

Hendrik Drachsler
Hans Hummel & Rob Koper

Open University of the Netherlands
RecSys 2008, Lausanne

Informal Learning Activities



Laura speaks Dutch

A podcast aimed at teaching you the Dutch language



Laura speaks Dutch #50: Koninginnedag

In this episode we are celebrating Queens Day! We celebrate that on April 30th. You want to know why? Well listen! A very traditional episode. Read on for the lesson.

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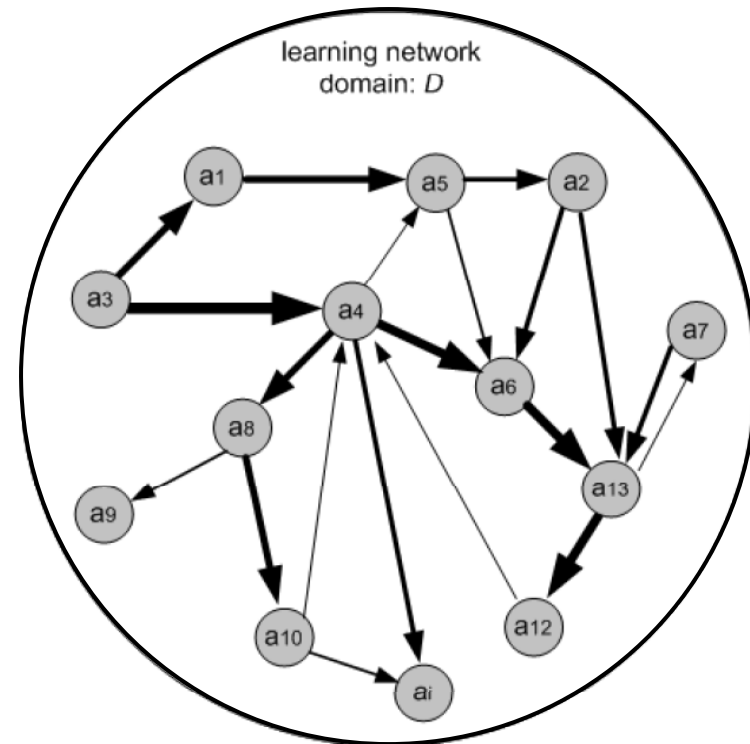
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Learning Networks

- Explicitly address informal learning
- Learners can publish, share, rate, tag and adjust their own Learning Activities (LAs) in a Learning Network
- Open Corpus that emerges form the bottom upwards



