Supplemental Instruction (SI-PASS)
A Rose with many Names

LANCASTER / LEIF BRYNGFORS EUROPEAN SI-PASS CENTER, LUND UNIVERSITY

SI-PAL-PASS a Rose with many names

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Its named……..

Supplemental Instruction SI

Peer Academic Learning PAL

Peer Assisted Study Sessions PASS

Peer Academic Study Scheme PASS

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Collaborative Learning

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Collaborative learning

Students progress personally, while collectively working towards a common goal. Students are accountable to one another and, with appropriate direction, will self-manage this. Students learn to better understand and anticipate difference, recognize it in themselves and others, and use it to their advantage.

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Agenda

- Background
- European SI-PASS Center
- SI-PASS Carateristics
- Lund University
- SI-Pass at the Faculty of Engineering
- Outcome/Results
- Adaptation –into the schools
- Closure

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How it started

1973 Supplemental Instruction (SI) was developed at University of Missouri in Kansas city USA by

Dr. Deanna Martin for Medical/Dental subject

Received a Grant from the Government

……

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Global model - *5 centers worldwide*

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The different centers offers…

Information

Training

Evaluation

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SI-PASS in Europe

- There are at the moment 8 countries in Europe having SI-PASS
- There are ~290 trained supervisors actively involved,
- Approximately 8,400 SI/PASS/PAL-leaders are employed each year
- There are ~1,530 courses supported by SI/PASS/PAL each year
- The number of students having access to SI/PASS/PAL per year is ~142,000
- The number of students attending at least one time per year is ~82,000 (58 % of those having access)
- The average number of students at a session is ~10
- Number of contact hours is 810 000 during a academic year

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SI-PASS

So tell us What it is!

SI – Caracteristic *picked from the different centers website*

-Address students needs in a holistic approach

-Academic assistance programme

-Weekly peer-facilitated study sessions

-Senior students

-What to learn-how to learn

-Receive intensive training

-Non-remedial approach

-Act as a role model

-Friendly, relaxed environment

-Guide students through the course material

-Cost effective, and focuses on high risk courses

-Is voluntary, student driven

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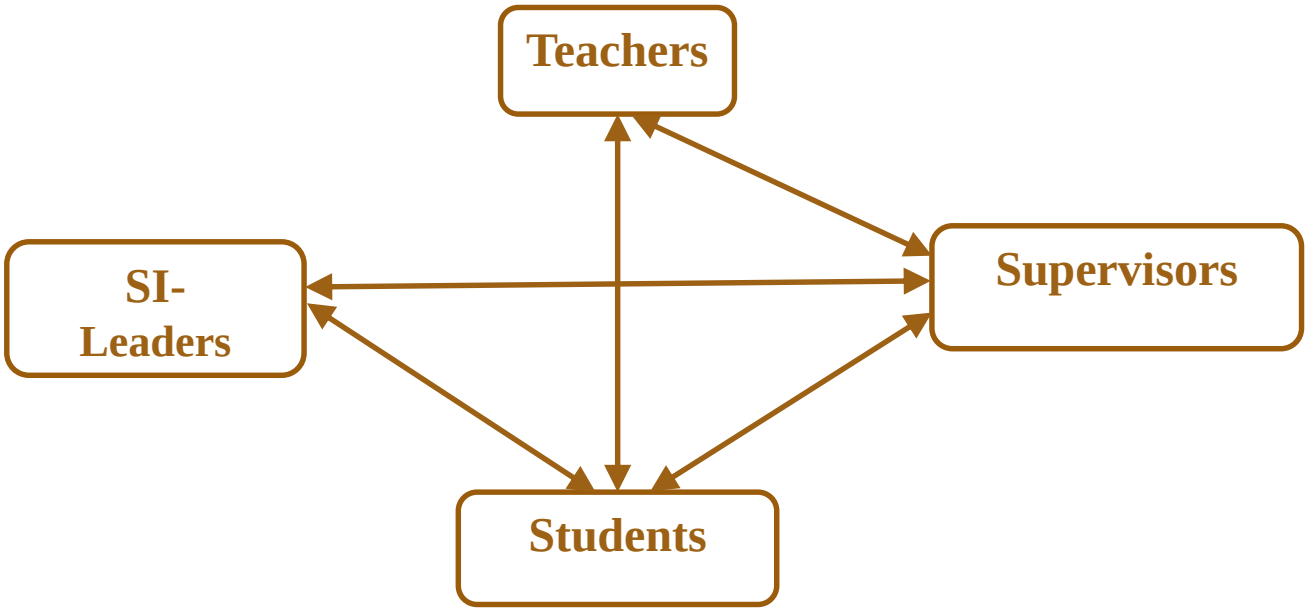
Actors involved



What Supervisors do

-Train the SI-Leaders

-Regularly supervision

-Evaluate

-Administrate

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What students do

-Participate weekly on a one hour meeting

-Involved in discussing around the subject

-Compare Notes

-Develop learning strategies

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What Teachers do

-Regularly meetings with the SI-leaders concerning academic matters

-Promoting participation

-Receiving feed back

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What SI-Leaders do

Give a man a fish and you feed him for a day; Teach him how to fish and you feed him for a lifetime.

