

# Bijspijkeren in de zomervakantie: van theorie naar praktijk

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EDINEB:

<http://www.edineb.net>



2de GoLeWe-projectconferentie  
Maastricht, 11 mei 2010





# But what is an effective team?

Formula 1 Pit Stop

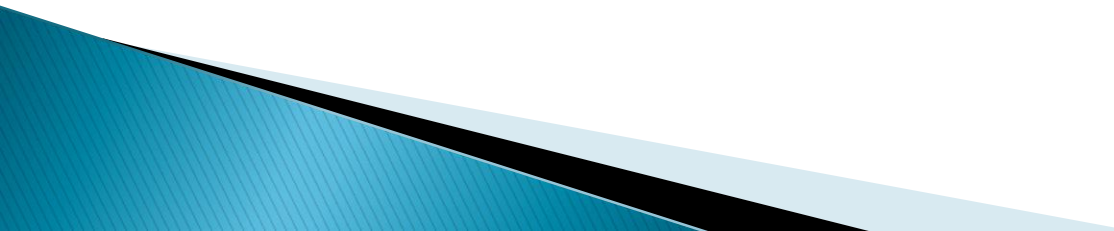


★★★★★ 16 ratings

10,994 views

# Agenda

School of Business and Economics

1. What is virtual team learning?
  2. How does virtual team learning work in practice?
  3. What are common problems of virtual team learning and e-learning?
  4. What forms of virtual team learning e-learning DO work? → Results from 3 studies
  5. Conclusion and discussion
- 



Ahuja et al. (2003) define two levels:

- Completely segregated by space (e.g online summercourse programme University Maastricht)
- Individuals clustered in co-located organisations (e.g UNICEF Learning





## COURSES &gt; ECONOMICS ONLINE SUMMER COURSE 1 (4-OSCE1-0506) &gt; POLARIS KNOWLEDGE BUILDER

1 **I want to be reminded for the prior knowledge test**

Modify Remove

If you want to be reminded of the prior knowledge test, post your message here!

39 Messages / 38 new

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Have a small talk, share your interest, personal info, get to know each other, etc

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Modify Remove

Explaining the differences

114 Messages / 111 new

4 **Macro task 2**

Modify Remove

The Labour Market

73 Messages / 72 new

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Exploring the world (of economics)

60 Messages / 51 new

6 **Intro to Task 2 (Closed)**

Modify Remove

Europe vs. United States

85 Messages / 85 new

7 **Micro Task 1 (Closed)**

Modify Remove

The Dutch flower market

108 Messages / 106 new

8 **Micro Task 2 (Answer the last LGs)**

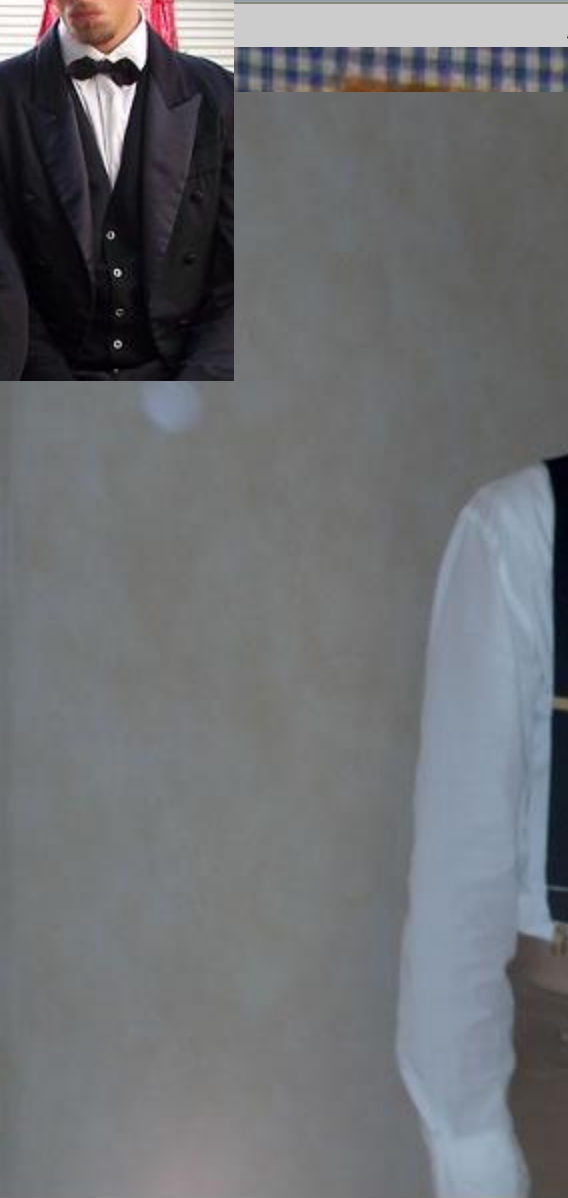
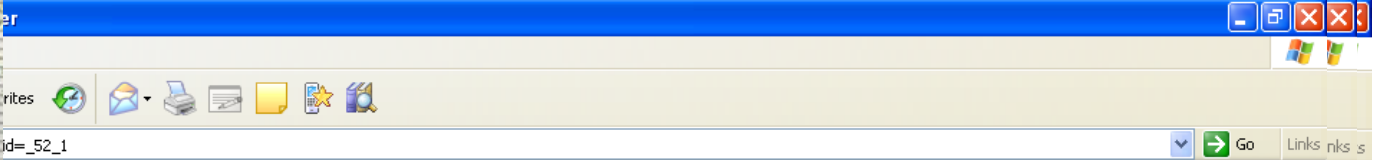
Modify Remove

Studying Economics maximizes your welfare?