Recommendation Goal and Task

Recommendation Goals

1. Make recommendations pedagogical appropriate
2. Suggesting emerging learning path to learners

Recommendation Tasks

1. Find appropriate Items
2. Recommend Sequence

Environmental Conditions

1. Emerging structure through tags and ratings
2. No maintenance available



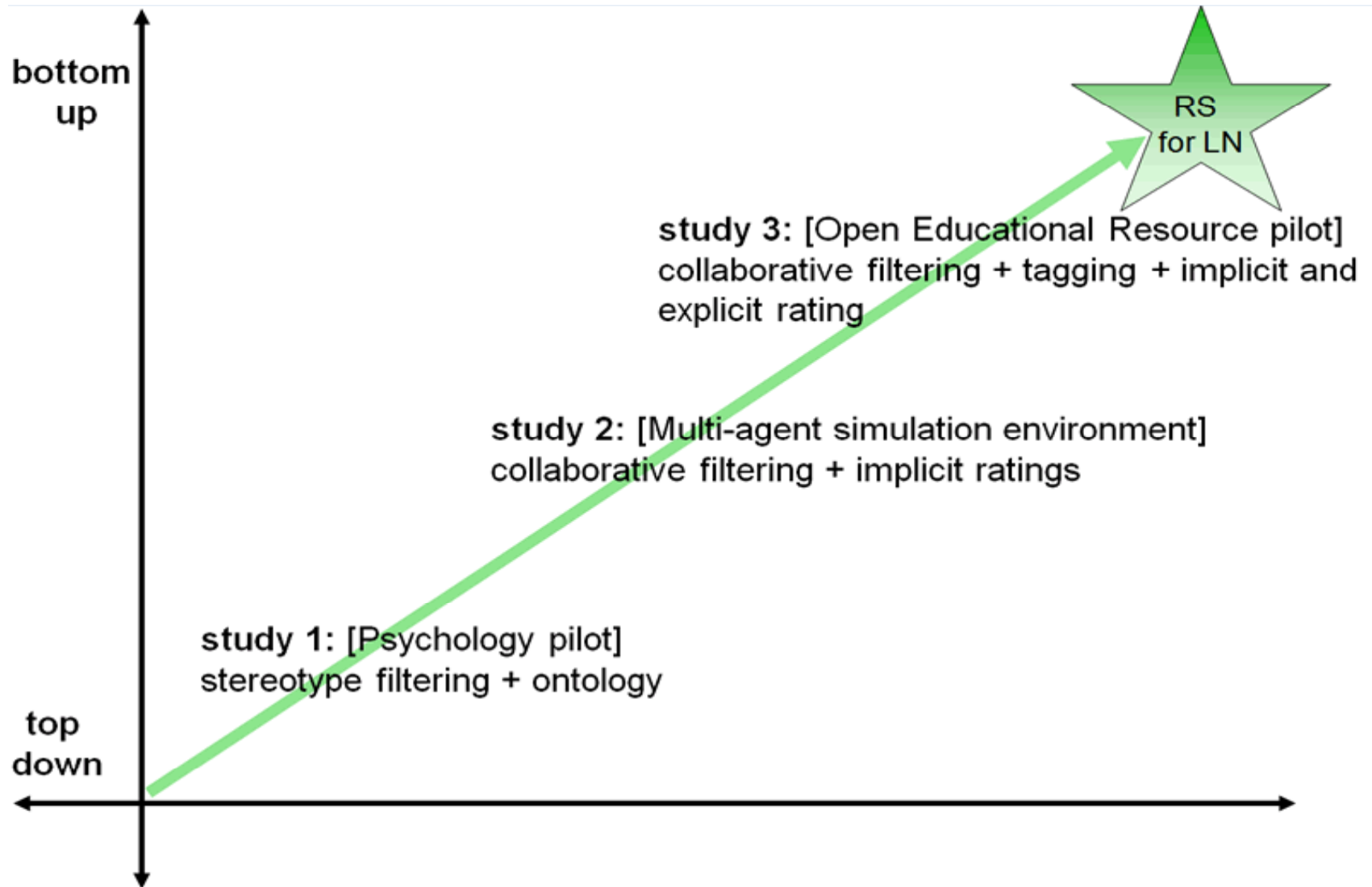
Evaluation Criteria

Measurements	Parameters
Technical measures	<ol style="list-style-type: none">1. Accuracy2. Precision3. Recall
Educational measures	<ol style="list-style-type: none">1. Effectiveness2. Efficiency3. Satisfaction4. Drop out rate
Social Network measures	<ol style="list-style-type: none">1. Variety2. Centrality3. Closeness4. Cohesion


[Drachsler, accepted]



Project Milestones



ISIS Experiment

Overview of learning activities		
<p>You already completed: You have not completed any learning activity.</p>	<p>Activities you are enrolled into:</p> <ul style="list-style-type: none"> Perception Personality Awareness Changes during the life time Therapies Language 	<p>You still need to complete:</p> <ul style="list-style-type: none"> Behavior and health Thinking Social Psychology Conditioning and learning Abnormal psychology Recall and neglect Intelligence The biology of behavior Motivation and emotions Attention and awareness Applied Psychology
 <p>Based on your study interest in "cognition" (mentioned in your personal profile), we suggest to further study the following learning activity:</p>		
<p>Title of the suggested learning activity</p>		<p>Options</p>
<p>Thinking</p>		<p>description of the recommendation adjust profile</p>

[Drachsler, submitted]

