Group Mirror

From Mirroring to Guiding

Rea Schmidt
1. Problems and Aims

2. The Collaboration Management Cycle

3. Three types of tools
   - Mirroring tools
   - Meta-cognitive tools
   - Guiding systems
Problems:

• Prior Knowledge
• Motivation
• Roles
• Language
• Behaviour
• Group dynamics
Aims:

• Understand, explain, and predict patterns of group behaviour
• Support group learning processes
• Determine how to structure the environment in which the collaboration takes place
• Regulate the student interaction during the learning activities
The Collaboration Management Cycle

Figure 1. Collaboration Management Cycle
Three types of tools

1. Mirroring tools

- Collect data
- Reflect this information back to user
- Responsibility for making decisions: User
Three types of tools

2. Meta-cognitive tools

- Provides the referents needed by the learners or coaches to diagnose the interaction
- Responsibility for making decisions: User

Figure 3. Meta-cognitive tools
Three types of tools

3. Guiding tools

- Perform all the phases in the collaboration management process
- Propose remedial actions to help the learners
- Information typically hidden
- System uses information to make decision about how to moderate the group’s interaction

Figure 4. Guiding tools
A REVIEW OF SYSTEMS THAT SUPPORT COLLABORATIVE LEARNING
Mirroring tools

Chat circles

- Running since 1999
- uses abstract shapes to convey identity and activity
Meta-cognitive tools

Jerman

- Solving a problem
- Visualization
- Chat
- Number of messages each student has sent
Guiding tools

**COLER Workspace**

- Individually workspace
- Collaborate to produce Entity-Relationship model
- Feedback to the student about differences

![Figure 7. COLER](image-url)
Guiding tools

HabiPro

• System includes a simulated peer agent that detects off-topics word in the students utterance

Figure 8. HabiPro
### Mirroring tools

<table>
<thead>
<tr>
<th>System</th>
<th>Input data</th>
<th>Output</th>
<th>Expected function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chat Circles (Donath, Karahalios &amp; Viegas, 1999)</td>
<td>Dialog in an unstructured virtual space</td>
<td>Graphical visualization</td>
<td>On-line social awareness</td>
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### Meta-cognitive tools

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### Guiding tools

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<td>COLER, (Constantin o González et al., 2002)</td>
<td>Shared and private actions, dialog</td>
<td>Coach</td>
<td>On-line feedback of participation &amp; workspace differences</td>
</tr>
<tr>
<td>HabiPro, Vizcaino (2001)</td>
<td>Shared workspace actions, student preferences dialog</td>
<td>Coach</td>
<td>Detection of off-topic interaction &amp; on-line guidance to students</td>
</tr>
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Image sources

Figure 1. Collaboration Management Cycle

Figure 2. Mirroring tools

Figure 3. Meta-cognitive tools

Figure 4. Guiding tools

Figure 6. Jerman

Figure 7. COLER

Figure 5. Chat circles
http://alumni.media.mit.edu/~fviegas/projects/chatcircles/ (16.06.2011)
Sources

AMY SOLLER, ALEJANDRA MARTÍNEZ MONÉS, PATRICK JERMANN & MARTIN MUEHLENBROCK (2008); From Mirroring to Guiding: A Review of State of the Art Technology for Supporting Collaborative Learning, University of Oslo
http://www.uio.no/studier/emner/matnat/ifi/TOOL5100/v08/leseliste/F10/


Vielen Dank für eure Aufmerksamkeit!