Ancient Chinese Proverb

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The set up

Organize groups (8-15 students)
SI-leader (Facilitator)
Weekly Meetings (1-2 hr.week)
Process the information (The students set the agenda)
Using different strategies(taking advantage of the different knowledge in the group)

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The set up

Attached to a course
Facilitator an older students (selected)
Are trained (SI-leader training)
Supervised (Professional developement)

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Strategies in a session

Big picture

Organisational

Recall and review

Problem solving

Study skill

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Time for Commercial

Lund University

- Founded in 1666
- A comprehensive university top 100
- 45 000 students
- Almost 3 000 research students
- 6 800 employees
- Around 650 professors
- 800 senior lecturers
- 1 200 lecturers and other research staff

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The first Faculties in 1668

Law

Theology

Medicine

Philosophy

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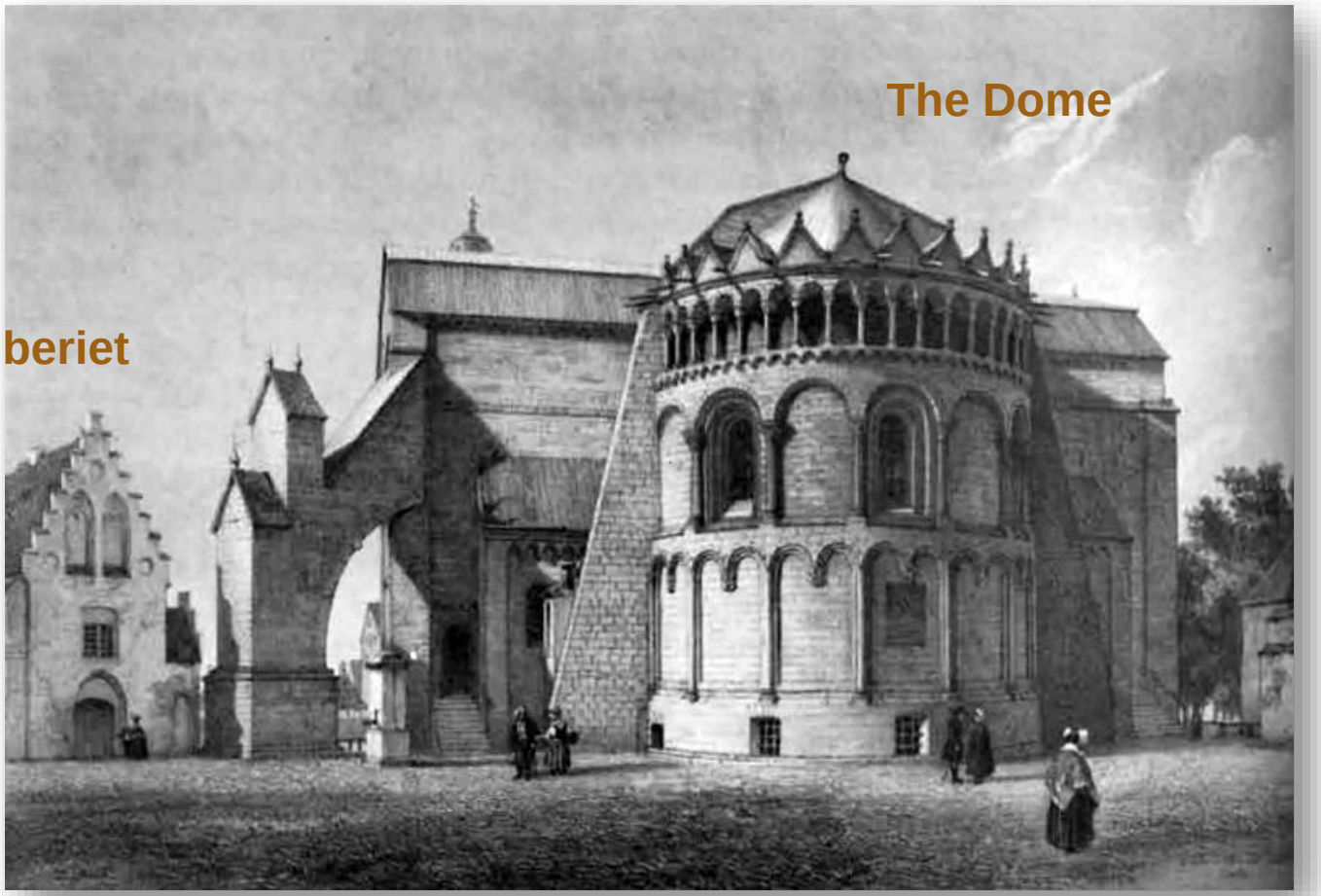
Liberiet – the first lecture hall



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Liberiet (Domkyrkoplatsen/Krafts torg)