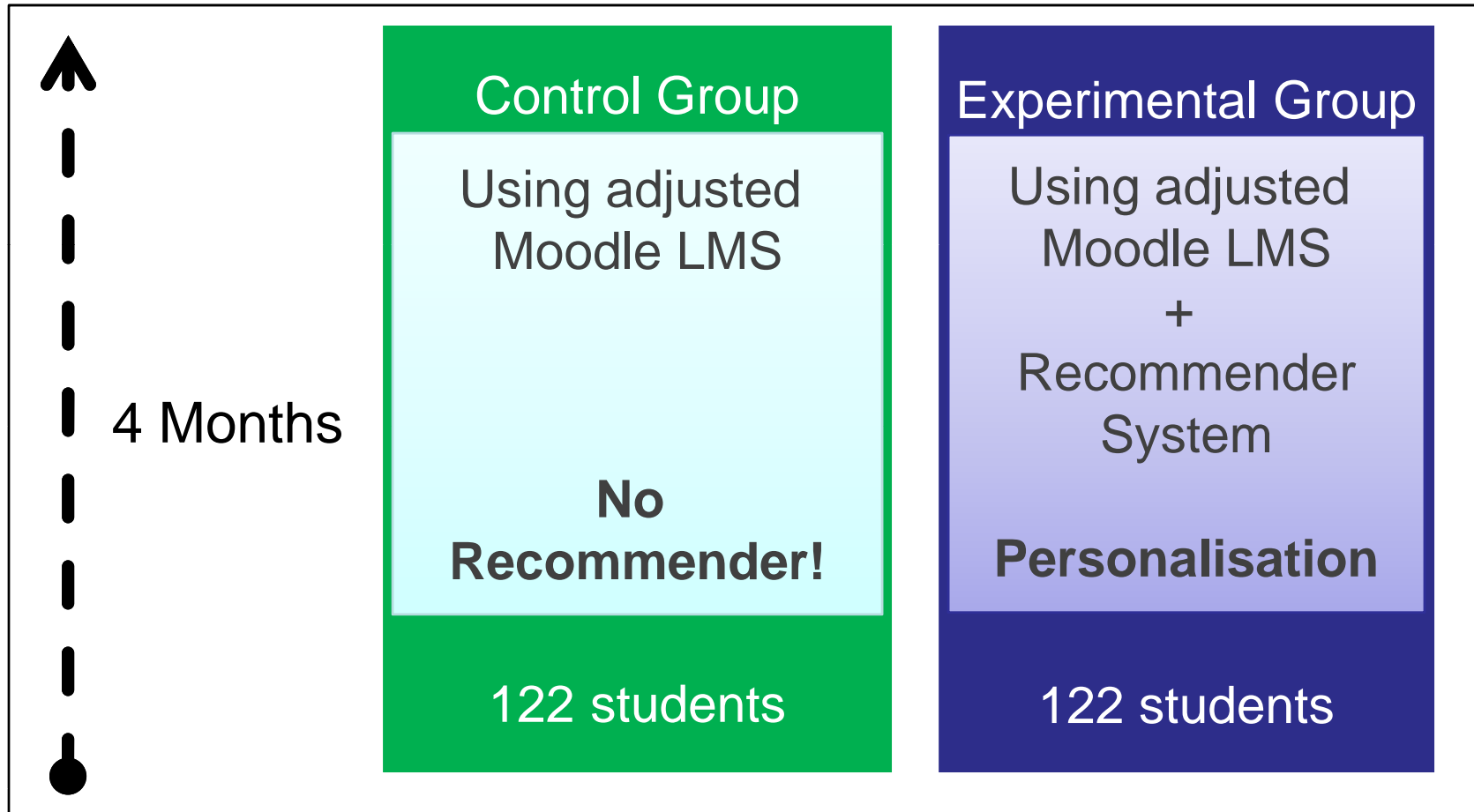


ISIS / Hypothesis

1. The experimental groups will be able to complete more LAs than the control group (**Effectiveness**).
2. The experimental group will complete LAs in less time, because alignment of learner and LA characteristics will increase the efficiency of the learning process (**Efficiency**).
3. The experimental group has a broader variety of learning paths than the control group because the RS supports more personalized navigation (**Variety**).
4. The experimental group will be satisfied with the navigational support of the RS (**Satisfaction**).

