Collaborative Learning Support

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Recap: definition

Collaborative learning is a situation in which two or more people learn or attempt to learn something together. (Findley, 1987)
Supporting Collaborative Learning

The challenges

- Collaborative learning is an interaction of a lot of aspects
  - Prior knowledge
  - Motivation
  - Roles
  - Language
  - Behavior
  - Group dynamics
  - You name it

- Technology also shapes the interaction
Collaborative Learning Support
The approach

- Structure the environment
  - Computational model

- Regulate student interaction
  - Collaboration management cycle
Collaboration management cycle
Object oriented collaboration analysis framework (OCAF)

- **Object**
  - has a history
  - Owned by an actor

- Software computes individual contribution based on
  - Item insertion
  - Item rejection
  - Item contribution
Cardboard/Carddalis

- Students can co-construct using predefined cards.
- Students mark their comments based on content.
- Feedback is provided based on interaction analysis.
New cards can be dragged into the workspace & individually labeled (drag mode)

Bird’s Eye View
Schematic overview of entire workspace

Discussion
Contributions are automatically marked with author’s name

Input
Users type and mark contributions here (using IBIS notation, (?!,+,-)

Palette
A basic text field and 4 category fields (?!,+,-)

Mode
Switch between drag and line mode

Visualizations
Pie charts & histograms

Feedback
Visualization of tallied user contributions in discussion and workspace (Each user is assigned a different color)
The dual nature of guiding systems

- Guide in learning to effectively collaborate
  - Social

- Guide in effectively collaborate to learn
  - Task oriented
COLER

- Collaborative learning ER modeling

- Detects
  - Problems with group work
  - Differences between individual and group ER diagrams
  - Levels of participation
El municipio de Monterrey ha adquirido todas las líneas de camiones para implantar un servicio muy eficiente de camiones urbanos, controlado por el municipio. Usted ha sido asignado para construir el modelo de datos (diagrama Entidad-Relación) que soportará a este servicio tomando en cuenta las siguientes sugerencias:

**Feedback from Coach**

**Problem Description**

**Private Individual Workspace**

**Shared Group Workspace**

**Opinion Area**

**Chat Area**