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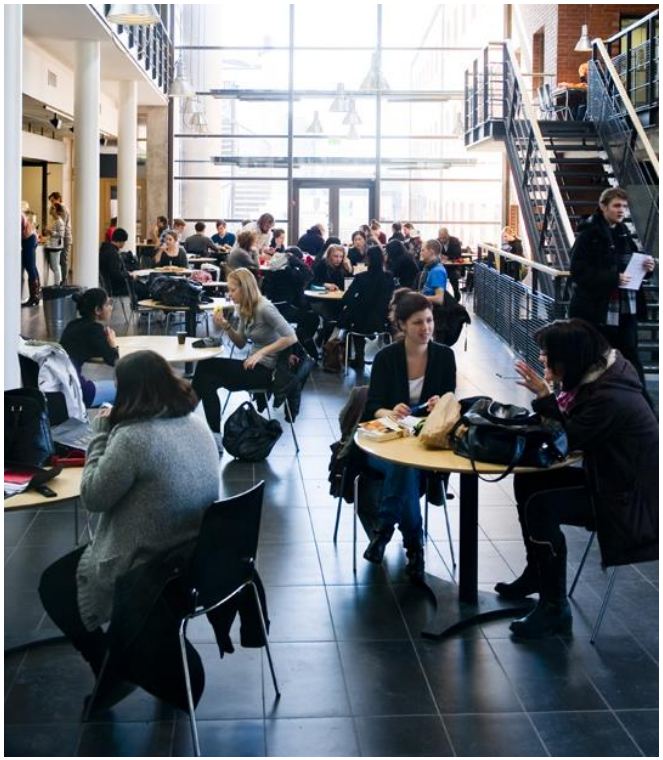
A comprehensive university – 8 faculties



- Medicine
- Engineering
- Science
- Social Sciences
- Humanities and Theology
- Economics and Management
- Law
- Fine and Performing Arts (Music, Theatre, Fine Art)

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SI-start and development at Lund University

- 1994 Faculty of Engineering and the Faculty of Natural science
- Surveying, Calculus - low examination 20% passed
- Raised the passrate after implementing SI-PASS
- More courses Mathematics, Mechanics, Chemistry Physics, programming….
- Especially in courses the first Year/semester
- Spread to more program/schools at Lund University
- Spread to more Universities in Sweden KTH, Chalmers, Uppsala Linköping, Luleå….

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Start and development at Lund University

- Focused on the first year for all students at LTH (Faculty of engineering) and MN (Faculty of Mathematics and Natural sciencies) (1500 students)
- Introduced to international Master courses
- LTH centralized organized
- MN decentralized
- Each Faculty/Department pay for the supervisor and SI-PASS leaders
- Pay our SI-PASS leader 5hr/week (£50/week)
- Supervisor 10%
- Coordinator (10-30%)

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Start and development at Lund University

- European center 1/1 employment (part time)
- Coordinate all SI-PASS at Lund University
- Training all SI-PASS leaders University (students from Lund University as well as from High schools)
- Offer 10 supervisor trainings each year/ in Europe
- Information and presentations
- Research and evolutions

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What is the benefit with SI-PASS in Mathematics and STEEM

- Help in transition from Upper seccondary school to HE
- Break the typical cycle of math learning
- Changing the learning environment - changing the minds of students who ”hate math” or don´t get math
- Activities involving group work, jigsaw-stations-gallery walks-true and false
- Practise Group work on the white board
- Get students on the board talking to each other trough the problem
- Learn of how to Learn

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What is the benefit with SI-PASS

- Able to integrate new concepts and previous knowledge
- Deep learning instead of surface learning
- Employ strategies that will produce succesful learning outcomes
- Think trough and process the concept
- A group ”more knowledge”
- Ability to think critically
- Facilitator (older students)
- Better grades
- Lower drop out

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What is the benefit with SI-PASS

- Spending more time on the subject
- Learning from each other
- Hearing different explanations
- Learning to talk, explain and verifying
- Asking higher order questions
- When you find yourself capable you raisen your self esteem

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Courses supported by SI-PASS

- Mathematics
- Physisc
- Geology
- Chemistry
- Mechanics
- Biology
- Arcitechture

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Does SI-PASS make a difference?