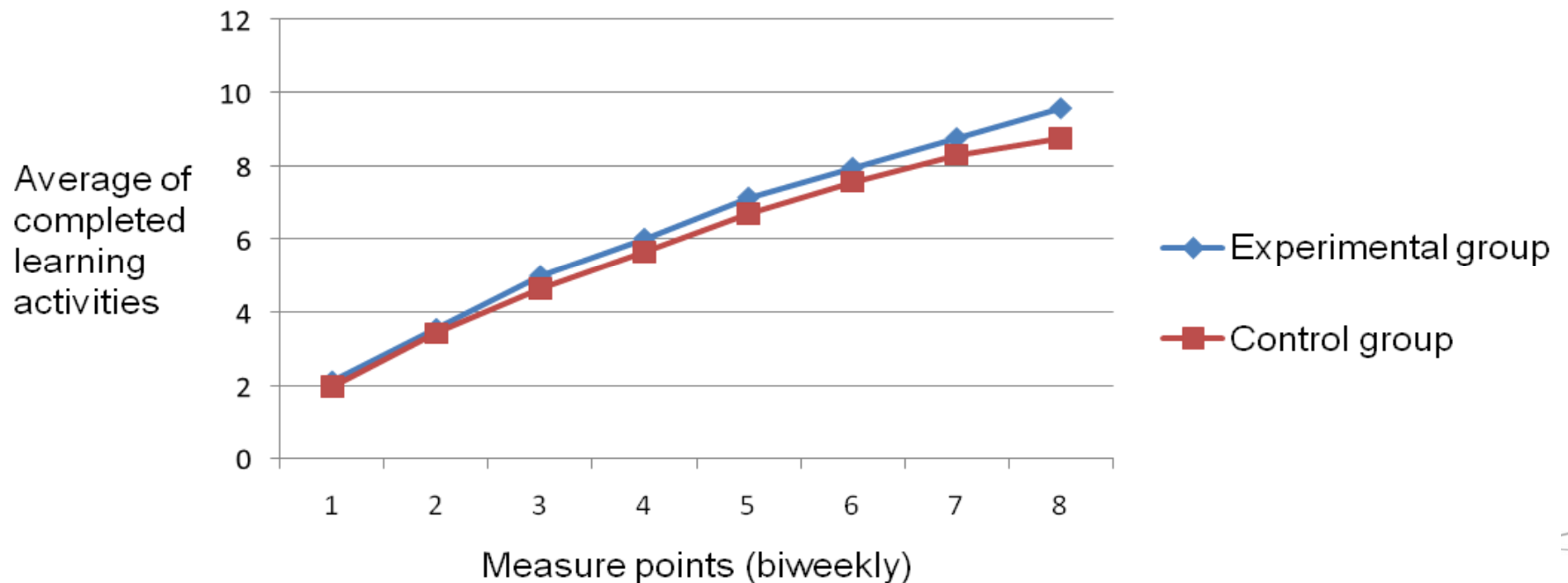


Experimental Design



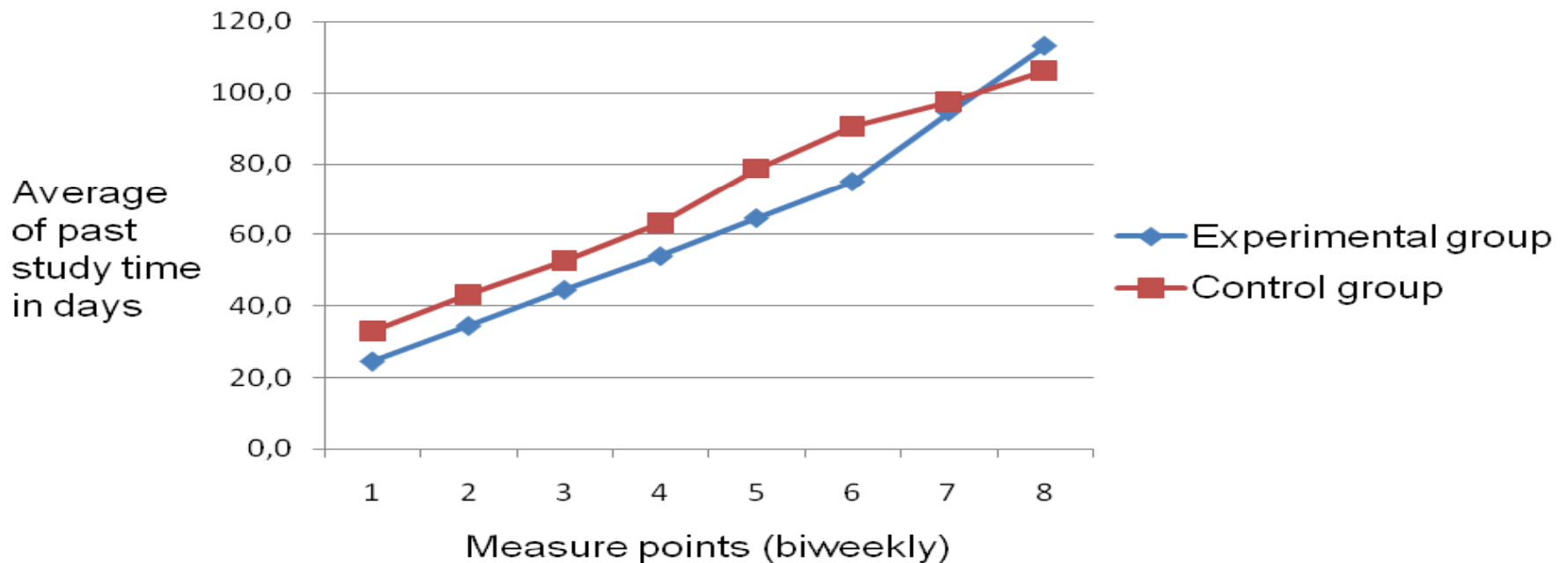
ISIS Results / Effectiveness

1. The experimental group was consistently found to be more effective in completing LAs than the control group during the experimental period.
2. But we have not found a significant difference; therefore, hypothesis 1 cannot be confirmed.



ISIS Results / Efficiency

1. The experimental group consistently needed less time to complete equal amounts of LAs
