

# Learning Networks

## Citation for published version (APA):

Tattersall, C. (2005). *Learning Networks*.

## Document status and date:

Published: 13/06/2005

## Document Version:

Peer reviewed version

## Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

## General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

<https://www.ou.nl/taverne-agreement>

## Take down policy

If you believe that this document breaches copyright please contact us at:

[pure-support@ou.nl](mailto:pure-support@ou.nl)

providing details and we will investigate your claim.

Downloaded from <https://research.ou.nl/> on date: 08 Oct. 2021

Open Universiteit  
[www.ou.nl](http://www.ou.nl)



# Learning Networks

An abstract graphic featuring several overlapping, wavy black lines that create a sense of movement and flow. On the right side, there is a circular element composed of concentric circles and a semi-circle, with a white and black color scheme. The background is a light blue gradient with some faint, glowing lines and shapes.

**Colin Tattersall**

**Educational Technology Expertise Centre**

**Norwegian Opening Universities Visit - June 9th 2005**

**OpenUniversiteitNederland**

# Educational Technology Expertise Centre

- Research
- Development
- Implementation
- Education

# Educational Technology Expertise Centre

- Research
- **Development: Prof. Rob Koper**
- Implementation
- Education

# Educational Technology Expertise Centre

- Research
- **Development: Prof. Rob Koper**
  - 1997 – 2002: *Electronische Leer Omgeving*
    - Educational Modelling Language
    - IMS Learning Design
  - 2003 – 2008: Learning Networks
    - Drawing on results of 1997 – 2002, investigating learning technologies for lifelong learning
- Implementation
- Education

# What's the problem?

- Lack of good e-learning models & theories
  - lack of sound pedagogical approaches
  - non-interoperable solutions (lock-in)
  - lack of sustainable approaches to e-learning
- Fragmented learning landscape
  - Primary, secondary, tertiary, ...?
  - UK, the Netherlands, Norway, ...
  - Formal, non-formal, informal
- Technology is dominant

# Approaching the problem

- Need to reframe the landscape of education in terms of support for lifelong learning
  - Connect learners, experts, teachers across the borders of schools, work, countries, cultures, etc. in order to stimulate learning
- Develop new learning technologies to support lifelong learning:
  - models and theories
  - specifications of learning technologies
  - prototypes of new technologies



# Learning Networks RTD Programme

- **A learning network is a group of persons who create, share, support and study learning activities & units of learning in a specific knowledge domain.**
- Connected ...
  - to each other in a social & technical sense
  - to relevant learning resources
  - to each other in order to learn from & with each other (also **producing** new learning resources)
- Drawing on self-organisation theory, social constructivism, peer-to-peer systems, multi-agent systems, ...