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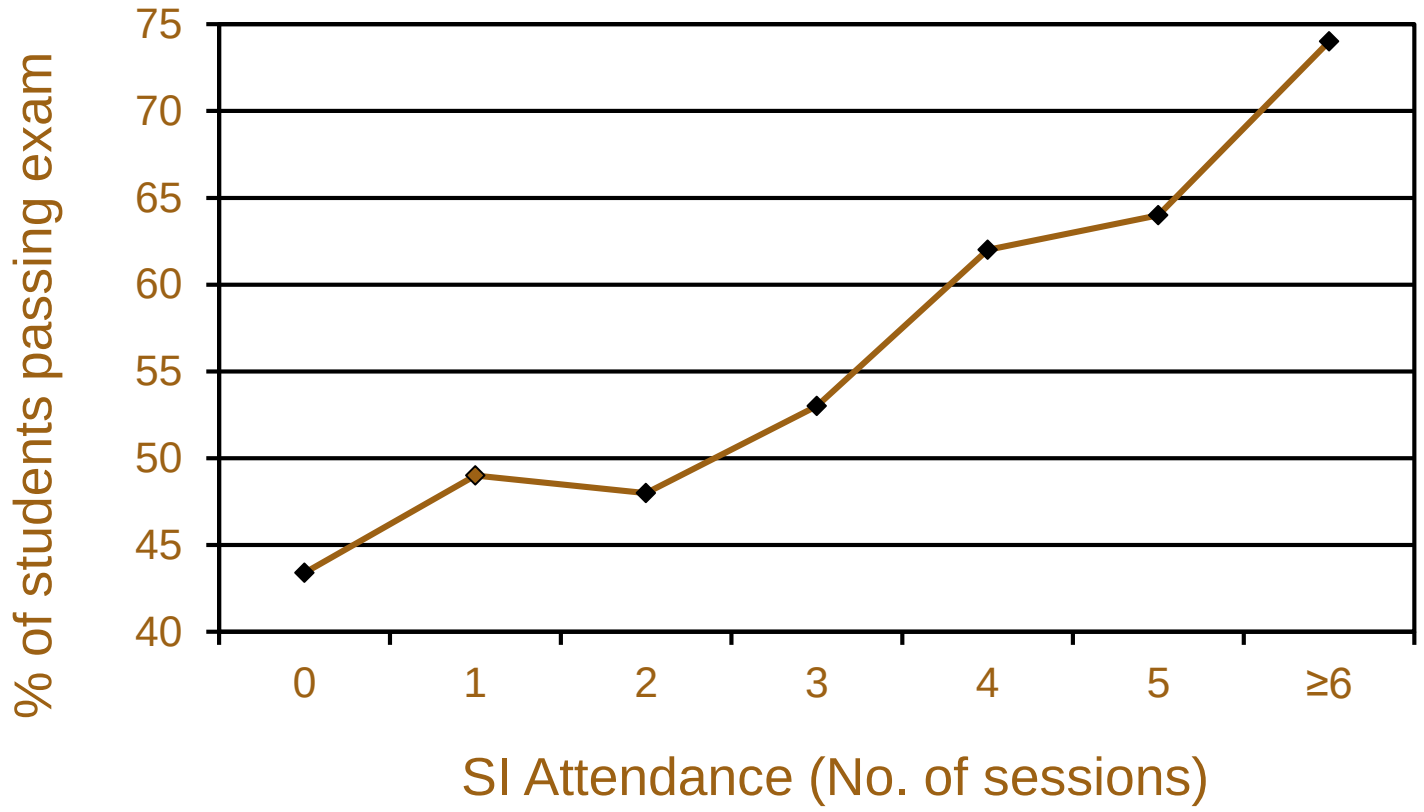
Relation between SI attendance and the result on the first major exam in the course Calculus in One Variable



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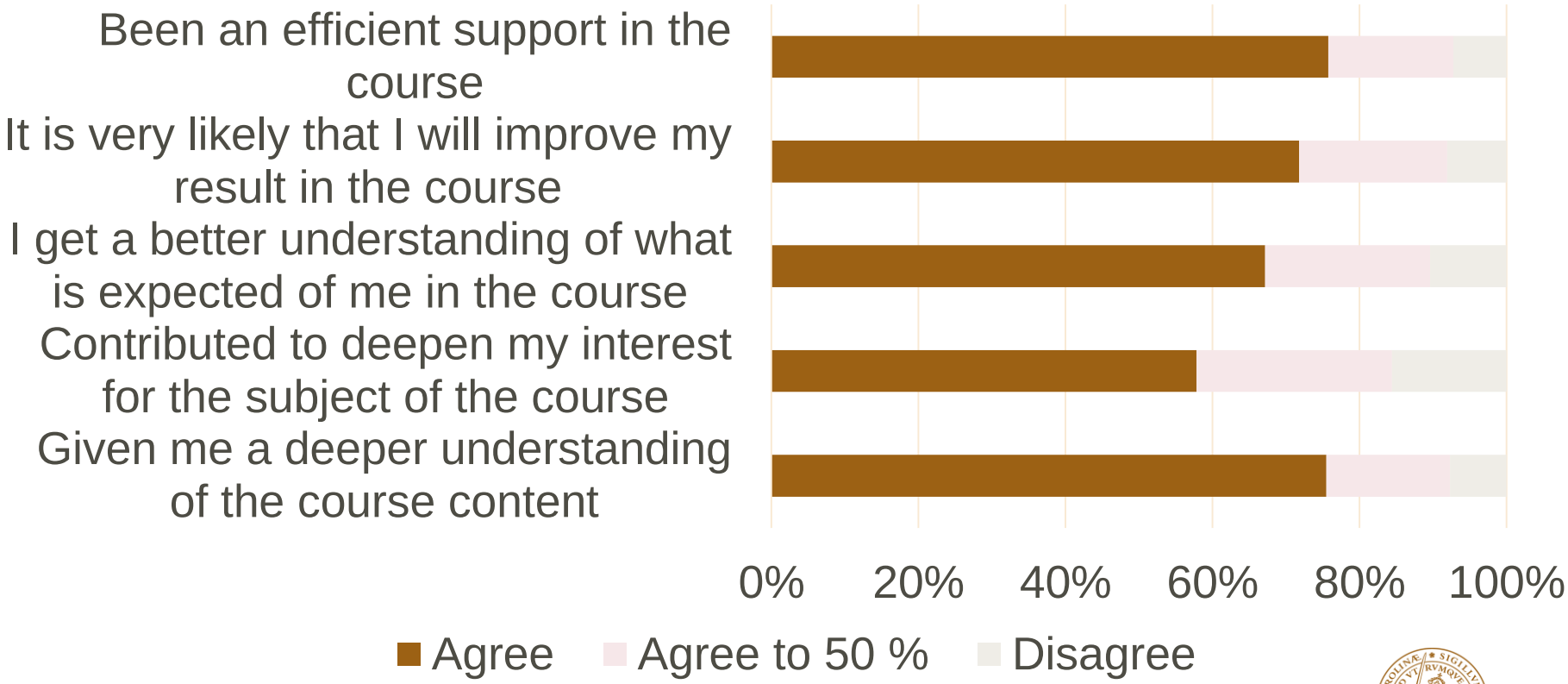
The SI-meetings influence on the course



