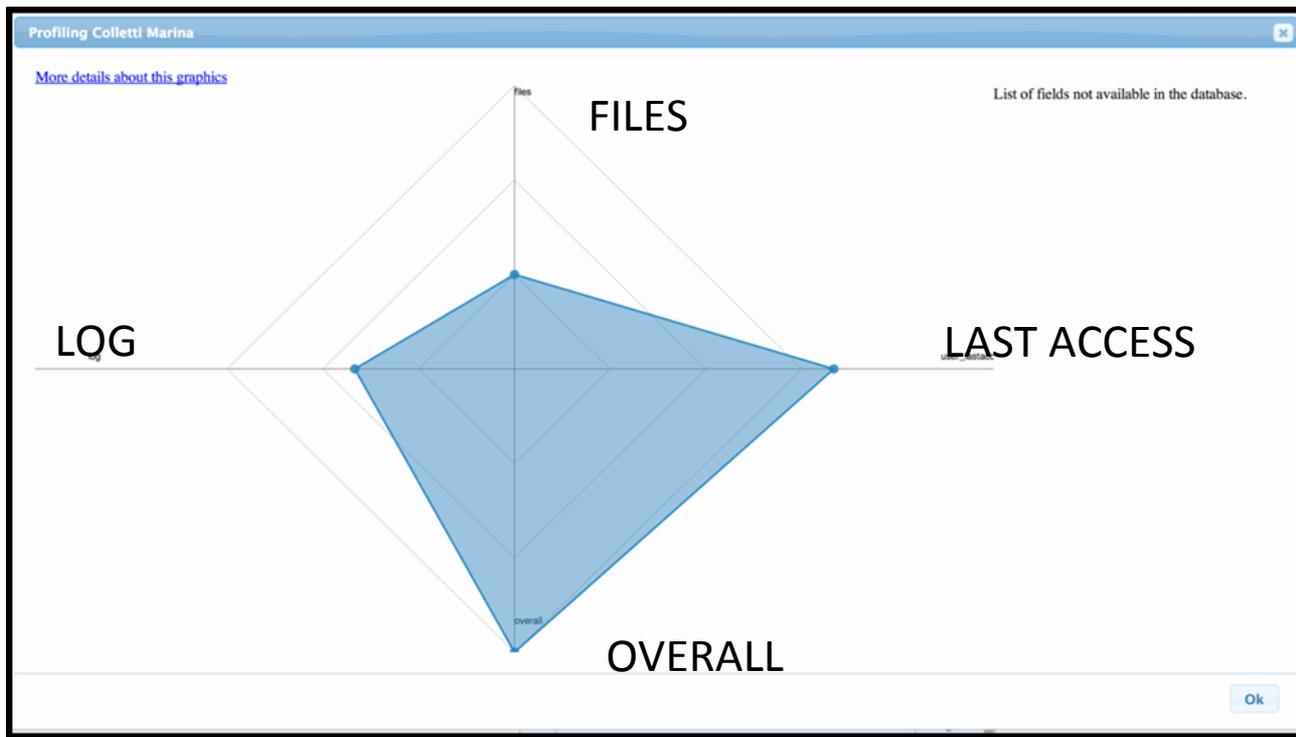
- Purely statistical (k-means)
 - No training algorithms required
 - (Almost) No data preparation
 - Moodle database provided a good data foundation.
 - No after analysis required, and therefore relatively easy to summarize results in a meaningful way

Statistics

- Clustering on Moodle databases:
- Assignment Submissions
 - Chat Messages
 - Comments
 - Files
 - Forum Discussions
 - Forum Posts Responder
 - Forum Posts
 - Grade Grades
 - Grade Grades Participation
 - Log
 - Message
 - Message Read
 - Message ReadTo
 - Message To
 - My Pages
 - Post
 - Quiz Grades
 - Tag
 - User Last Access
 - Overall
 - Overall Activities
 - Overall Marks

