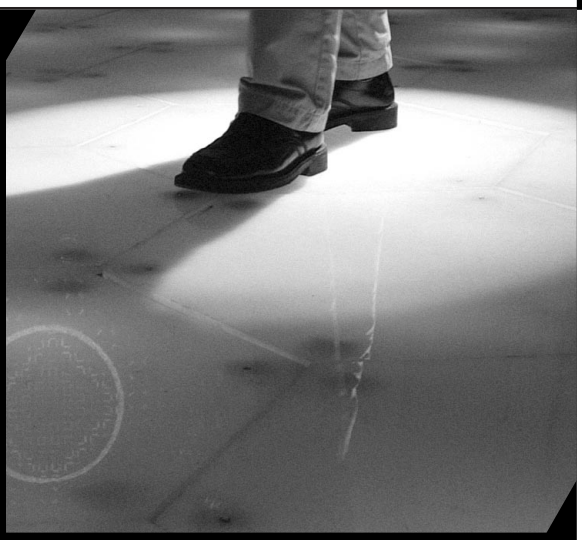
3

> Ada experience

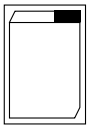


The best way to experience Ada is with a visit to Expo.02, yet it is also possible to address the topic of artificial intelligence in the classroom via game playing.

This chapter contains:

- Tips for films and CD-ROMs on the topic
- Recommendations for instruction
- Information on "Eliza"
- Ground plan of Ada

B: Recommendations for instruction



Sheets with border can be copied and distributed to students.

As a potential assignment, students can be asked to conduct their own Internet searches for information on artificial intelligence.

Ada Game

On Ada's website, you can get a foretaste of what it's like to play with Ada. It entails understanding how Ada communicates (light and sounds) and utilising one's memory faculties. Like Ada's floor plates, the game consists of hexagons that light up. A succession of lights is generated at random which the player has to follow, aided by tones and various colours. At first, the light sequence is limited to three hexagons. The number of illuminated hexagons increases each time the player correctly recognises a sequence.

Each player has three "lives." When these lives are used up, the game is over. In a bonus round, players can earn an additional life.

The game can be played at various degrees of difficulty. Players have the option of entering their names in the high-score list and comparing their performance with other contestants. Each week, the person with the highest point total will receive an award.
www.ada-exhibition.ch

Mind games

Logical thinking permeates all areas of life. To study it scientifically, one needs to isolate and observe individual applications. Logic games and brainteasers present themselves as opportunities here. Not only are they fun, they also enable the brain's activity to focus on a sharply defined objective. Since most of the tasks are quite clear, those doing the thinking can observe and describe the actions of their mind when solving a problem.

The brainteasers on the website below furnish opportunities to experiment on oneself. These brainteasers encompass one or more logic problems. The objective is not only to answer the individual questions but also to pay attention to the steps involved in reaching a solution.
www.computer-gehirn.de/deutsch/interaktiv.html

Film tips

The following videos on the topic may be ordered from the Zurich Pestalozzianum.
www.pestalozzianum.ch

- **Künstliche Intelligenz – ein Ausblick.** Zurich 1996 (40 minutes, with supplemental text, Schulfernsehen DRS).
- **Die Welt im Kopf:** Was im Gehirn vorgeht, wenn wir denken. Stuttgart 1993.
- **Wenn die Nerven verrückt spielen.** Zurich 1993 (15 minutes, Schulfernsehen DRS).
- **Drogen und Gehirn.** Heidelberg 1996 (32 minutes, with supplemental text).
- **«Augenzauber»:** Sehen, eine optische Täuschung. Zurich 1994 (25 minutes, with supplemental text, Schulfernsehen DRS).

"NZZ Format" has featured a number of documentaries on the human brain and artificial intelligence in its programme. Information about how to order the films can be obtained at:
www-x.nzz.ch/format/videos/orderone.dbc

- **Lernen und Vergessen**
- **Erinnern und Vergessen**
- **Verflixtes Gedächtnis**
- **Die Schalter im Kopf**
- **Wann kommt das künstliche Hirn?**
- **Faszination Geschwindigkeit: 3. Supercomputer und Superhirn.**
- **Das künstliche Ohr – und anderes zum Hören**
- **Was Augen sehen – und nicht sehen**
- **Roboter I: Intelligente Roboter – Lebende Maschinen**
- **Roboter II: Auf dem Weg zum künstlichen Leben**

Short descriptions of these films are available on the "NZZ Format" website:
www-x.nzz.ch/format/archive/archive_8_66.html

CD-ROM

The Zurich Pestalozzianum library also features a range of CD-ROMs on our topic:

Nerven, Sinne, Hormone: Ein multimediales Lernprogramm mit Prüfungsaufgaben. Stuttgart 1997. (CD-ROM mit Beiheft)
Mind Revolution: Hirnforschung im High-Tech-Zeitalter. Vom revolutionären Zusammenspiel zwischen Mensch, Gehirn und Computer. München 1996.
Illusionen: Von Wahrnehmung und optischer Täuschung. München 1997.
Computer-City: Eine multimediale Reise durch die Welt der Computer. Endingen 2000. (CD-ROM mit Beiheft)

Eliza

Eliza *is an artificial being with whom one can communicate in writing. The German-language Eliza is located at* `www.allkuma.de/eliza.htm`, *while the English-speaking Eliza can be found at*
`www-ai.ijs.si/eliza-cgi-bin/eliza_script` *or*
`web.mit.edu/STS001/www/Team7/application.html`

The students can attempt to find out as much as possible about Eliza by posing well-formed questions. The class should subsequently discuss their experiences. What was it like to communicate with Eliza? Is Eliza intelligent? If yes, why?

One option is to hold a competition to see who established the most original dialogue with Eliza. The exchanges should be printed out and compared. What conversational strategies does Eliza employ?

Links

Special exhibition in the Heinz Nixdorf MuseumsForum Paderborn (Germany); 25 October 2001 through 28 April 2002.

The museum presents the current state of development in robotics and artificial intelligence and compares it with the abilities of the human brain. The exhibition showcases the latest robots from international research laboratories and takes a look at the sensory world of human beings.
`www.computer-gehirn.de`

The Massachusetts Institute of Technology (MIT) is one of the world's leading technical universities. Its Media Lab features "smart spaces," which exhibit similarities to the "Ada" project.
`www.media.mit.edu`

Ada ground plan