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SI-attendance vs. course results (% passing grades)

Course	SI-attendance			
	None	Low	Average	High
History	39 %	44 %	62 %	76 %
Calculus	23 %	24 %	43 %	60 %
Anatomy	25 %	30 %	38 %	53 %
Organic chemistry	26 %	42 %	58 %	74 %

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Results in calculus course vs. SI attendance and prior achievements in math

SI attendance	% of students with passing grade		
	”Weak” students	”Average” students	”Strong” students
None	19 %	38 %	62 %
Low	23 %	51 %	74 %
Average	35 %	68 %	87 %
High	56 %	80 %	94 %

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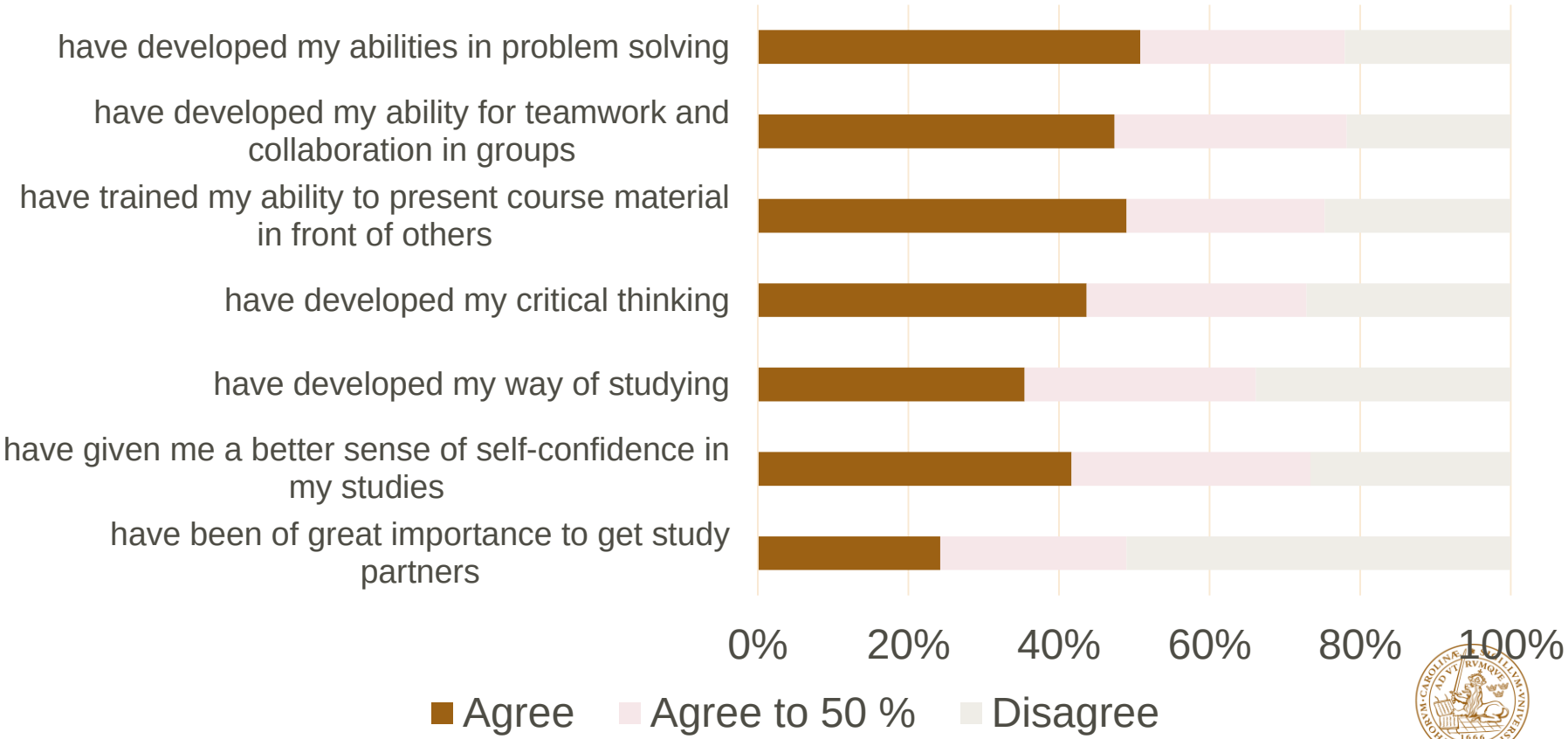
The SI-meetings general influence

Attending SI-sessions .....