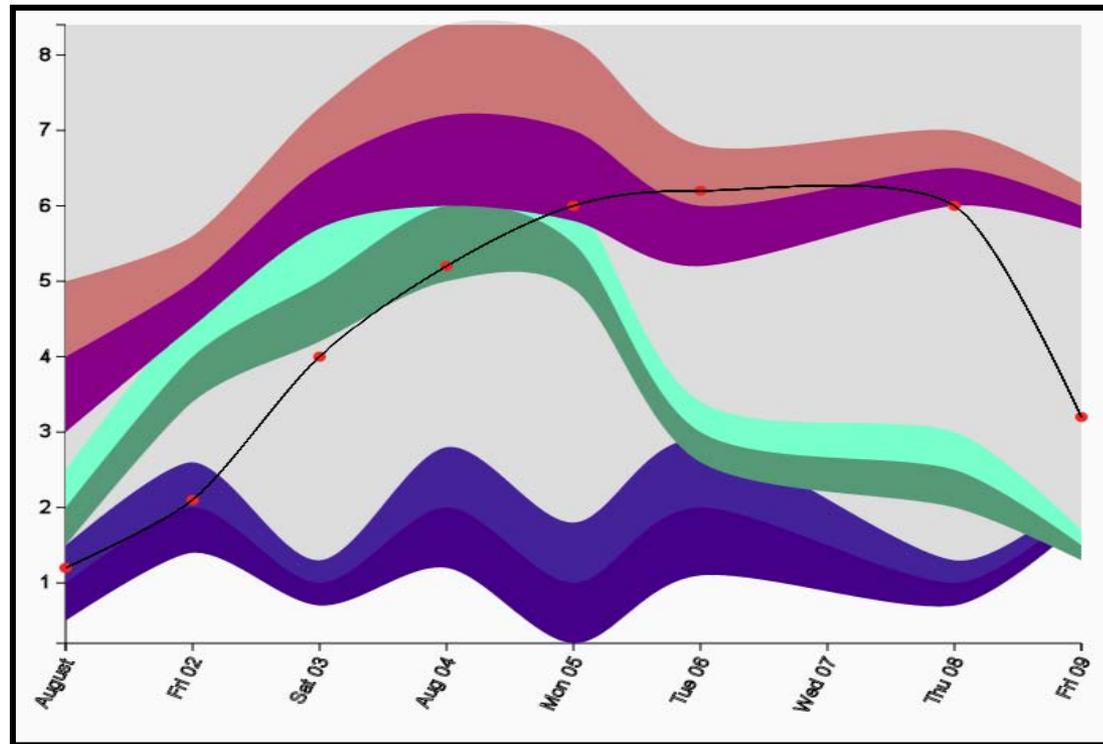
What the tutor can do? Profiling

Profile the student (University of Palermo)



What the tutor can do? Monitoring

See the student's activities over a given timeframe



What the tutor can do? Alerting

Create automatic alerts based on clustering and other critical (non-)events

Configuring a I-TUTOR Profiler block

Alerts?

Add Alert?

Alert day:

Alert type:

Alert data (type of cluster to base alert on):

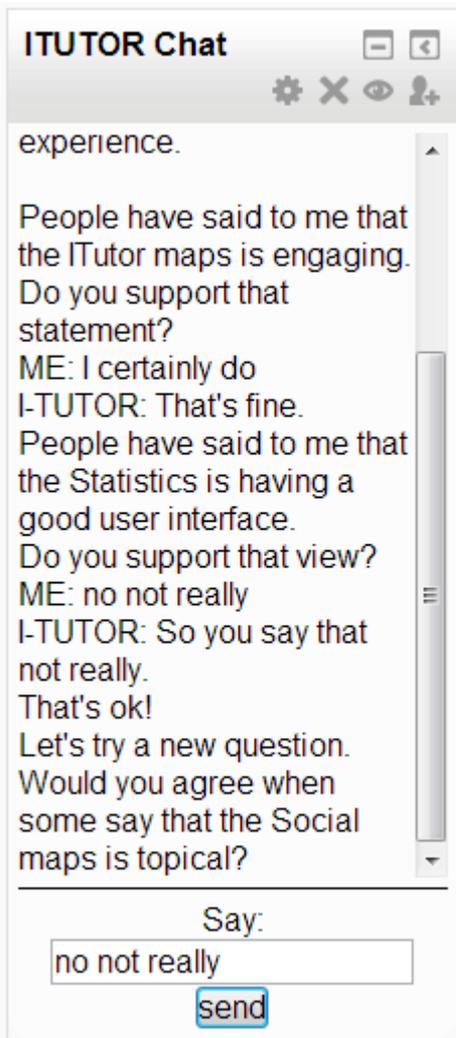
Alert message:

Send to you (if unticked sent to student)

And now something different!

Chatbots

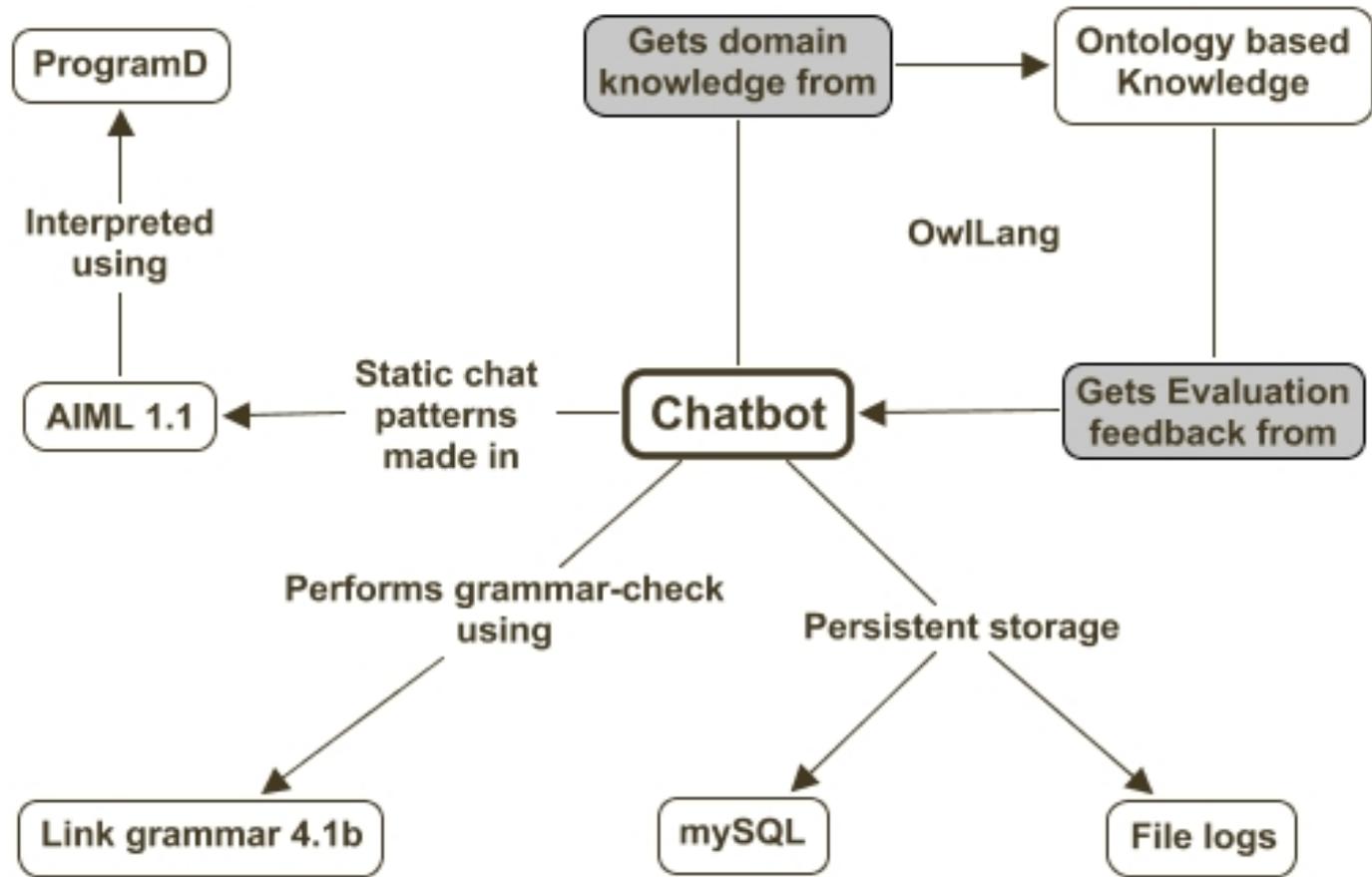
What the tutor can do? Surveying



Install the survey chatbot as additional tool

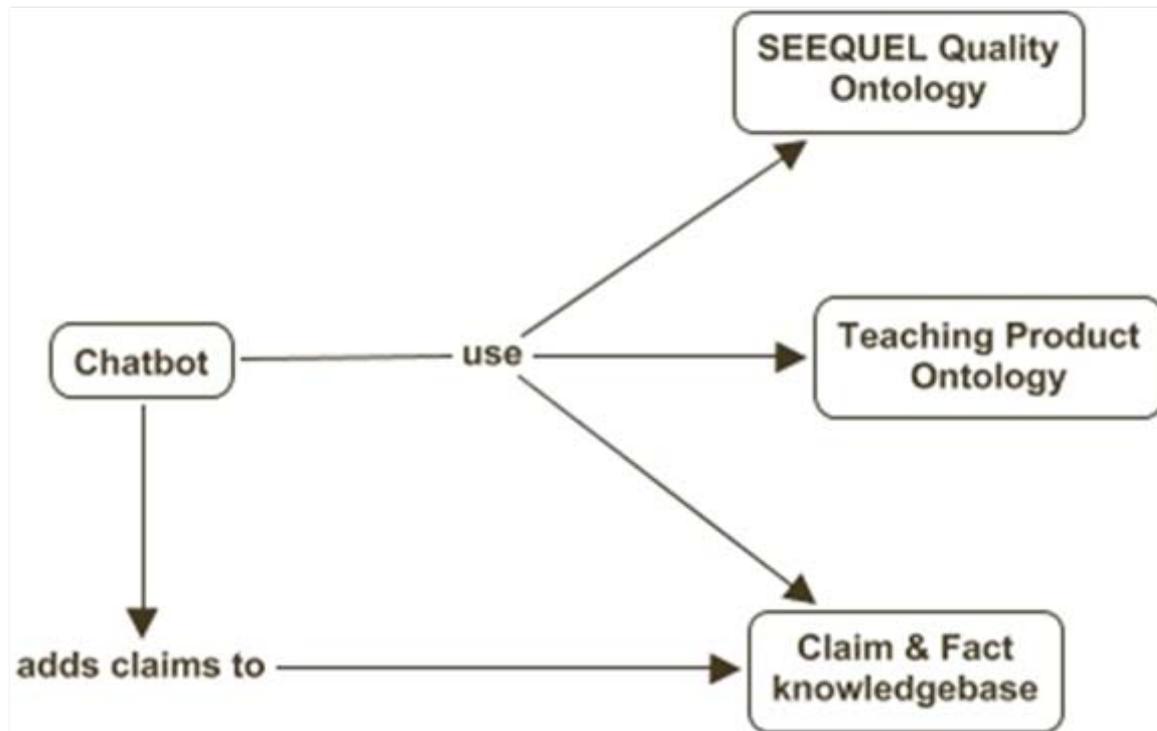
The chatbot deals with the students and asks if s/he has used the tools to promote self-regulated learning

Chatbot System



Chatbot System

Some say that the **SUBJECT** **PREDICATE** **OBJECT** Do you agree?



The I-TUTOR plug-in is FREE!

Download it now!

The project website: www.intelligent-tutor.eu

The plug-in section in Moodle: TBD

Chatbot system: <https://code.google.com/p/owllang/>