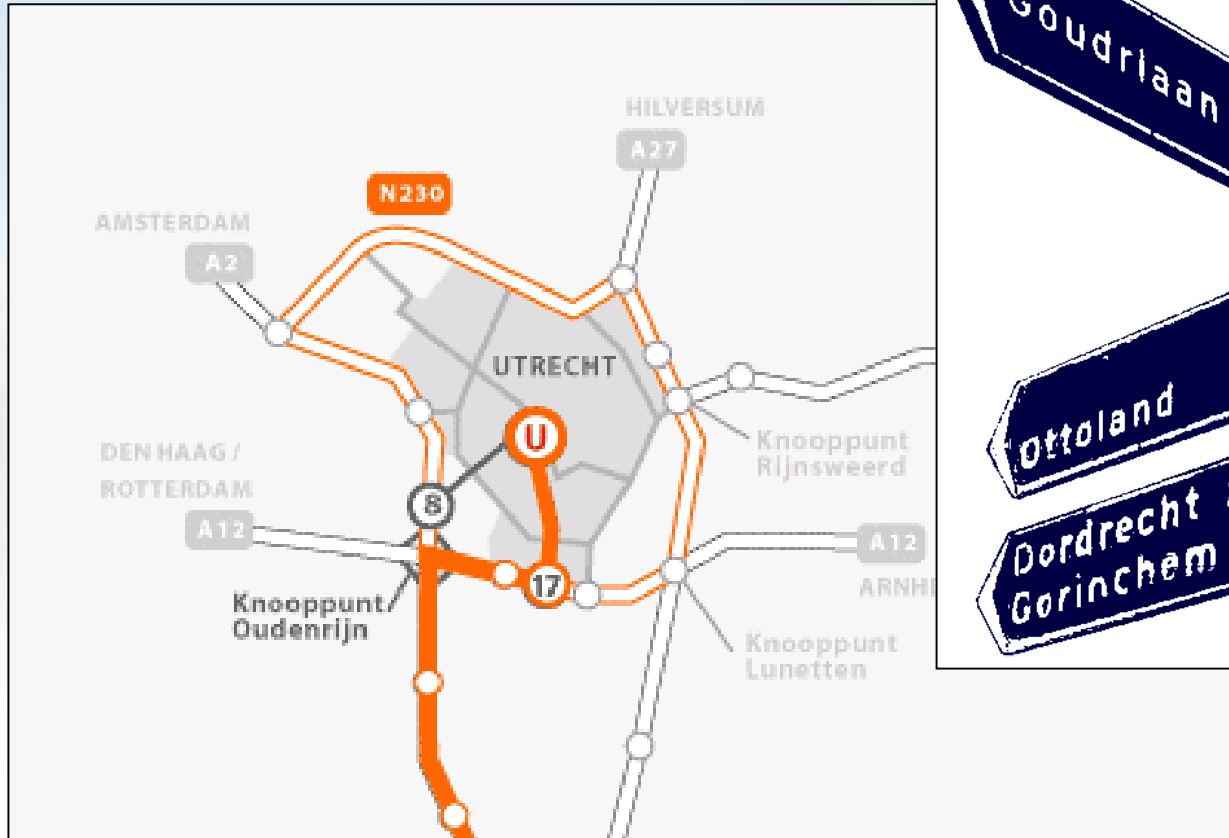
# Learning Networks RTD Programme

- Themes
  - How to **make & use** pedagogically well designed, interoperable and reusable units of learning in an LN?
  - How to **position** learners in a LN?
  - How to help learners to **navigate** in the LN?
- Government funded projects, EU projects, JISC projects, for example
  - Road Mapping (ROMA): navigation in learning networks
  - Self-organisation principles, feedback, trail formation

# Navigation

- “to plan, manage, or control the course of (a ship, aircraft, or the like)”
- “wayfinding” : the cognitive, decision-making navigational process
  - “Educational wayfinding”: what self-directed learners do when assuming responsibility for sequencing their learning interactions *en route* to the attainment of certain competencies.
- **“How do I get from where I am now to where I want to be?”**

# Navigational support



# Social Navigation

- “Navigation is a social and frequently a collaborative process” (Hutchins 1995)
- **Social Navigation:** Use of information from/about others during the navigation proces

# Direct Social Navigation

- Asking others directly:
  - “how do I reach Heerlen?”
  - “should I go that way to Oslo?”
- Synchronous communication