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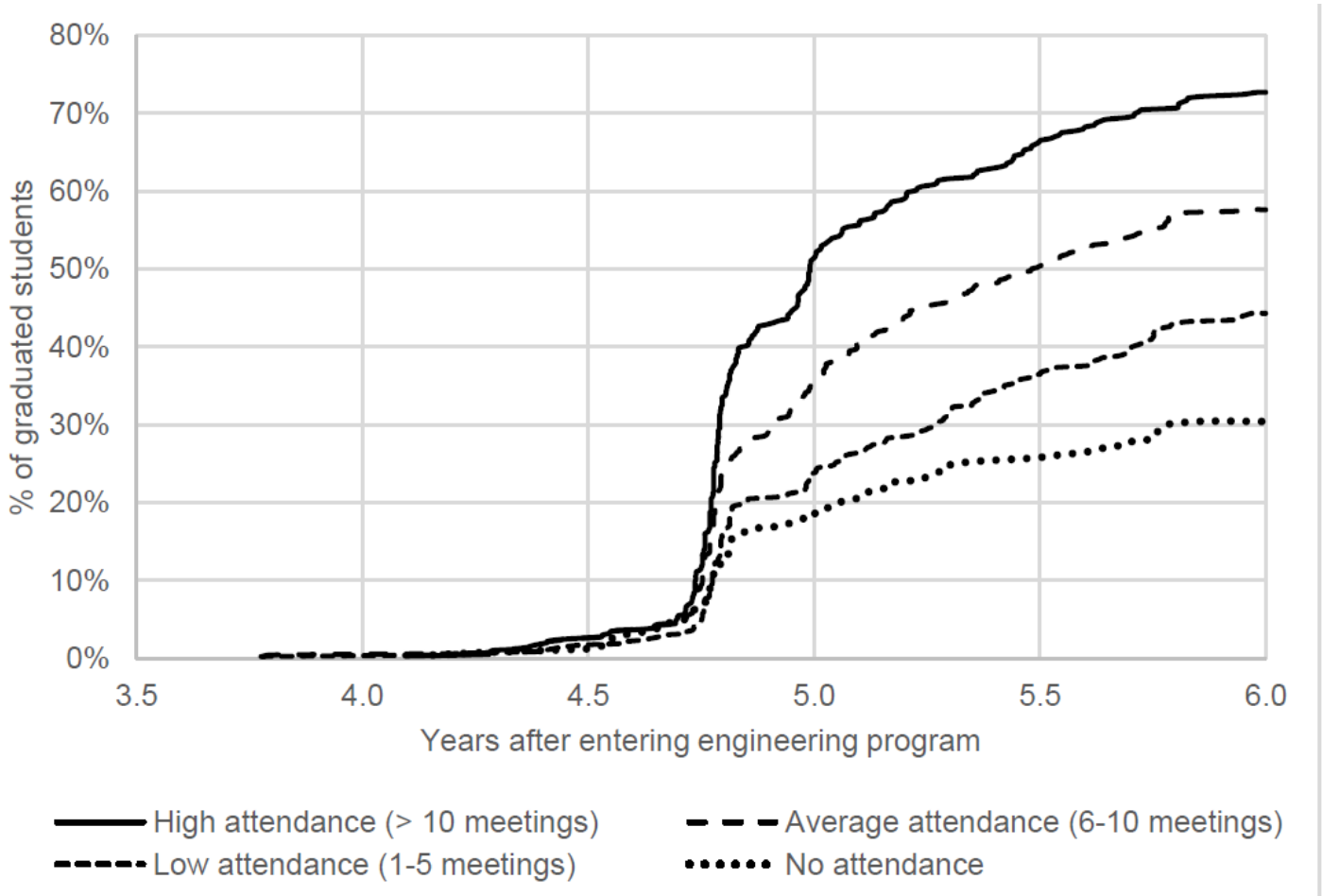
Percentage of students graduating from five year MSc engineering program vs. SI attendance and time



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Effect of SI on student attrition

Percentage of drop-outs after six years vs. SI attendance in first year (Example from five-year engineering programmes)

SI Attendance	% drop-outs
None	44 %
Low	29 %
Average	18 %
High	6 %

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Student views on what is best with SI:

”It is here you start to understand all concepts and theories. When fellow students explain different parts of the course they explain at a level you understand much better than at lectures”

”It is a good complement to lectures where you can discuss with others and reflect on presented course material”

”The best part with the SI-meetings is that they help you to help yourself. The meetings I have attended have given me a better understanding of the course and the tasks ahead of us”

”Wonderful atmosphere and good support which gives a good confidence in your studies”

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Graduated former SI-leaders on what skills they developed:

"Not to stress for answers. To let people explain their way of thinking a second time. Not to be afraid of silence!"