93 Messages / 93 new

<input type="checkbox"/>	<a href="#">That's me</a>	<a href="#">Julia Nocker</a>	03-06-06 14:49					0
<input type="checkbox"/>	<a href="#">business vs. economics (interesting for all)</a>	<a href="#">Lucas Schuurman</a>	04-06-06 11:56					0
<input type="checkbox"/>	<a href="#">I'm a little bit confused now</a>	<a href="#">Johannes Sontag</a>	05-06-06 11:56					0
<input type="checkbox"/>	<a href="#">Both are right :)</a>	<a href="#">Bart Rienties</a>	05-06-06 12:07					0
<input type="checkbox"/>	<a href="#">thanks....</a>	<a href="#">Johannes Sontag</a>	05-06-06 12:47					0
<input type="checkbox"/>	<a href="#">Yes and No</a>	<a href="#">Bart Rienties</a>	06-06-06 9:12					0
<input type="checkbox"/>	<a href="#">IB and economics</a>	<a href="#">Julia Nocker</a>	05-06-06 19:33					0
<input type="checkbox"/>	<a href="#">choice</a>	<a href="#">Patrik Salentyn</a>	05-06-06 21:00					0
<input type="checkbox"/>	<a href="#">Switching from IB to Economics</a>	<a href="#">Alexander Maschke</a>	06-06-06 17:09					0
<input type="checkbox"/>	<a href="#">Someone has to start</a>	<a href="#">Rolf Martin Blume</a>	02-06-06 15:53					0
<input type="checkbox"/>	<a href="#">Welcome!</a>	<a href="#">Bart Rienties</a>	02-06-06 16:08					0
<input type="checkbox"/>	<a href="#">welcome on board, dude!</a>	<a href="#">Lucas Schuurman</a>	02-06-06 16:17					0
<input type="checkbox"/>	<a href="#">Thank you...</a>	<a href="#">Rolf Martin Blume</a>	05-06-06 14:04					0
<input type="checkbox"/>	<a href="#">Introduction</a>	<a href="#">Bart Rienties</a>	24-05-06 17:29					0
<input type="checkbox"/>	<a href="#">who, what &amp; where</a>	<a href="#">Lucas Schuurman</a>	24-05-06 12:36					0
<input type="checkbox"/>	<a href="#">Okay I will start...</a>	<a href="#">Wiebke Riess</a>	02-06-06 15:59					0
<input type="checkbox"/>	<a href="#">hello and welcome!</a>	<a href="#">Lucas Schuurman</a>	02-06-06 16:11					0
<input type="checkbox"/>	<a href="#">hello</a>	<a href="#">Johannes Bonekamp</a>	02-06-06 16:53					0
<input type="checkbox"/>	<a href="#">... hi there...</a>	<a href="#">Johannes Sontag</a>	02-06-06 18:26					0
<input type="checkbox"/>	<a href="#">here I am...</a>	<a href="#">Marius Sowka</a>	03-06-06 14:03					0
<input type="checkbox"/>	<a href="#">And another one...</a>	<a href="#">Therese Grohnert</a>	03-06-06 21:39					0
<input type="checkbox"/>	<a href="#">barbeque's &amp; ballgames</a>	<a href="#">Lucas Schuurman</a>	04-06-06 11:34					3
<input type="checkbox"/>	<a href="#">BBQ</a>	<a href="#">Wiebke Riess</a>	04-06-06 14:09					0
<input type="checkbox"/>	<a href="#">well and hopefully a drink at..</a>	<a href="#">Bart Rienties</a>	05-06-06 11:56					0
<input type="checkbox"/>	<a href="#">BBQ is always good</a>	<a href="#">Rolf Martin Blume</a>	05-06-06 13:58					0
<input type="checkbox"/>	<a href="#">15. is a saturday</a>	<a href="#">Manuel Mullers</a>	05-06-06 23:00					0
<input type="checkbox"/>	<a href="#">BBQ</a>	<a href="#">Wiebke Riess</a>	06-06-06 10:20					0
<input type="checkbox"/>	<a href="#">End of August?</a>	<a href="#">Johannes Sontag</a>	06-06-06 11:38					0
<input type="checkbox"/>	<a href="#">upload music</a>	<a href="#">Lucas Schuurman</a>	04-06-06 11:59					0
<input type="checkbox"/>	<a href="#">well, two problems about that...</a>	<a href="#">Johannes Sontag</a>	04-06-06 12:23					0
<input type="checkbox"/>	<a href="#">ownership</a>	<a href="#">Lucas Schuurman</a>	04-06-06 13:43					0
<input type="checkbox"/>	<a href="#">Access to this forum...</a>	<a href="#">Manuel Mullers</a>	04-06-06 19:38					0













Links



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[My MGSOG](#)
[Courses](#)
[Community](#)
[Content](#)
[Library](#)
[Personal Area](#)

## Tools

-  Communication
-  Course Tools
-  Course Map

 Control Panel Refresh

 Detail View

	What to do in Maastricht	Therese Grohnert	25-07-06 22:28						
	sorry	Julia Nocker	25-07-06 22:39						
	oh yesh!	Lucas Schuurman	26-07-06 8:54						
	well...	Therese Grohnert	26-07-06 11:37						
	maasiland	Patrik Salentyn	26-07-06 20:33						
	20th /21st of August	Guest Guest	30-07-06 20:04						
	We should set a date!	Therese Grohnert	05-08-06 17:56						
	21th august: good idea for a "rendez-vous" :)	Annemarie Delahay..	07-08-06 19:36						2
	21st is great	Therese Grohnert	07-08-06 22:11						
	get set!	Lucas Schuurman	08-08-06 9:58						
	holidays	Julia Nocker	08-08-06 10:51						
	haha ten weeks	Julia Nocker	08-08-06 10:58						
	great	Ilja Kogan	09-08-06 18:23						
	brilliant suggestion, Lucas!	Annemarie Delahay..	10-08-06 0:08						
	Food + whos in?	Lucas Schuurman	14-08-06 11:06						
	Food is good!	Therese Grohnert	14-08-06 11:48						
	Someone else is coming!	Therese Grohnert	14-08-06 11:57						1
	Hi	Rolf Martin Blume	15-08-06 10:14						
	read "get set" and "fo..	Lucas Schuurman	15-08-06 10:40						
	be creative... :)	Annemarie Delahay..	15-08-06 13:46						
	I'll join you too!	Patrik Salentyn	21-08-06 0:05						
	I am also in	Ilja Kogan	15-08-06 10:21						
	Food	Ilja Kogan	15-08-06 10:23						
	sandwich maker and food-storag..	Annemarie Delahay..	15-08-06 13:41						
	yes, i do (or: when to del..	Lucas Schuurman	16-08-06 10:45						
	I hate chili con carne..	Rolf Martin Blume	17-08-06 11:43						
	small problem	Julia Nocker	20-08-06 9:52						
	still in mülheim :)	Julia Nocker	21-08-06 12:22						
	Someone needs a ride from Aachen	Ilja Kogan	20-08-06 13:20						
	where	Julia Nocker	21-08-06 13:39						
	Bewijs van toelating 2006-2007	Patrik Salentyn	20-07-06 12:21						
	I got it, too, however...	Alexander Maschke	23-07-06 11:17						
	because..	Patrik Salentyn	26-07-06 20:28						
	www.studivz.com	Patrik Salentyn	17-07-06 1:11						



