

UNIVERSITY OF COPENHAGEN

IT Learning Center

Værktøjer til undervisningsudvikling

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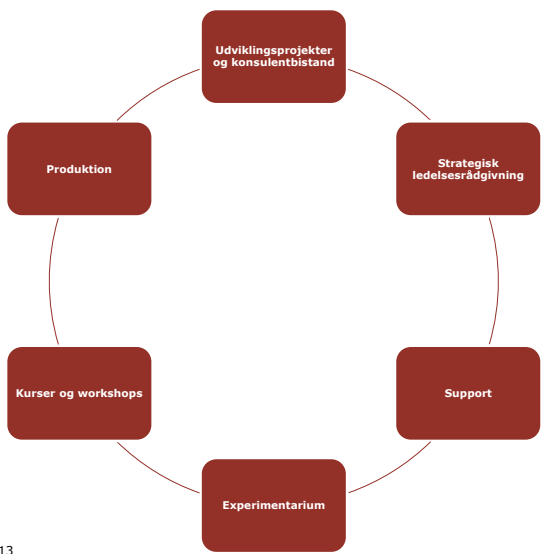
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Dias 1



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IT Learning Center

IT Learning Center



Udviklingsprojekter og konsulentbistand

Strategisk ledelsesrådgivning


Support

Experimentarium

Kurser og workshops

Produktion

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Værktøjsperspektivet

Kurser og workshop

LMS – Absalon (It's Learning)

Adobe Presenter

Prezi

Adobe Connect

PowerPoint

Shakespeak (SMS og webbaseret clicker)

Experimentarium og produktion

Adobe Premiere Pro

Adobe Presenter Video Creator

Adobe Captivate

Camtasia

Studenterproduceret video

MovieMaker og iMovie

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Case:

Using clickers to activate students in your teaching

To me mobile interaction with my audience has an added value because;

Option	Percentage
A. It underlines the transparency of our organization	19%
B. It encourages involvement of stakeholders	12%
C. It fits today's way of knowledge sharing	48%
D. Something else	21%

shakespeak™

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Implementering: Workshops

Programme

13.00-13.10	Introduction
13.10-14.00	Interactive teaching – peer instruction with clickers
14.00-14.10	Choosing the right clicker technology: - Response keypads (physical remote) - Free* SMS and online based clicker (based on shakespeak.com)
14.00-15.30	Group work on forming good questions
15.30-16.00	Presentation of clicker questions and peer-discussion

* Please note: only free for lecturers at SCIENCE (incl the veterinary departments at SUND) in a limited period of time, while the IT Learning Center is trialing the potential of the Shakespeak software. After the trial period a model for future funding will be decided.

Workshop content

- Active learning strategies and peer instruction
- About forming good questions
- How to apply the students' answers in your lecture
- Experiences at SCIENCE and around the world
- Hands-on experience with clickers and [Shakespeak SMS and online based clicker](#)

Teachers



Professor
[Ian Bearden](#)
Niels Bohr Institute



E-learning Consultant
[Søren Larsen](#)
IT Learning Center

 [Go to registration](#)

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Voting cards



Photo by Kellie Cruz.
http://www.astronet.com/wp-content/uploads/2010/05/mixed_votes.jpg

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Response keypads (physical remote)



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SMS and online based clicker



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About Shakespeak – student perspective

- You depend on the students to use a mobile phone or laptop
- An unlimited number of students can participate through the internet or by SMS.
- Internet access through laptop or smartphone.
- Every auditorium have 1-4 wireless access points. Every access point can handle approx 20 students. I.e. max 80 students simultaneously on the wireless network.
- Students pay per SMS according to their mobile subscription



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About Shakespeak – lecturer perspective

You need - both on your office and in the aud.:

- Internet connection
- The Shakespeak software and Microsoft PowerPoint 2000, XP, 2003, 2007 or 2010
- A Shakespeak account
- Please notice: No Mac compatibility yet, but estimated to 2013

The economic perspectives:

- IT Learning Center pay in the trial period
- Per student per lecture: DKK 0,30
- Per student per block (8 weeks) with 2 lectures per week: DKK 4,77

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A plasmid containing bacterial DNA and the gene for human growth hormone is introduced into a bacterium. Which growth hormone protein will be produced?

A. A bacterial human growth hormone protein
 B. A human growth hormone protein
 C. A hybrid protein that is part human and part bacterial

votes: 0 Open

TXT Send to 30974289 Soren *space* your choice (e.g. Soren B)
 Internet Go to shakespeak.com and log in with Soren

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Prepare to vote; keep your phone ready!

Internet 1

2

TXT *This presentation has been loaded without the [ProductName] plug-in.
 Want to download the plug-in for free? Go to
<http://shakespeak.com/en/free-download/>.*

2

Twitter 1

2

Voting is anonymous

shakespeak

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A plasmid containing bacterial DNA and the gene for human growth hormone is introduced into a bacterium. Which growth hormone protein will be produced?

A. A bacterial human growth hormone protein
 B. A human growth hormone protein
 C. A hybrid protein that is part human and part bacterial

votes: 0 ● Closed

Internet
 TXT
 Twitter

*This presentation has been loaded without the Shakespeak plug-in.
 Want to download the plug-in for free? Go to www.shakespeak.com.*

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A plasmid containing bacterial DNA and the gene for human growth hormone is introduced into a bacterium. Which growth hormone protein will be produced?