"Knowledge sharing, planning and responsibility. Besides, my confidence grew regarding my ability to handle problems that were new for me within unknown areas"

"I have improved my leadership abilities, seen the value of involving and engaging those who participate in projects by promoting active participation and own initiatives"

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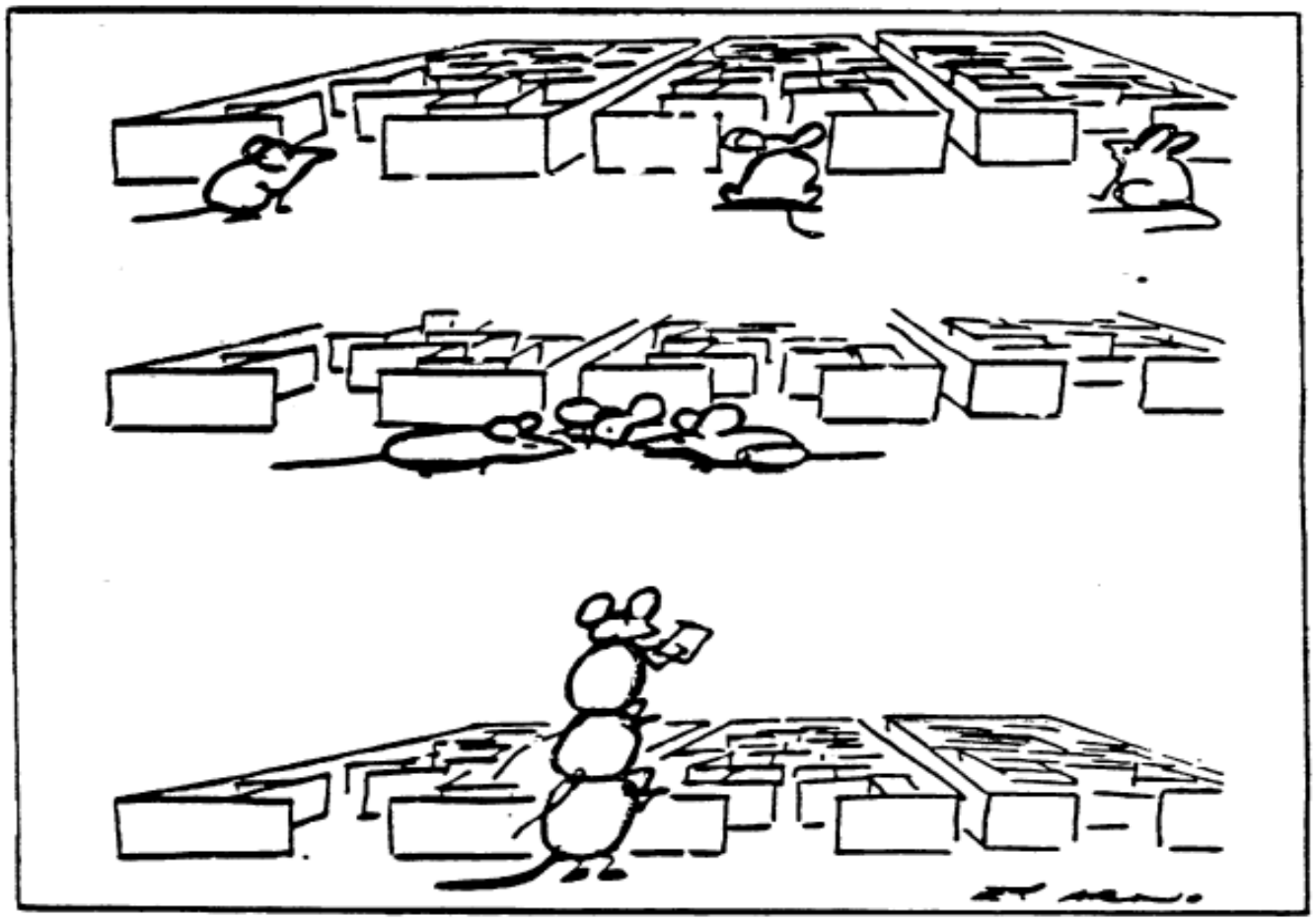
SI-PASS how it works:



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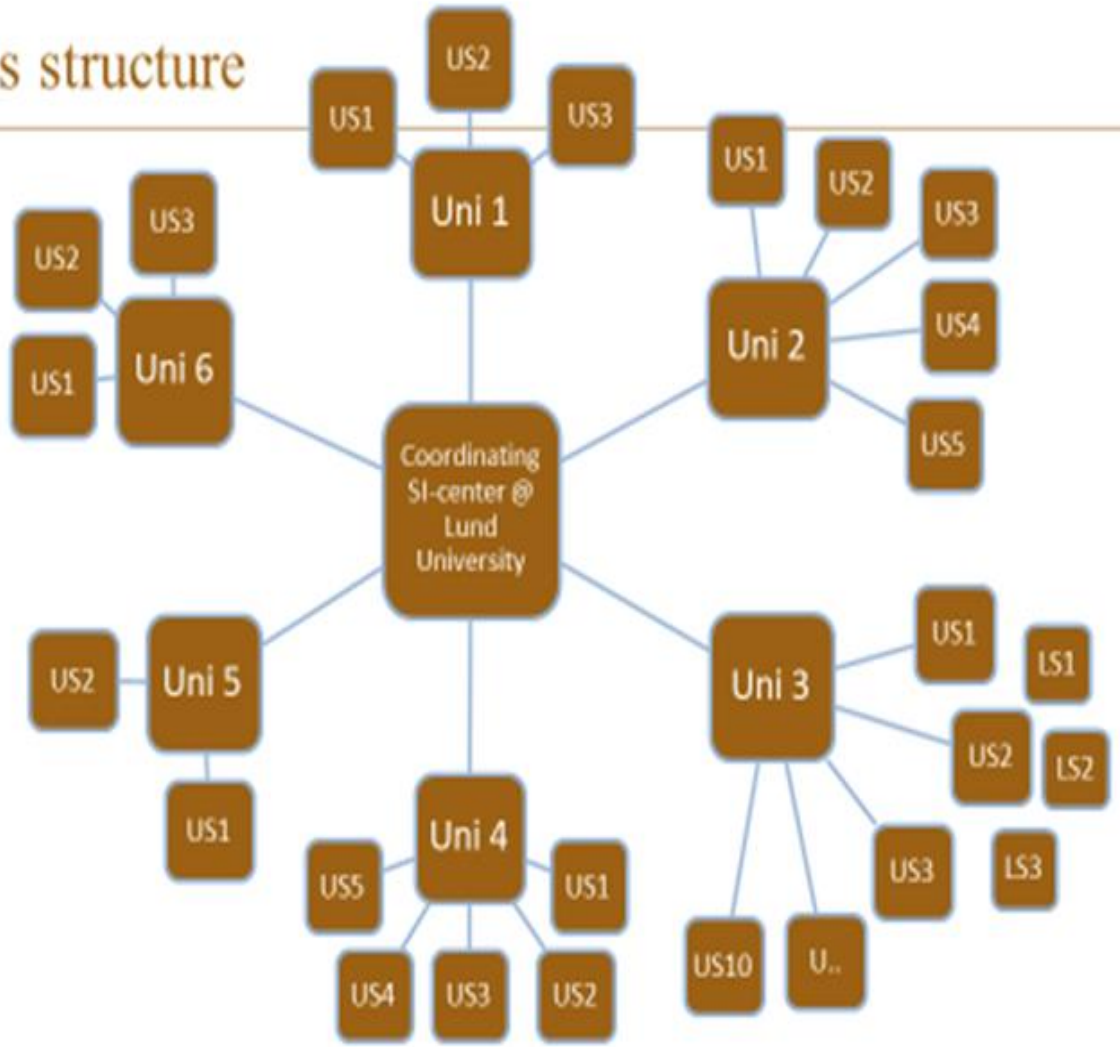
SI into the Schools

A MODEL FOR WIDENING PARTICIPATION

The platform's structure



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Purpose

- Securing long term supply of competence in the region
- Strengthen widening participation and promoting higher education
- Bridging the gaps between lower and upper secondary to tertiary education
- Strengthen results and prevent drop-outs

- Increased motivation and understanding of higher education
- Bridging the transition to higher education with understanding, expectations and network
- Learning how to learn, responsibility, collaboration, communication, self confidence, meta-cognition
- 100% of surveyed contact persons believe SI has affected results positively

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European SI-PASS centre

Thanks for listening

Next upcoming Supervisor Trainings

2-4 April Stjordal Norway

3-5 of June in Brighton

8-10 October Liverpool

www.SI-PASS.LU.SE

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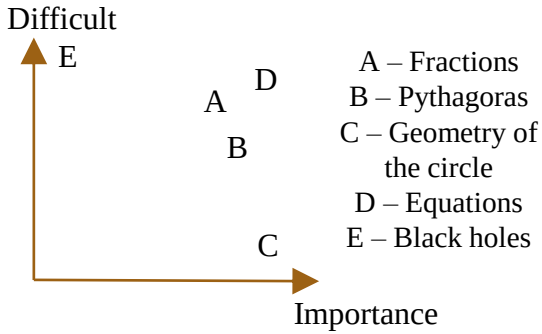
Popular method: Difficulty vs. importance

1. Invite the group to list the course areas they want to work with. Alternatively, suggest/provide a list
2. The list will consist of A, B, C, D, E etc. Get an overview by placing them in a difficulty vs. Importance plot. (You could change the axes according to what you think is relevant, e.g. degree of fun)
3. Thereafter you group the students to each area and give them e.g. 15 minutes to become experts in their ”field” and prepare a presentation
4. Present to the class
5. Ask the students to once again place A thorugh E in the diagram. Are the areas experienced as less difficult now?



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SI:s history

1970s	**1972 Higher Education Act (Title IX legislation) in US** **1973 SI implemented at UMKC**
1980s	1981 SI certified as Exemplary Educational Programme by U.S. Dept of Education
1990s	1991 SI implemented at University. of Kingston, UK 1993 SI implemented at University of Port Elizabeth, South Africa 1994 SI implemented at Lund University, Sweden
2000s	2002 Lund Univ. establishes Scandinavian National SI Centre 2002 SI-PASS implemented at University of Wollongong, Australia 2005 Univ. of Wollongong establishes National Centre for PASS 2005 First SI-PASS Leader exchange between Sweden and UK 2009 Univ. Of Manchester establishes UK National PASS Centre
2010s	2012 Canadian National SI Centre established 2016 Scandinavian National SI Centre assumes responsibility for training in UK 2017 Scandinavian National SI Centre relaunched as European Centre for SI-PASS

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