## Tools

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Europe vs. United States

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The Dutch flower market

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<input type="checkbox"/>	<a href="#">LG How can producers transfer some of the consumers' surplus t..</a>	<a href="#">Rolf Martin Blume</a>	16-06-06 11:15			4
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">LG</a>	<a href="#">Rolf Martin Blume</a>	19-06-06 18:51			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">raise price</a>	<a href="#">Julia Nocker</a>	20-06-06 11:48			4
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">raising price = less producers' surplus</a>	<a href="#">Rolf Martin Blume</a>	21-06-06 13:46			1
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">that's what I meant, too</a>	<a href="#">Annemarie Delahay..</a>	21-06-06 13:57			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">already agreed but i will ude the button t..</a>	<a href="#">Julia Nocker</a>	21-06-06 14:34			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">depends on good - (in)elastic</a>	<a href="#">Julia Nocker</a>	22-06-06 18:25			1
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">Elasticity of demand</a>	<a href="#">Alexander Maschke</a>	24-06-06 20:33			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">production quota</a>	<a href="#">Julia Ehler</a>	21-06-06 15:40			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">subsidies?!</a>	<a href="#">Julia Nocker</a>	22-06-06 11:27			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">What about cartels?</a>	<a href="#">Johannes Sontag</a>	22-06-06 14:01			6
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">yeah...!!</a>	<a href="#">Marius Sowka</a>	22-06-06 14:29			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">Opposite: Dumping</a>	<a href="#">Rolf Martin Blume</a>	23-06-06 12:51			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">Addition + Answer</a>	<a href="#">Patrik Salentyn</a>	25-06-06 16:50			1
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">Government</a>	<a href="#">Alexander Maschke</a>	24-06-06 20:40			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">addition, sorry</a>	<a href="#">Alexander Maschke</a>	24-06-06 20:46			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">Quiz 6.3 Level 3 5th Question</a>	<a href="#">Rolf Martin Blume</a>	16-06-06 9:16			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">do not find your reference but...</a>	<a href="#">Annemarie Delahay..</a>	16-06-06 15:02			1
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">Problems with the situation</a>	<a href="#">Rolf Martin Blume</a>	13-06-06 17:12			1
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">confusion :-)</a>	<a href="#">Julia Nocker</a>	13-06-06 22:04			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">answer to confusion</a>	<a href="#">Lucas Schuurman</a>	15-06-06 16:44			1
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">LG: What is the difference between a producers surplus and pro..</a>	<a href="#">Wiebke Riess</a>	12-06-06 22:21			10
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">Answer.hopefully!!</a>	<a href="#">Marius Sowka</a>	15-06-06 18:31			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">attempt of an answer</a>	<a href="#">Annemarie Delahay..</a>	15-06-06 19:34			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">economic profit and accounting profit</a>	<a href="#">Annemarie Delahay..</a>	15-06-06 19:43			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">Profit</a>	<a href="#">Rolf Martin Blume</a>	19-06-06 18:47			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">opport.costs that do not belong to the product..</a>	<a href="#">Annemarie Delahay..</a>	19-06-06 19:28			3
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">opportunity cost of input?</a>	<a href="#">Johannes Sontag</a>	20-06-06 20:40			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">this might help!!!</a>	<a href="#">Marius Sowka</a>	21-06-06 13:40			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">Producer Surplus = Profit + fixed costs</a>	<a href="#">Alexander Maschke</a>	24-06-06 20:16			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">LG: How did the economic idea develop?</a>	<a href="#">Wiebke Riess</a>	12-06-06 22:21			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">.....no...</a>	<a href="#">Marius Sowka</a>	15-06-06 18:33			0
<input type="checkbox"/>	<input type="checkbox"/> <a href="#">If there is time left, then this is a good learning goal</a>	<a href="#">Bart Rienties</a>	21-06-06 8:38			5



UMSummercourse4\_1 - Windows Internet Explorer

https://connect.surfroepen.nl/p46024515/?session=bna2huktpdar4fwg36gq2

Connect and Meet

Attendee List (5)