A. A bacterial human growth hormone protein
 B. A human growth hormone protein
 C. A hybrid protein that is part human and part bacterial

0.0%
0.0%
0.0%

*We will set these example results to zero once you've started your session and your slide show.
 In the meantime, feel free to change the looks of your results (e.g. the colors).*

● Closed

Internet
 TXT
 Twitter

*This presentation has been loaded without the Shakespeak plug-in.
 Want to download the plug-in for free? Go to www.shakespeak.com.*

Evaluering på kurset: Veterinær genetik

Har quiz-spørgsmålene været en hjælp til at lære/forstå stoffet? 6,52









Svarprocent: 66/196=34%

7-trins Likertskala, hvor 1 = Uacceptabelt, 4 = Acceptabelt og 7 = Optimalt.

"Kæmpe ros til opbygningen af de fleste forelæsninger, de har været godt opbygget med læringsmål først, så uddybning og "besvarelse" af disse og tilsidst nogle quiz spørgsmål så man kunne arbejde med den nye viden. Det har gjort det overskueligt og afvekslende." (Studerende)



Analog til Adobe Presenter Quiz-værktøjet

- 
Multiple choice
 Multiple choice questions ask users to choose one or more correct answers from a list of possible answers.
- 
True/False
 True-False questions are similar to multiple choice, but have only the two fixed answers.
- 
Fill-in-the-blank
 Fill-in-the-blank questions ask users to complete a sentence or phrase by typing in a word or selecting a word from a list.
- 
Short answer
 Short answer questions are open-ended and ask users to write a sentence or brief phrase to answer the question.
- 
Matching
 Matching questions ask users to associate items in two lists, such as a word and its definition.
- 
Rating Scale (Likert)
 Rating Scale (Likert) questions ask users to express agreement or disagreement with specified statements. There are no right or wrong answers.
- 
Sequence
 A sequence question gives the user a list of items that must be placed in the correct order to answer the question.
- 
Hot Spot
 Hot Spot question asks users to spot the right point/area within the given target, such as image.





Formulering af gode spørgsmål og Shakespeak hands-on



Getting started

1. Download and install Shakespeak from Shakespeak.com
2. **Add vote** or **Add message** slide to your presentation from the Shakespeak tab in PowerPoint
3. (Activate your Shakespeak account)
4. Go to Shakespeak.com and login and **create a new session** (=lecture)
5. Copy the **Activation code**, e.g. 7HG8XD
6. Press **Start session** in the Shakespeak tab in PowerPoint
7. Now you are ready to start your slideshow



Some of the arguments

- Promote communication between student and teacher
- Facilitate interlectual engagement
- Often you have a feeling when your students are not engage and understand the content. Clickers can help you become aware of why and how to better teach the subject.
- Students come to class better prepared



Planning

- The questions takes time from the content
- Put up rules for participation:

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Reglerne

- Være aktiv
- Stemme
- Diskutere
- Være villige til at begå fejl (huske: eksperter er tit dem der har begået flest fejl)

000511
Dias 5

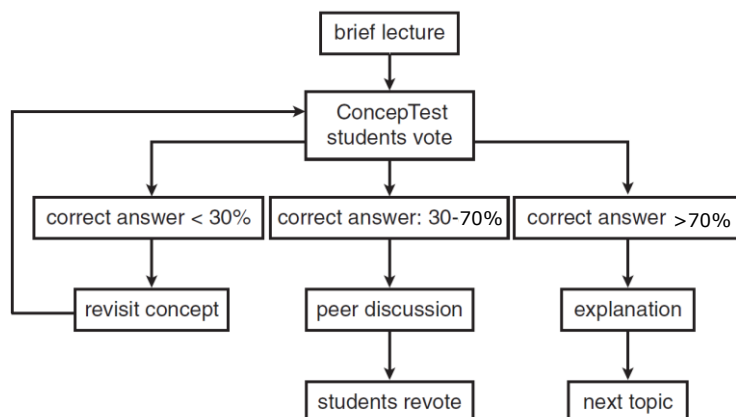
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Ian Bearden, NBI

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Peer instruction



(Lasry, N., Mazur, E., Watkins, J. 2008)

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Planning your lecture

- Groups of 3-4 often result in more substantial discussion than with only 2
- Leave between 2-5 minutes for each question.
- Include 4-6 questions in 1 hour of teaching

The questions

- Not too easy. Students prefer being challenged and they learn from doing mistakes.
- Try to make the question match your expectations for the exam.



Example from Geology 1010:

1. Learning goal (What you want students to be able to do):

Explain and demonstrate how geologists determine rates of tectonic plate motion from data on seafloor age.

Skills: calculating a rate, reasoning like a geologist, developing competence using geological data, interpreting a representation commonly encountered (but seldom explicitly explained) in textbooks

Concepts: tectonic plates move; the rate of past plate motion at spreading centers (divergent plate boundaries) is known from the age of oceanic crust making up the seafloor.

2. Goal(s) of the clicker question

Promote articulation/discussion, stimulate cognitive processes

3. Tactic or tactics to use

Qualitative question, analysis and reasoning, interpret representation, rank variants.

4. Clicker question

The resulting clicker question had students to look at a map of the earth showing the ages of the seafloors, and students were asked to rank the relative speeds of the plates at various locations.

(Ref.: The University of British Columbia, 2008; Clicker Resource Guide)



Writing clicker questions

1. Define the learning goal or objectives. What you want students to be able to do (in terms of using content and skills, etc.)?
2. Identify the goal(s) of the clicker question.
3. Choose type of question to use.

(Ref.: The University of British Columbia, 2008. Clicker Resource Guide)