2. This effect was found to reach significance after 4 months. Therefore, hypothesis 2 could be confirmed.



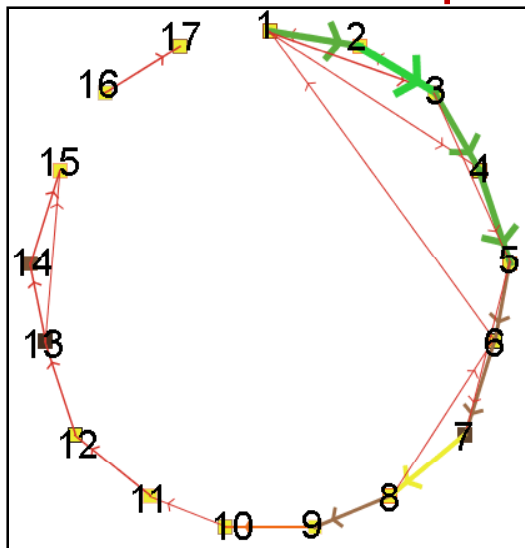
$(F(1,99) = 5.14, p = .026).$



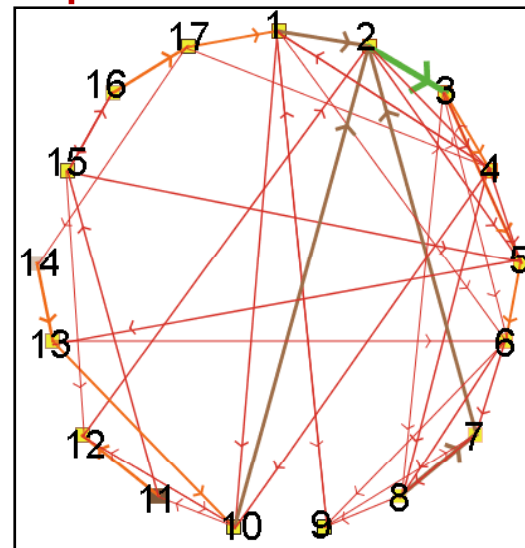
ISIS Results / Variety

1. The variety of personalized learning paths increased by the RS. The experimental group from the beginning onward created more personalized learning paths.
2. The experimental group made more ties between the LAs in the LN, thus we confirm hypothesis 3.