- Bas Giesbers
- Bas Giesbers

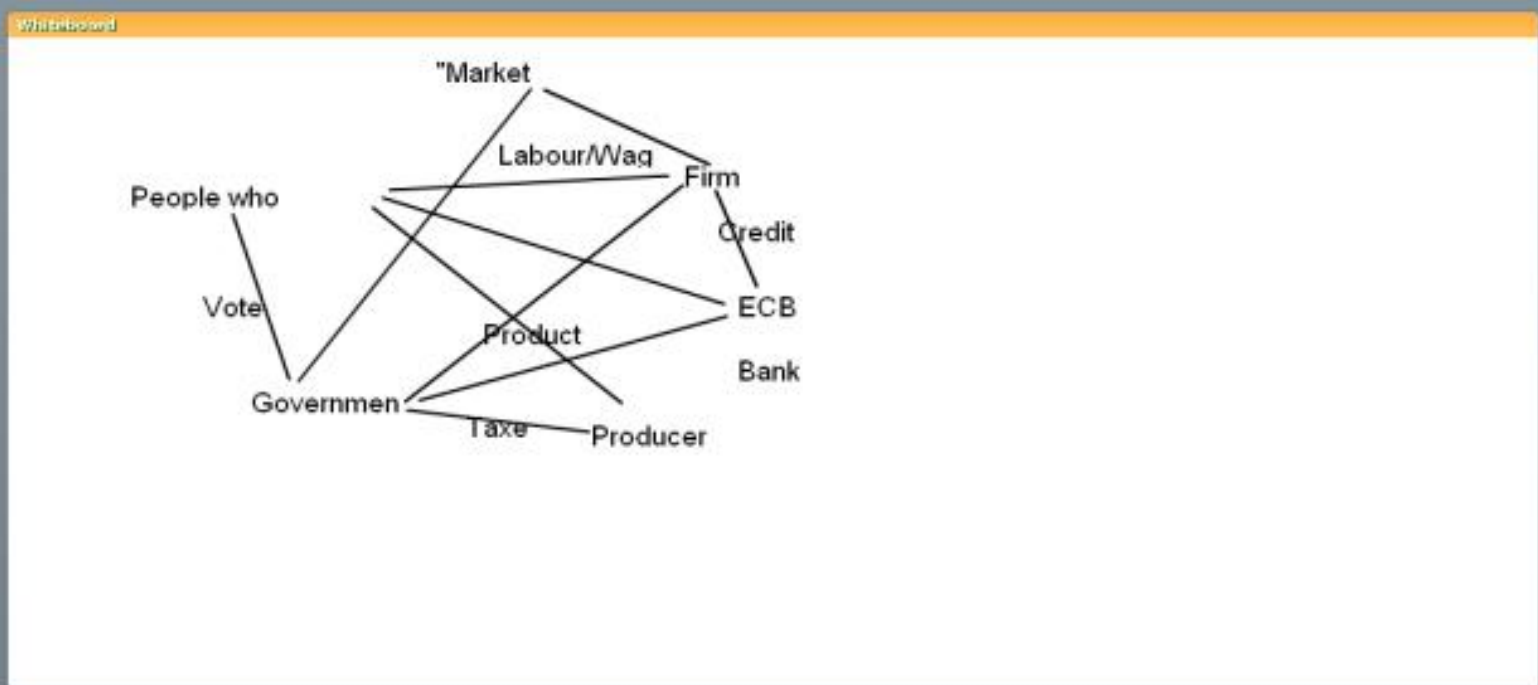
Chat

fine  
thanks!) the only thing is, that it  
is sooo hot here in my room ...  
I'm under the roof ... and I'm  
dying!)

hahahah in  
Maastricht?

the intro  
1+2? yeah i did that one

Yeah I did



### 3. Common problems in virtual team learning

1. **Dynamics** of virtual team learning are **complex** (De Laat et al. 2007; Ahuja et al. 2003)
2. Most virtual teams actually **perform differently** than anticipated (Alexander, 2006; Giesbers, Rienties, et al., 2009) De Laat & Lally, 2004; Schellens & Valcke, 2005, Rienties et al., 2009).
3. High degree of **informal communication**. Because of a lack of formal rules, procedures, clear reporting relationships, and norms, more extensive informal communication is required (Ahuja et al. 1999, Rienties et al., 2009)
4. How to establish **team cohesiveness**, identity and ego involvement (Van de Bossche et al., 2006)?
5. Role of **learner** complex (Williamson et al. 2006, Rienties et al., 2009, Tempelaar et al., 2009)
6. Role of **teacher** in virtual team complex (Williamson et al. 2001), De Laat et al. 2007)



## Common problems in virtual team learning

1. The way virtual teams **manage internal conflict** is crucial
2. A significant challenge facing virtual teams is **coordinating the temporal patterns of team behaviour** (Rienties et al., submitted).
3. Explore how temporal coordination affects virtual teams' conflict management behaviours and performance
4. Virtual teams typically communicate via **technology** that is **lean**, low in social presence, and low in interactivity (Giesbers et al., 2009).
5. Interaction and consensus building difficult (Beers et al., 2007, Rienties et al., 2009)
6. Require a great deal of effort (Mazzolini & Madison, 2003)



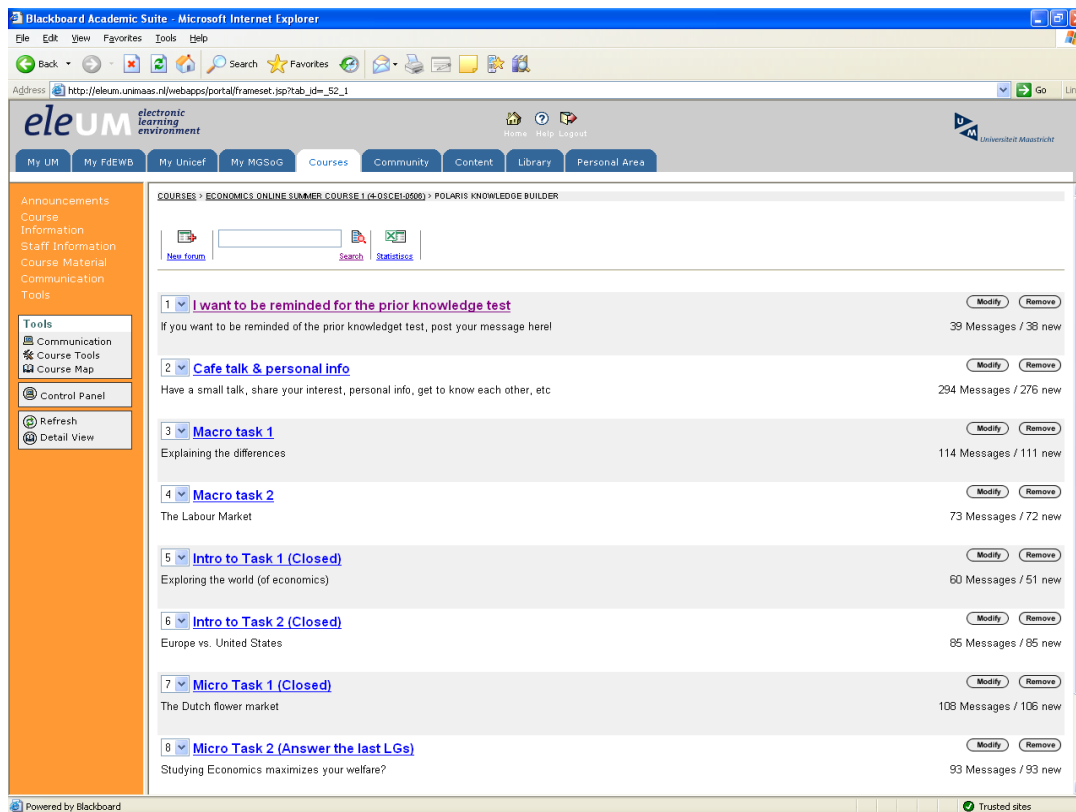
## 4. Major Research findings

- Effectiveness team problem solving is determined by **how well team members are communicating with each other** (Jonassen & Kwon, 2001, Rienties et al., 2009)
- Barron (2003) found that successful teams are able to create a **joint problem-solving space**
- Focus of discourse should be **broader** than just **cognitive perspectives** (Arts, Gijssels, & Segers, 2002; Garrison, Anderson, & Archer, 2000; Roschelle & Teasley, 1995; Van den Bossche, Gijssels, Segers, & Kirschner, 2006)
- teams have to make an effort in order to establish a **dual-problem space**, where participants simultaneously contribute both to the content space as well as the relational space (Barron, 2003)

# Study 1 Role of Motivation in CSCL

## Subjects

- ▶ 100 participants were randomly assigned in six groups.
- ▶ The six groups had an average of 13.66 members (SD= 2.16, range = 11–17) per team.
- ▶ The average age was 19 years and 45% of the learners were female.