# Indirect Social Navigation

- The use of traces left by others



- Recommender systems: Amazon, MovieLens

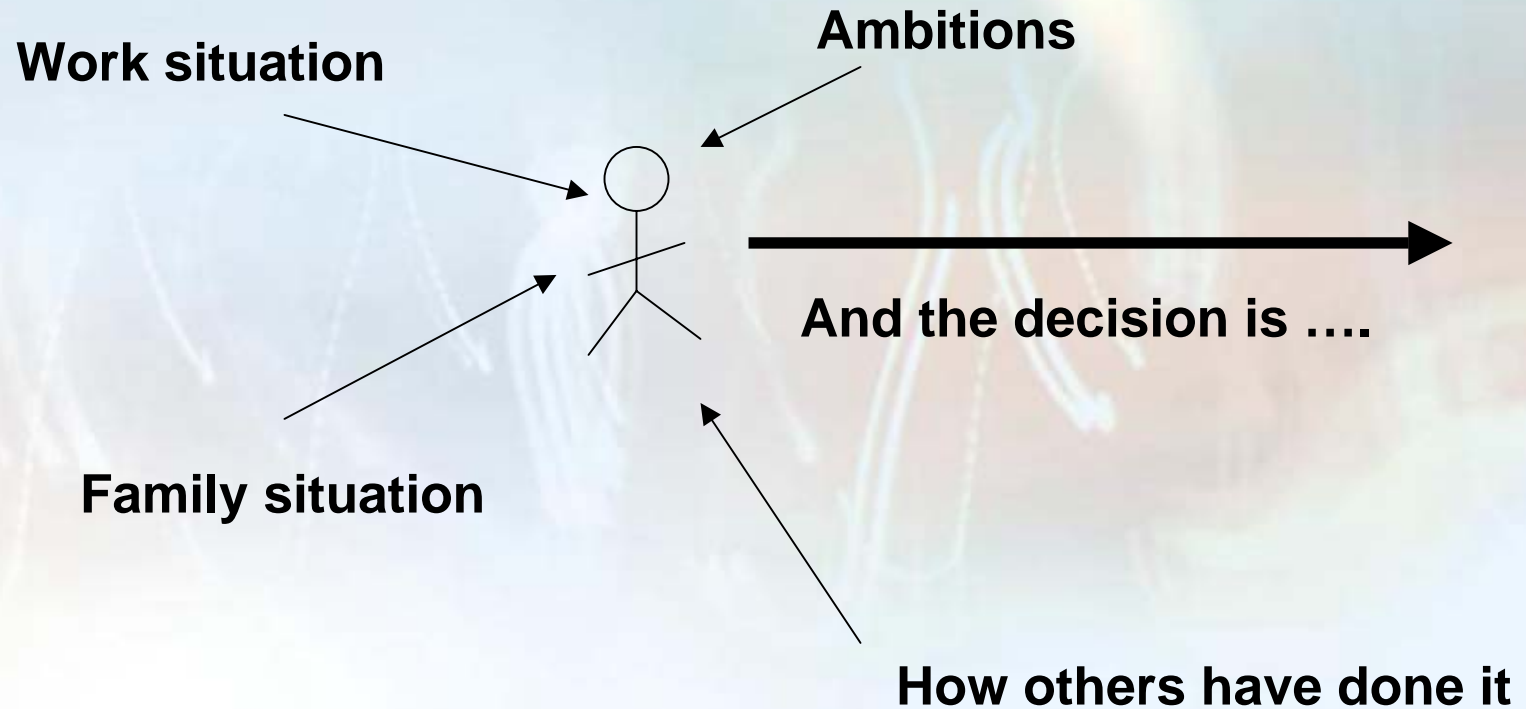


# ROMA: In a nutshell

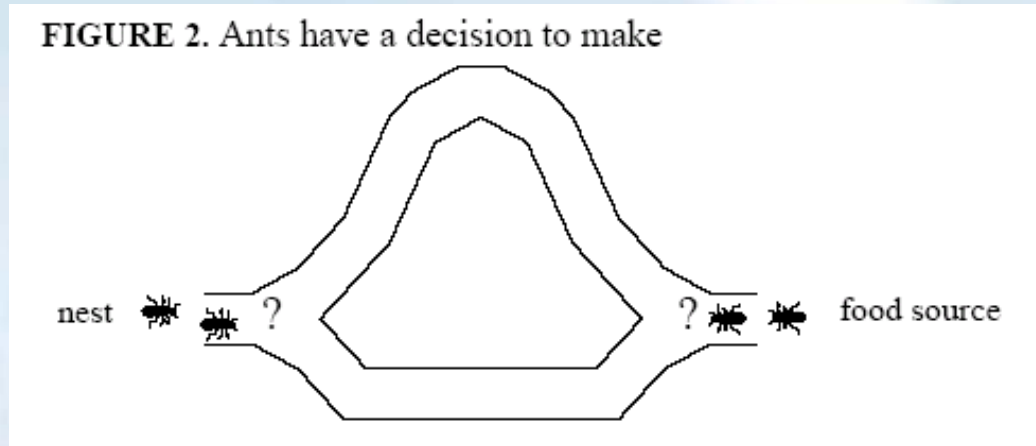
- **Starting point:**
  - an individual's chances of reaching his/her learning objectives are improved by using information on how others have successfully reached these objectives.
- **Approach & Goal:**
  - Exploiting **collective learner interactions** to help learners select **efficient paths** through learning networks to reach their **goal** from their **position**.
  - “Others who went before you proceeded that way to reach the goal”.
- **How will we know if the approach works?**
  - Improvement in **educational efficiency**  
(how many learners reach their goal in a certain timeframe?)



