 Pieces of Knowledge: Multimodal Emergence and Trajectory in Socio-Scientific Educational Debates  
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To cite this version:
Claire Polo. Pieces of Knowledge: Multimodal Emergence and Trajectory in Socio-Scientific Educational Debates. 6ème Conférence de l’Association Française de Linguistique Cognitive, May 2015, Grenoble, France. halshs-01382548

HAL Id: halshs-01382548
https://halshs.archives-ouvertes.fr/halshs-01382548
Submitted on 9 Dec 2016

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ARGUMENTATIVE RESOURCES IN SOCIO-SCIENTIFIC EDUCATIONAL DEBATES

**PIECES of KNOWLEDGE-BELIEF (Polo, 2014)**

<table>
<thead>
<tr>
<th>Source(s)</th>
<th>Logical level</th>
<th>Degree of generality</th>
<th>Relation to target knowledge</th>
<th>Favouring or disturbing acquisition</th>
</tr>
</thead>
</table>

**PEDAGOGICAL SETTING: the YouTalk Scientific Café**

Participants: 12-14 year-old students
Specially trained student moderators: 15-17 year-old students
Schools: 2 in Mexico, 1 in USA, 1 in France, 2 in Brazil

**MODERATORS’ TRAINING (1 day)**
To lead the YouTalk Scientific Café about Drafting Water Management

**YouTalk - Introduction (10 min)**

**YouTalk - Thematic Phases (3 x 20 min)**

**YouTalk - Conclusion (15 min)**

**First Results from the US Corpus:**

Different spatio-temporal localizations associated with different scenarios of material environment exploitation

- Using something to point
- Handling the clicker to display determination to select an option or emergency to get to a conclusion (positioning on an interactional function)

**Exploitation of the material environment mostly occurs at the group level**

**Different knowledge units associated with different gestural scenarios**

<table>
<thead>
<tr>
<th>“Virtual water”</th>
<th>Price / Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imprecise gestures</td>
<td>- Less and smaller gestures</td>
</tr>
<tr>
<td>Referential function</td>
<td>- Diversity of functions</td>
</tr>
<tr>
<td>Little redundancy with speech</td>
<td>- More redundant with speech</td>
</tr>
<tr>
<td>Repetitions</td>
<td>- Reinvestment with other words or gestures</td>
</tr>
</tbody>
</table>

Exploitation of the material environment is not very sensitive to the knowledge content.