# METHOD: integrated multi-method approach

## *Individual contribution to discourse using Content Analysis*

- ▶ Content Analysis on social and cognitive discourse of Veerman & Veldhuis-Diermanse (2001), whereby a distinction is made between non-task related (Veerman NTR: 1 planning; 2 technical; 3 social; 4 non-sense) and task-related discourse activity (Veerman TR: 5 facts; 6 experience/opinion; 7 theoretical ideas; 8 explication; 9 evaluation).
  - Three coders independently coded all messages based on unit of meaning
  - Students posted 2307 messages of which 2075 (90%) were considered as codeable (90%).
  - The Cronbach alpha ( $\alpha$ ) 0.928, the Cohen's kappa was 0.71, 0.71 and 0.68

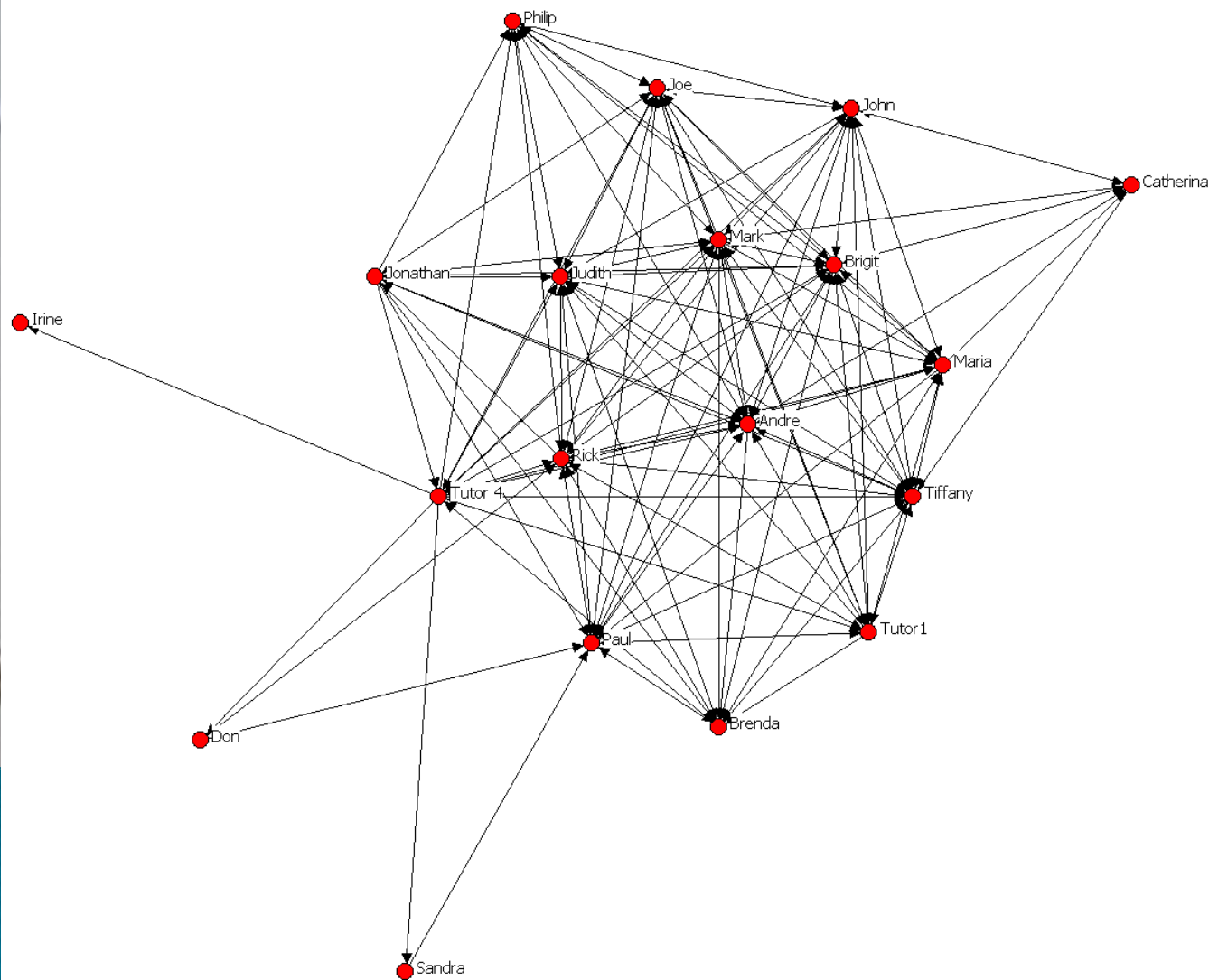
## *Position of individual within team using Social Network Analysis*

- ▶ Degree of centralisation of each individual of all communication as well as higher cognitive communication;
- ▶ Size of ego density network of each individual.
- ▶ Higher cognitive degree of centralisation using results CA
- ▶ Higher cognitive size of ego density network using CA