# Decisions: Start? Stop? Pause? Go?



# Inspiration: self-organisation by ants

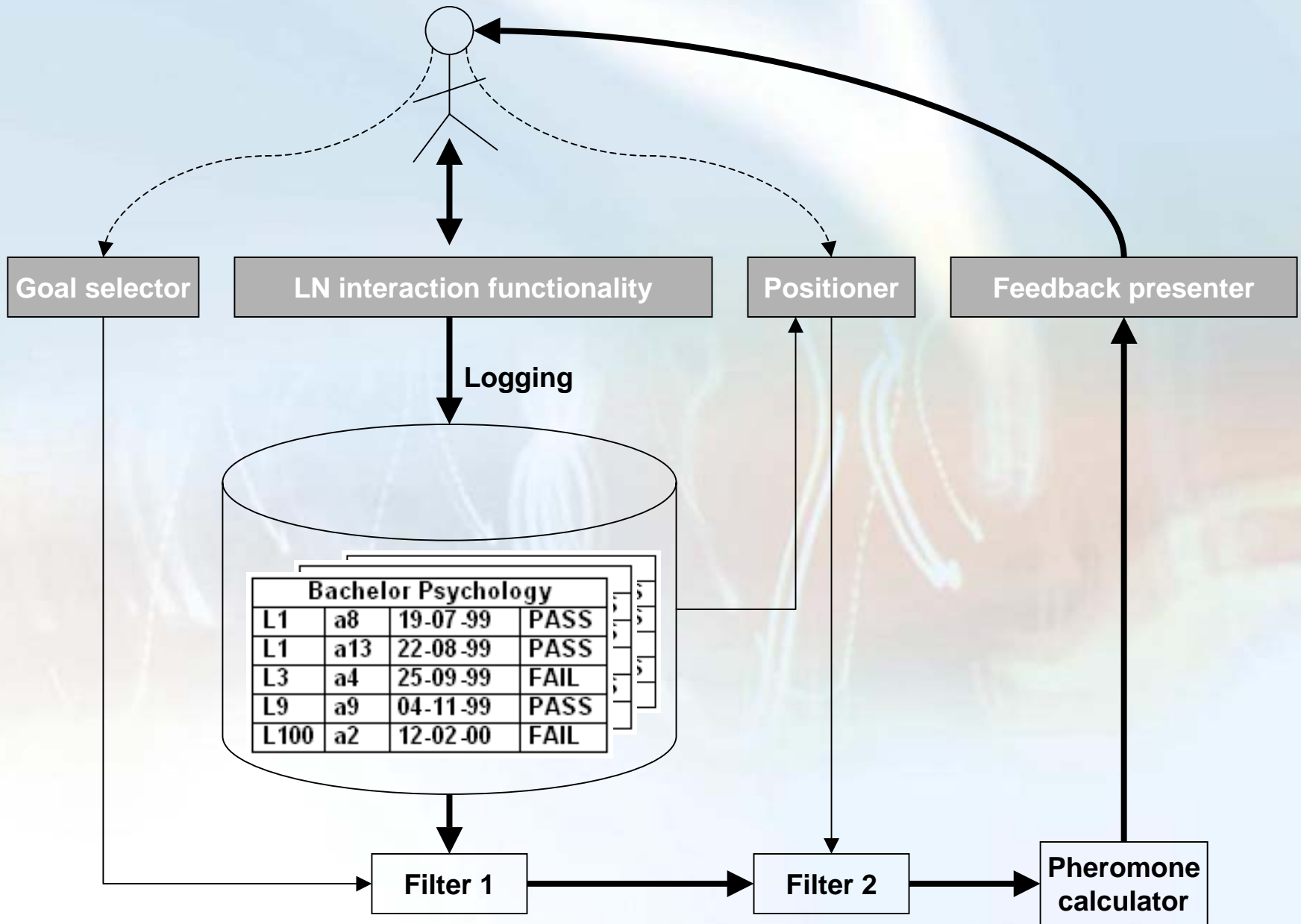


- Trails are left behind by learners like the pheromones left behind by ants (Learning Tracks)

# Interaction data

Learner ID	Activity	Start	Completion attempt	Success?
A4872	Introduction to Psychology	2002-11-05T13:15:30	2003-01-04T10:14:00	No
A4872	Introduction to Psychology	2002-11-05T13:15:30	2003-02-10T09:00:00	No
A4872	Introduction to Psychology	2002-11-05T13:15:30	2003-03-01T11:11:11	Yes
A4872	Statistics 101	2002-12-02T11:00:00	2003-05-03T19:08:00	No
Z3489	Introduction to Psychology	2002-11-05T09:15:30	2003-04-04T13:55:00	Yes
M2229	Introduction to Psychology	2003-08-02T18:15:30	2003-09-09T10:10:00	Yes
M2229	Social Psychology	2002-11-05T13:15:30	2003-10-04T21:00:00	Yes

- Learning Tracks are sequences of completed modules
  - Intro to Psychology → Clinical Psychology → ...