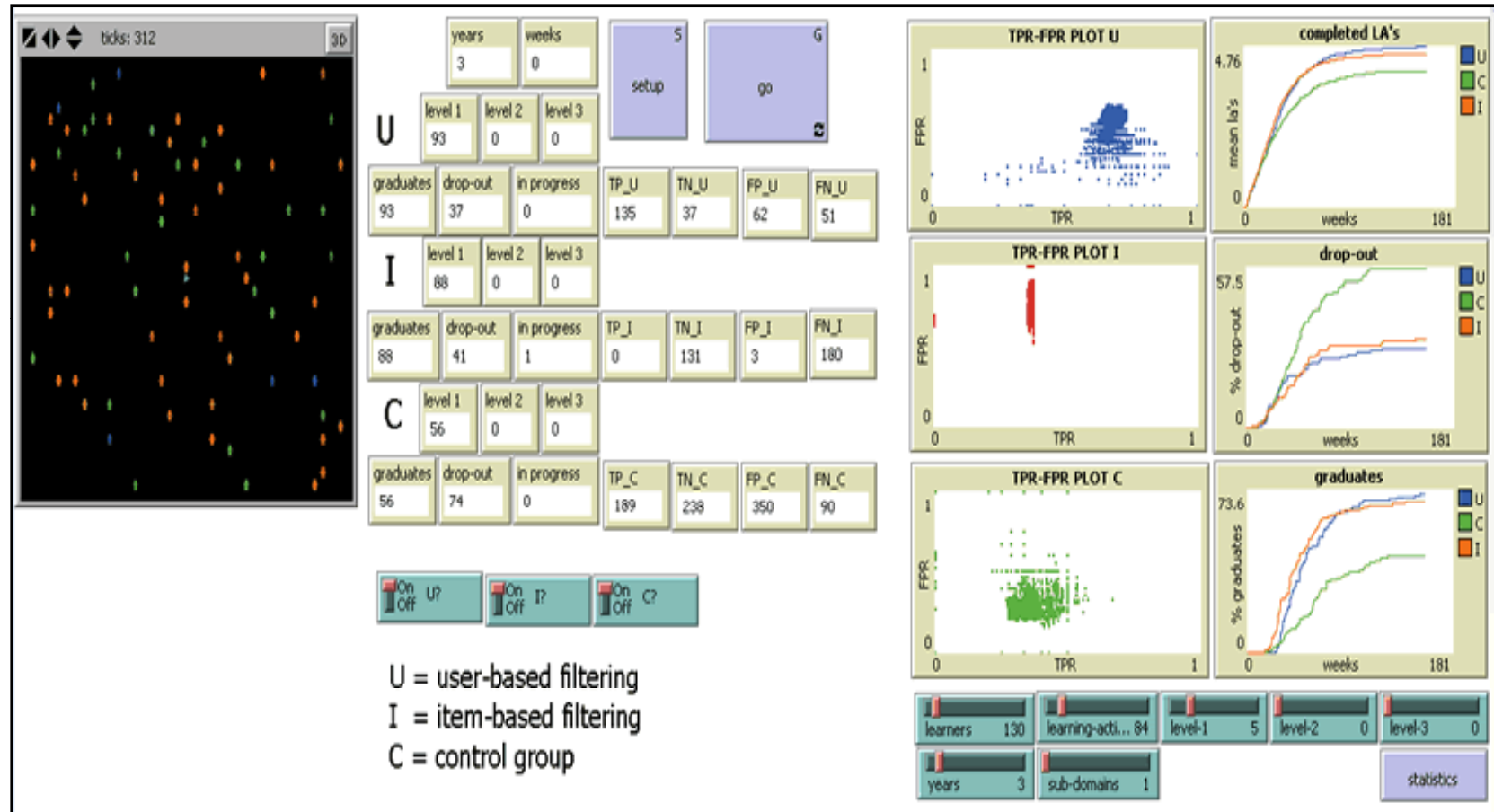
Control Group



Experimental Group