## *Academic motivation Scale of Vallerand et al. (1992):*

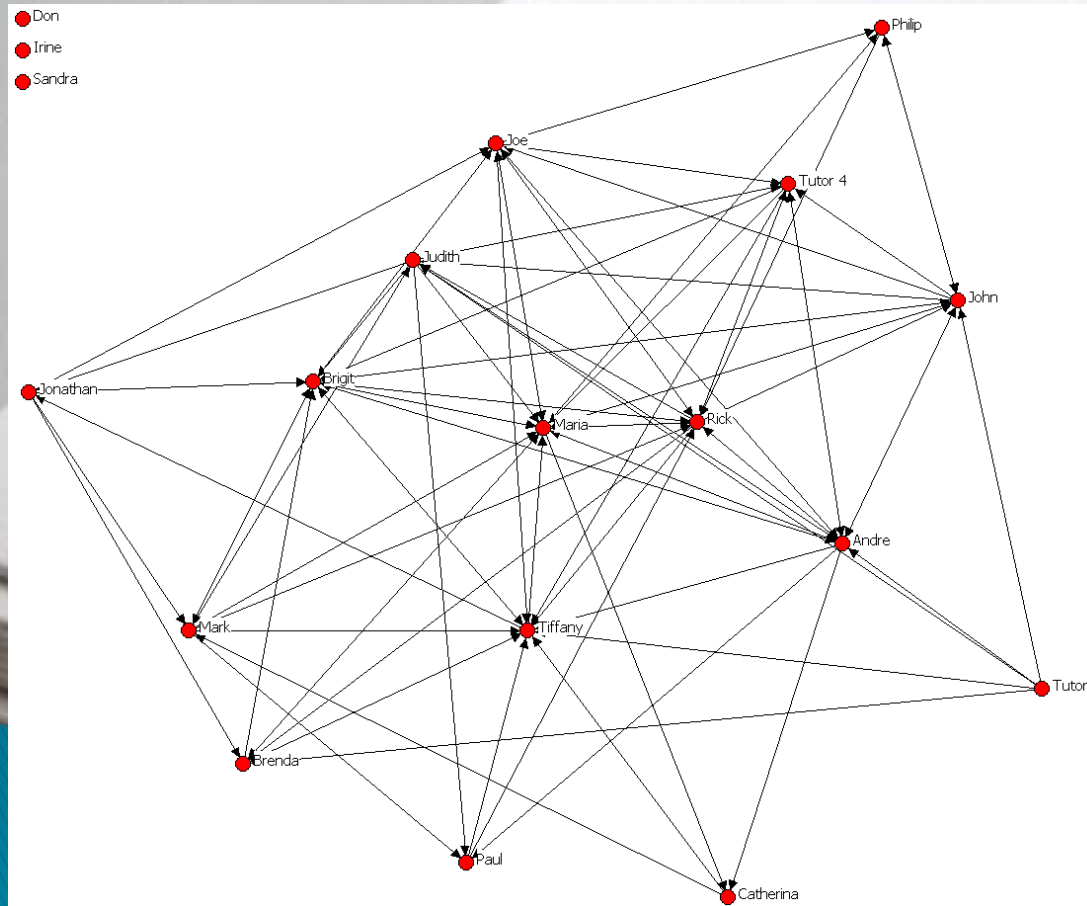
- ▶ Three aspects of intrinsic motivation (IMTK, to know; IMTA, to accomplish; IMES, to experience stimulation)
- ▶ Four other scales of decreasing level of intrinsic, and an increasing level of extrinsic motivation (EMID, identified regulation; EMIN, introjected regulation; EMER, external regulation; AMOT, amotivation).
  - Response-rate 93%, Cronbach alpha for the seven items ranged from .760 to .856
  - Learners who are high on intrinsic motivation relative to all other students as "intrinsically motivated learners".
  - Learners who are relatively high on extrinsic motivation are labelled as "extrinsically motivated learners".
  - Learner can have both high levels of intrinsic as well as extrinsic motivation. (90%).





## 2de GoLeWe-projectconferentie Maastricht, 11 mei 2010

# Higher Cognitive network team 4



2de GoLeWe-projectconferentie  
Maastricht, 11 mei 2010



# Overall findings study 1

1. Large differences between students with respect to amount and quality of discourse
2. Differences in contributions explained (in part) by motivation
  1. Intrinsically motivated students contribute more to task-related communication
  2. Intrinsically motivated students have more connections
  3. Intrinsically motivated students are more in the center of the social network
  4. Extrinsically motivated students contribute “on average” but lower on social contributions, which is important for group development (Barron, 2003)
  5. Extrinsically motivated students contribute less throughout the network

2de GoLeWe-projectconferentie  
Maastricht, 11 mei 2010



# Study 2 Who profits from blended learning?

- ▶ 4655 participants of 1<sup>st</sup> year statistics course
- ▶ 36% female, 34% Dutch
- ▶ All students had opportunity to learn statistics using ALEKS.com



Last login: 10/16/2008

Enroll date: 09/04/2008

Total Hours: 20 hours 47 minutes (20 hours 47 minutes from college)

From host: 137.120.168.93

Hours/week: 3.5 (3.5 from college)

## Business Statistics

MyPie

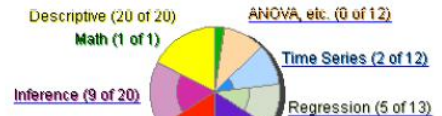
Readiness  
(ALEKS) (18 of 18)

Mastery of  
College (74 of 115)  
(Textbook Syllabus, Business Statistics / ALEKS)



Math (18 of 18)

- Probability: Probability
- Math: Mathematical Readiness
- Descriptive: Descriptive Statistics
- Regression: Regression & Correlation



Distributions (19 of 19) Probability (18 of 18)

- Time Series: Time Series & Quality Control
- Distributions: Random Variables & Distributions
- Inference: Confidence Intervals & Hypothesis Testing
- ANOVA, etc.: ANOVA, Chi-square & Nonparametric Tests

