Flipped classroom – a tool to improve the learning outcome in Agroecology? Experience from using Scalable Learning the first year





At University:

Active teacher Passive students



At University:

Prepared students Teacher feedback Active in-class teaching

Agroecology 2014-2017



Agroecology 2018



Scalable Learning - Claims

- Improved study result (examination).
- Prepared students; Individual tasks with deadlines before classes.
- In the classroom; Peer activities supported by teacher.

Our main goals

- More independent students better prepared for work.
- Early identification of difficulties and questions, and to answer them.
- Maximizing the time for interactive learning, if possibly in groups.
- More students approved at the first exam.

Weekly schedule Agroecology

2014-2017 2018 • **Online lectures out** Monday Lecture 1 • Tuesday Lecture 2 **Quizzes out** • Wednesday Teamwork **Deadline quizzes** Thursday Teamwork Seminar Seminar Friday

A new weekly organization:

Individual phase Literature studies • Video lectures. Quizzes with automated responses. Student-teacher interactions. **Team phase** Solving problems and difficulties.

Applying theories and concepts.

Quizquestion with automatic response:

- 5. Vilka egenskaper får avkomman till F1-generationen, alltså F2-orna? Tre av alternativen är rätt.
 - Heterosiseffekt, alltså livsdugligare
 - Många olika genotyper bildas
 - Det blir väldigt varierande fenotyper
 - De blir homozygota
 - De blir heterozygota

Question:	Vilka egenskaper får avkomman till F1-generationer av alternativen är rätt.	n, alltså F2-orna? Tre	
Type: M	lultiple Choice (multiple correct answers)	ſ	-
Answer He	eterosiseffekt, alltså livsdugligare	Correct	
Explanation No fra	ej, det gäller bara när man tar fram F1-hybrider ån faders- och moderslinjerna.		
Answer M	ånga olika genotyper bildas	Correct	
Explanation Ja	a massor.		
Answer D	et blir väldigt varierande fenotyper	Correct	
Explanation Ja	a, det följer på de många genotyperna		
Answer D	e blir homozygota	Correct	
Explanation No. in fa	ej. Homozygot innebär att båda kromosomerna nehåller likadana gener, som moder- och derlinjen gör. Här är de olika, se figuren.		
Answer De	e blir heterozygota	Correct	
Explanation Ja ol m frá fig	a, vilket innebär att båda kromosomerna innehåller ika gener. Även F1-generationen är heterozygot, en den har fått exakt likadana genkombinationer ån sina homozygota moder- och faderlinjer, se guren.		

Experiences after Agroecology 2018

Pros & Cons?



+ Students very positive to the concept.

- + Students more prepared in class.
- + For us, efficient feedback on basic knowledge.

culinary arts

- + For students, efficient teacher feedback.
- + Student can repeat lectures and quizzes any time.
- + Increased no. of students passing the exam??
- Students tended to put less time on teamwork =>
 - Knowledge transfer between students reduced?

Flipped

classroom

are

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To record lectures is boring, live lectures
often inspiring.