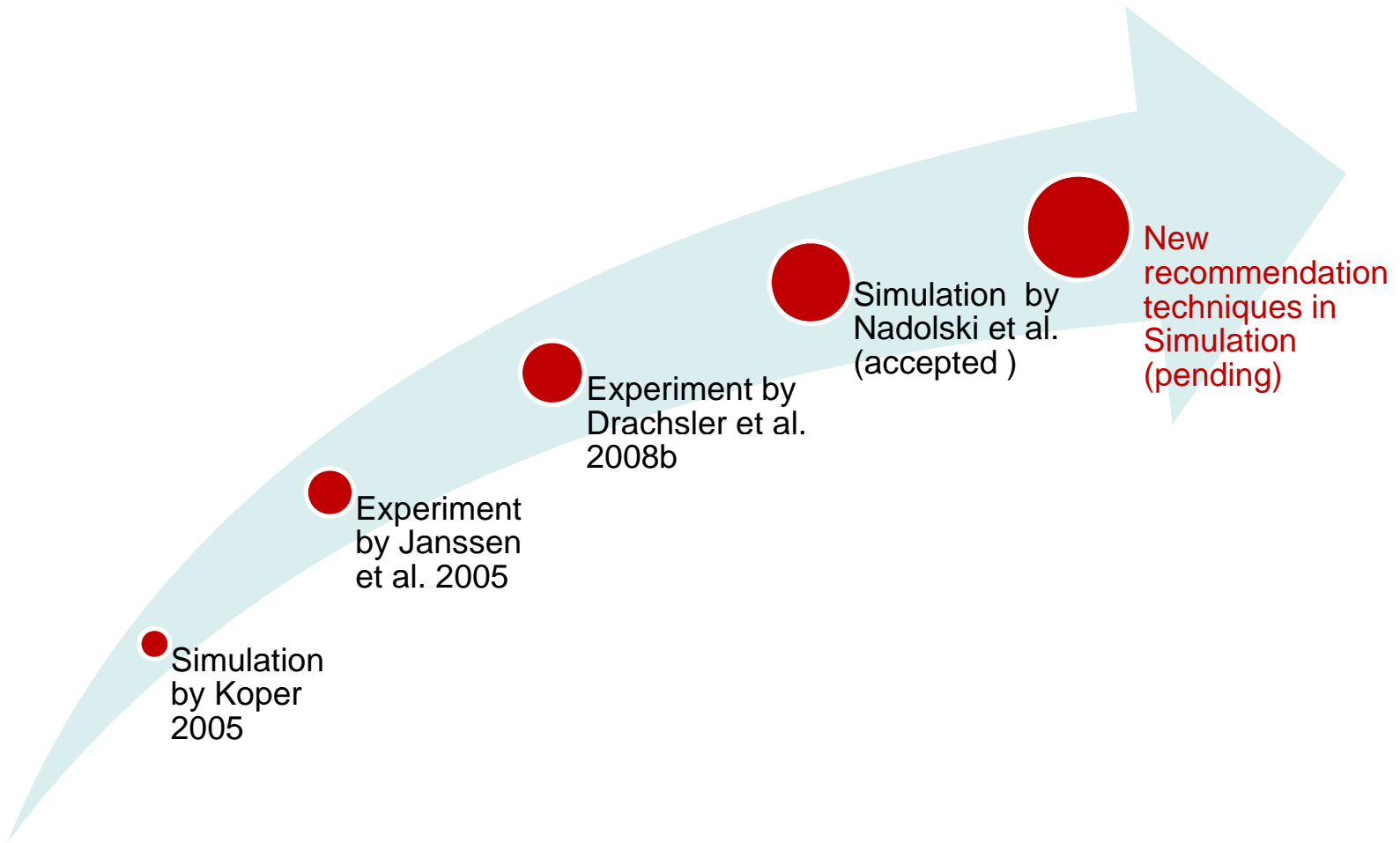


Simulation Interface



[Drachsler, 2008b]

