We Want to Understand how People Teach:
What teachers do can inform how we design the parts of teaching and learning systems.

We observed how people tried to teach "Wizard of Oz"-driven learning systems to:

Assign tags to text documents...

Segment concepts from an image...

Using office materials and people role-playing as the learning system, we aimed at not limiting what teachers wanted to express.

We did not explicitly describe to teachers how the learner worked or made predictions...still, teachers formed ideas about how the learning system worked.

Things people did when teaching to the learning systems:

**Provide Knowledge**
Teachers gave labels, semantic features, rules as well as semantic and structural relationships.

**Weigh the Evidence**
Teachers deemed some knowledge as more important than others. This information was also used to specify prediction rules.

**Learn from Examples**
Teachers’ plans were informed by the examples they saw or expected to see.

**Demonstrate by Examples**
For some concepts, teachers preferred to show instead of tell.

**Modulate Knowledge**
Biased by how they thought the learner worked, teachers withheld useful knowledge.

**Use Rule-Based Thinking**
Biased by how they thought the model worked, teachers produced knowledge to be used in a decision-tree way.

Applying these Findings Needs Interdisciplinary Research in ML and HCI.

To build better teaching and learning systems we need:
1. Algorithms that leverage what people want to teach, and
2. Experiences that support and encourage teachers to express appropriate, useful knowledge.