## What I can do

Mathematical Readiness

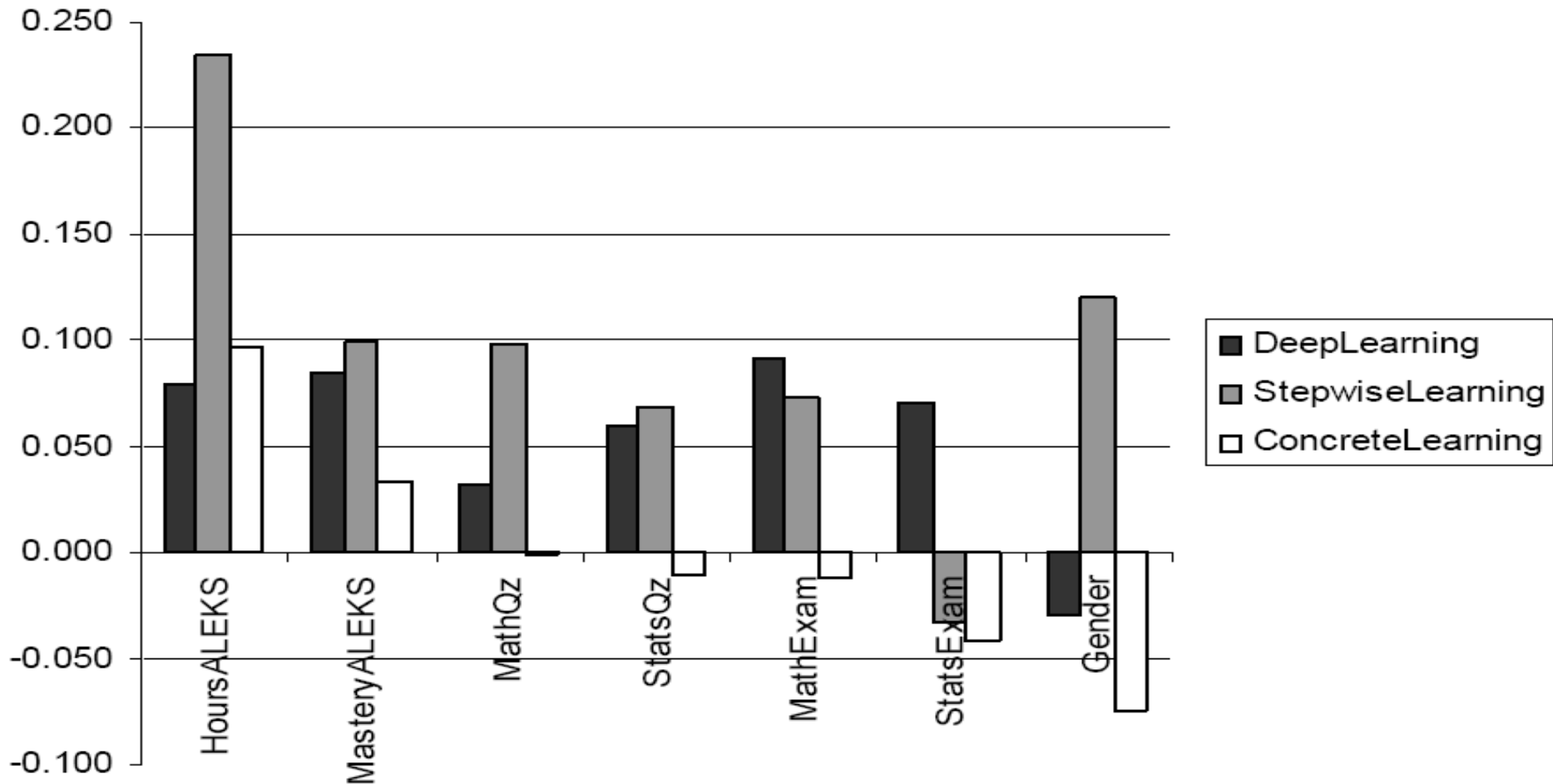
Algebra Readiness

X- and y-intercepts of a line given the equation in standard form

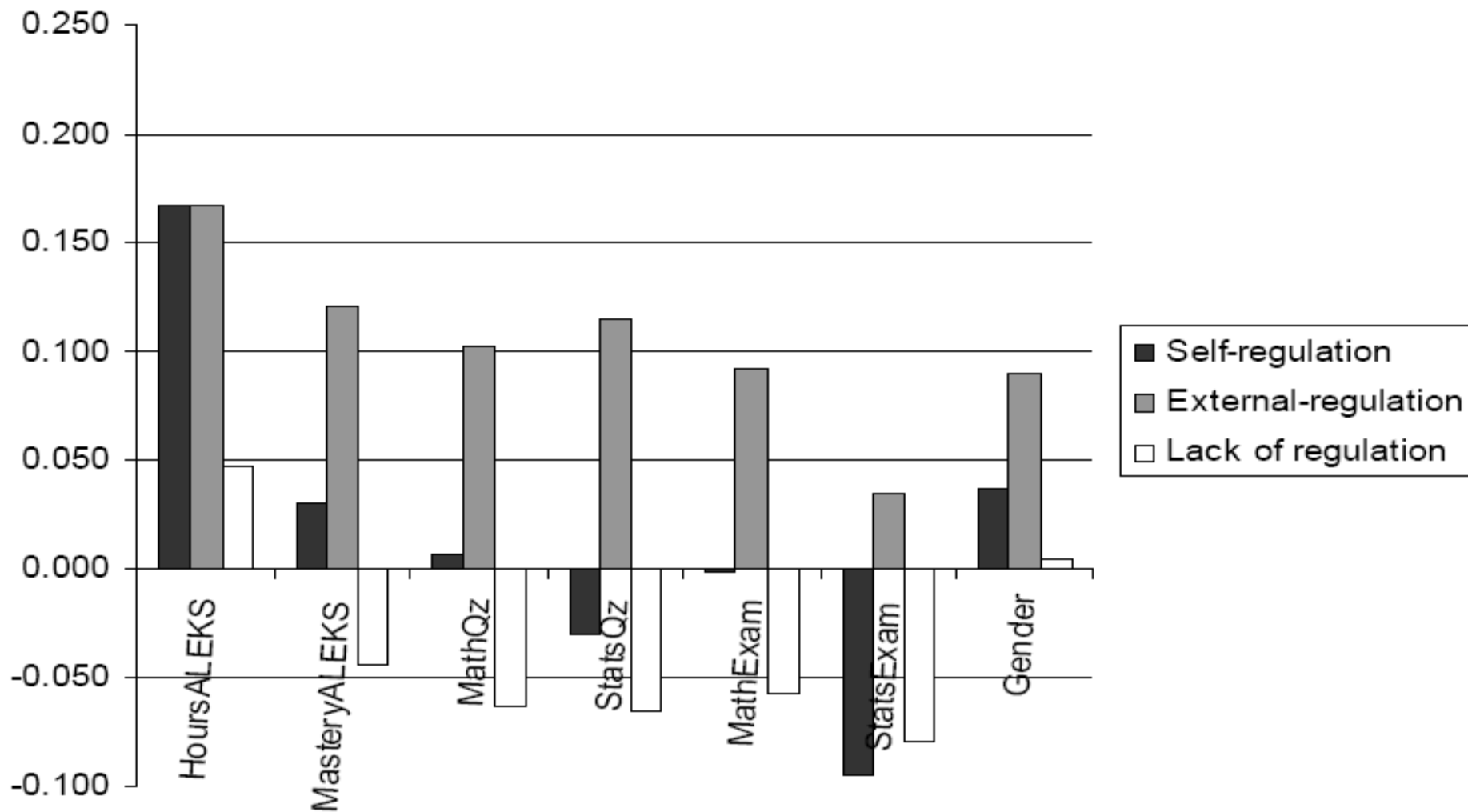
Probability

Events and Probability

# Processing Strategies

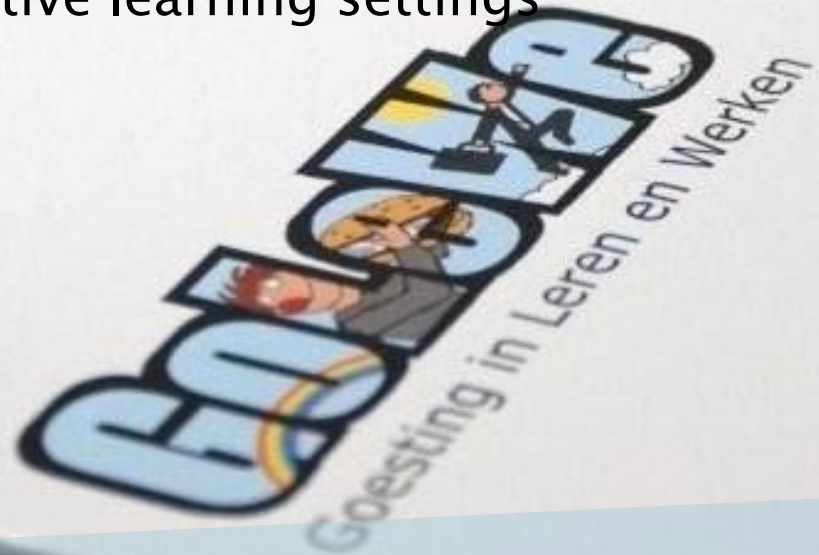


# Regulation Strategies



# Overall findings study 2

1. E-learners are females
2. E-learners are stepwise/surface learners
3. E-learners are externally regulated learners
4. E-learners prefer cooperative learning settings



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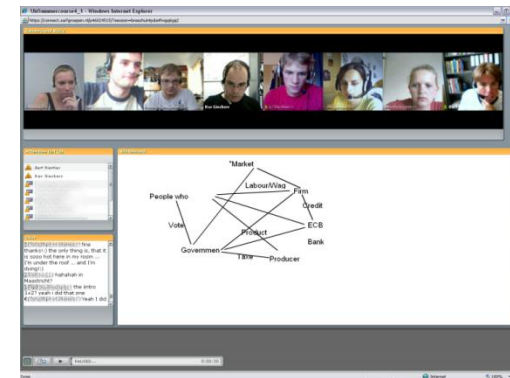
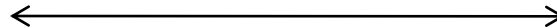
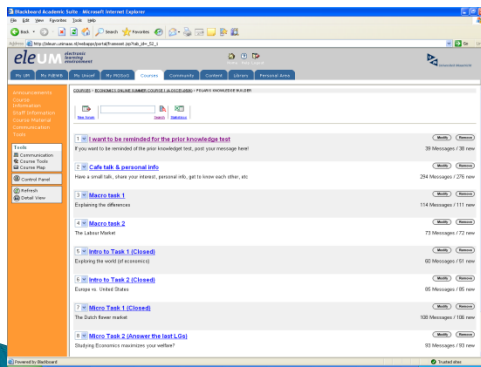


# Study 3 Increasing learning satisfaction with webvideoconference

- ▶ Cohort 1 as described above (82 participants in 6 groups)
- ▶ Cohort 2:
  - weekly videoconferences + discussion forums
  - 69 participants in 5 groups

## Instruments

- ▶ Academic Motivation Scale
- ▶ Prior Expectations of the course
- ▶ Perceived usefulness of course
  - 33 questions of seven categories: assessment (four items), course design (six items); course materials (three items); goals and tasks (four items); group collaboration (five items); instruction by teacher (five items); and learning satisfaction (five items).



# Videoconferences vs. discussion forums

	Discussion Forum		Videoconference		t-test difference	Cohen d-value
	M	SD	M	SD		
Assessment	14.80	2.41	14.23	2.60		
Course Materials	11.29	1.66	10.65	1.80	.058†	.37
Course Design	24.69	2.59	23.76	2.48	.064†	.36
Group Collaboration	18.24	3.34	17.42	3.28		