**Minicourse Internet+**

[Course overview](#)  
[Background information](#)

## Course overview

### Completed:

- Do more with Internet Explorer
- Dealing with inappropriate web content
- Beating spam en spyware
- The many roads to the internet
- Web searching
- Worms and Horses
- Chatting
- Watching and listening on the internet
- Secure payments on the internet

### To be completed:

- Making a personal web page
- Interesting and pleasant sites

### Continue with:

- Making a personal web page

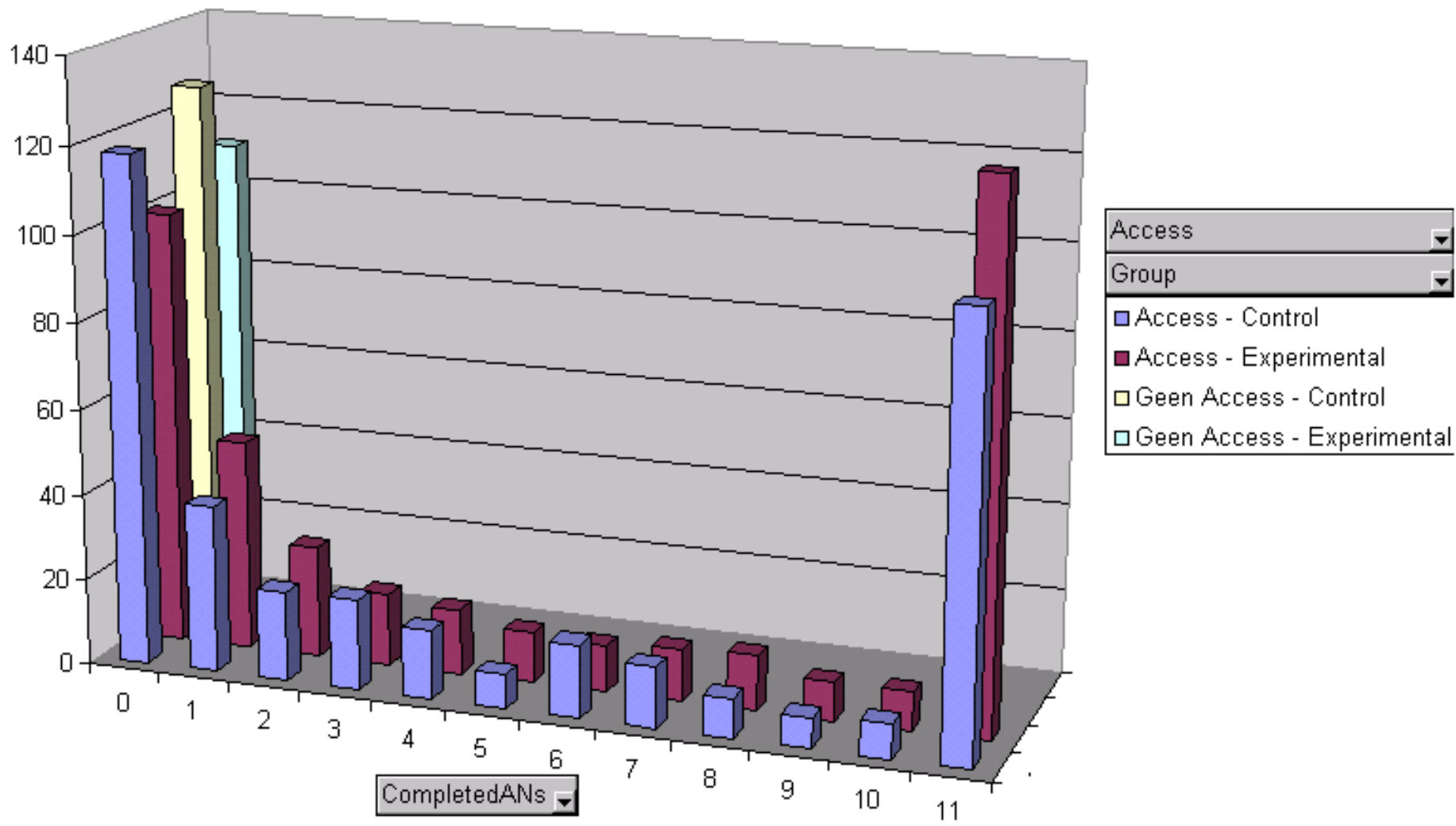
You are logged in as User 2013 ([Log uit](#))

[Course overview](#)

# ROMA: Experimentation

- Try to provide a basis for the introduction of learning technologies (does it work?)
- Experiment, two groups (with and without feedback)
- Course: “*Internet: beyond the basics*”
  - Apr/May/June 2005
  - 1011 learners, divided into two groups (+/- 500)
  - 11 nodes, offered via Moodle (Open Source Learning Environment)

Aantal van id





# Summary: Learning Networks

- Addressing problems in current e-Learning
  - Learning Networks for Lifelong Learners
- Key issues: make & use, positioning, navigation
- Development new learning technologies to support lifelong learning
  - models and theories (experimentation)
  - specifications of learning technologies
  - prototypes of new technologies