Feeding the Simulation

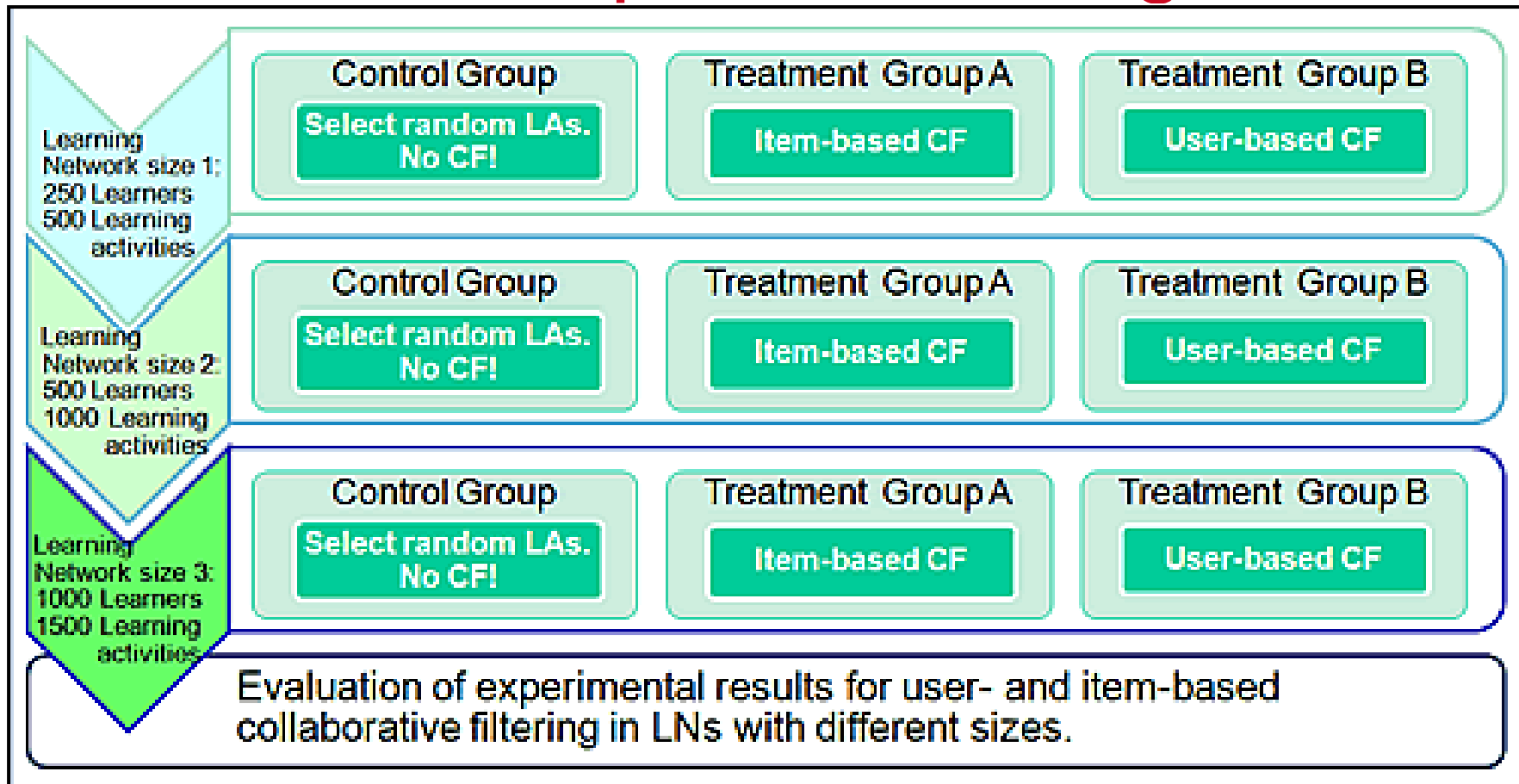


Simulation / Hypothesis

1. The experimental groups will be able to complete more LAs than the control group (**Effectiveness**).
2. The experimental group will complete LAs in less time, because alignment of learner and LA characteristics will increase the efficiency of the learning process (**Efficiency**).
3. The experimental group has a broader variety of learning paths than the control group because the PRS supports more personalised navigation (**Variety**).
4. The experimental group will be satisfied with the navigational support of the PRS (**Satisfaction**).



Simulation / Experiment Design



Open Issues and Future Goals

Open Issues

1. Further possibilities to integrate pedagogy rules into the recommender system.
2. Apply multi-criteria ratings for deeper reasoning.
3. Using *tags* to cover the cold-start of informal learning environments.

Future Goals

1. Mash-up recommender system study
2. Open Educational Resources study



References

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Many thanks for your interests!

hendrik.drachsler@ou.nl

Open University of the Netherlands

Skype: hendrik.drachsler

Blogging at: <http://elgg.ou.nl/hdr/weblog>

Twittering at: <http://twitter.com/HDrachsler>