Goals and Tasks	15.15	2.51	15.40	1.82		
Instruction	19.53	2.13	20.57	2.09	.012*	-.50
Learning Satisfaction	19.83	2.50	19.27	2.73		

Independent sample T-test (2-sided) of Discussion forum (n=59) vs. Videoconference and Discussion forum (n=59)

\*Coefficient is significant at the .05 level (2-tailed).

† Coefficient is significant at the .10 level (2-tailed).

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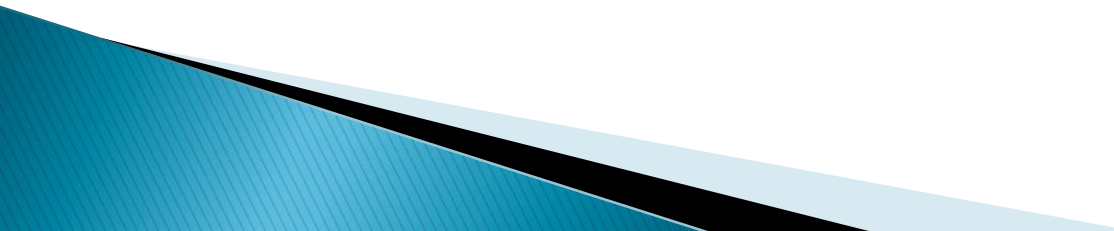
# Overall findings study 3

1. Students videoconference not more satisfied than students discussion forums
2. Students videoconference less satisfied with course materials and course design
3. Students videoconference more satisfied with instructional support



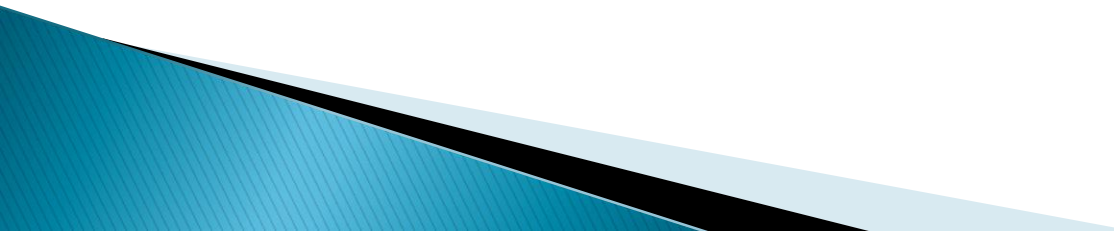
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# 5. Overall Conclusions

1. 80–20 rule
  2. Social interaction in virtual teams complex
  3. Personality (motivation) and learning style (self–regulation, external regulation) plays important role in e–learning
  4. More Social presence does not automatically increase satisfaction
  5. Role of instructor important but complex
  6. Completion rate in online learning lower
- 



# 5. Recommendations

1. Create safe environment at beginning
  2. Be an active coach from beginning onwards
  3. Be aware of personality differences
  4. Create community for multiple types of learners
  5. Use SNA and log-in data as early warning system
- 



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# Bijspijkeren in de zomervakantie: van theorie naar praktijk

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