

Examples:

RPL METHODOLOGY IN ASK for BEST PRACTICE – Guri Kunna Upper Secondary School

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RPL METHODOLOGY IN ASK for BEST PRACTICE:

Industry Pathways have this definition of the term, RPL:

“Recognition of Prior Learning (RPL) means an assessment process that assesses an individual’s formal, nonformal and informal learning to determine the extent to which that individual has achieved the required learning outcomes, competency outcomes, or standards for entry to, and/or partial or total completion of a VET qualification”.

Prior learning can be recognised through various ‘formative assessment’ processes, in order to provide the learner guidance regarding any gaps in their knowledge and understanding. This allows them to target their studies, thereby improving their focus and the time efficiency of their studying as they prepare for summative (final) assessment within their NQ.

Through the ASK for BEST PRACTICE project a practical approach to the concept has been implemented. Two RPL methods have been developed / further developed connected to vocational training in aquaculture and the use of interactive student response systems; Pre-testing methodology using web quiz tools and the use of word cloud tools to generate subject-specific keywords promoting interaction and discussions among aquaculture course participants. You also get a significant element of peer learning through this practical RPL process. The methodology will thus be useful for both teacher and course participant. There are many such web tools available, and the methodology works regardless of which tool producer that is chosen.

PRE-TESTING METHODOLOGY:

Pre-testing upfront of a course program or a single session aims to, through course participants responses to a test, provide teachers with a quick overview of the course participants level of previous knowledge in a special subject program or a sub-theme of the program. The teachers may then set up their plan for teaching in the same subject in relation to this. In this way, teachers may spend less lecture time on areas within the subject that the participant group already has good knowledge of and rather pay more attention to areas where the knowledge is weaker. In this way, teaching sessions is made more time efficient.

There is also our experience that such pre-tests should not contain too many questions. Then the participants are less likely to respond to the pre-test. Maximum around twenty questions for pre-test upfront of a course program and no more than ten questions upfront of a single session are our experience. This may sound as to few questions, but this can be solved by making the quizzes more intricate in terms of few questions and alternative answers. For some questions, several answer alternatives (maybe even all) may be considered as correct. The fact that some course participants then fail to answer one or several correct alternatives may provide the teacher with valuable information about the level of knowledge for setting up a lecture for the specific subject or subtheme.

Among the course participants from the industry, it may be enough for the teachers to know if the participants have completed special courses that are common in the aquaculture industry, for instance a fish health course that are quite common in the industry. The pre-test that is run before the subject program itself may then contain “yes”, “no” or “do not know” questions. These are questions that it obviously not contains a correct answer. This is more of

a self-assessment from the course participants, but are still useful for the teacher to know before he determines a course syllabus.

WORD CLOUD METHODOLOGY:

The word cloud methodology is about challenging the course participants to "deliver" keywords or key sentences for solving a task or a specific problem using their smartphones and promoting interaction and discussions in the process. This can be done on several levels of thoroughness. In the simplest sense, you can only generate a simple word cloud for a simple question. At the other end of the thoroughness scale, we have used this methodology to analyse old exam assignments to help the course participants solving the exam. An typical exam assignment for aquaculture VET in Norway is usually about solving a case.

You start the RPL process by analyzing a key phrase in the problem using a word cloud. This can, when all course participants answer, trigger very many keywords in the word cloud and all the words are of course not equally relevant to solve the problem. You can then divide the course participants into groups where the first word cloud can be discussed to extract the most relevant keywords so that a more accurate word cloud is created. The teacher finally summarizes the results and explains what is most relevant and what is less relevant. This process is repeated until you are satisfied with the result.

The methodology with word cloud has been well received by our course participants and they express that these is a useful process for them. It would be very time-consuming to alternatively ask each individual course participant in plenary for such keywords. Usually, it is also the case that it will easily be the same few course participants who answers every time. By using this methodology, you get answers from all course participants, including those who are often too shy to answer in plenary.

The course participants say that these word clouds actually serve as a disposition for solving exam assignments.

SUMMARY AND CONCLUSIONS:

While the pre-test methodology is perhaps most beneficial to the teachers, the word cloud methodology is perhaps most beneficial to the course participants.

In the Norwegian ordinary VET education for young students in Upper Secondary Schools, the program subjects for aquaculture amount to five to six hundred hours of lectures in classrooms over two school years. However, in the upskilling courses that we deliver to employees in the industry and others who want to obtain a national qualification certificate in aquaculture, participants must learn the same subjects during about sixty hours of lectures in classrooms or on Teams. This of course means that we must constantly develop and look for new and more effective teaching methods. The pre-test and word cloud methodology developed and piloted through the ASK for BEST PRACTICE project has proven to be useful in relation to this.

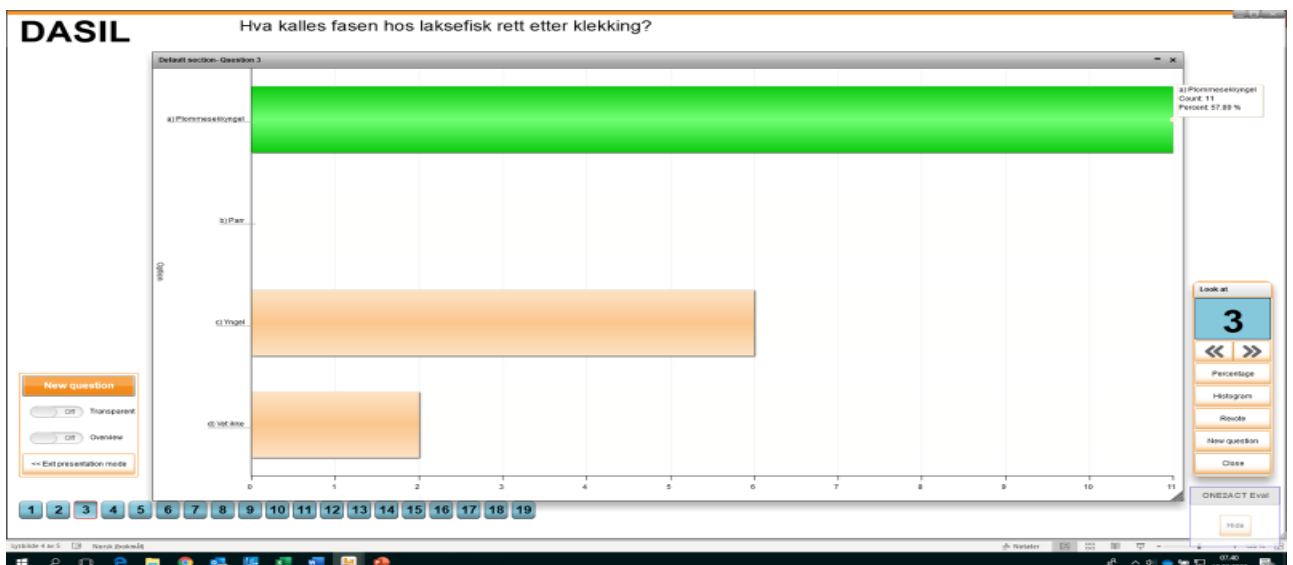
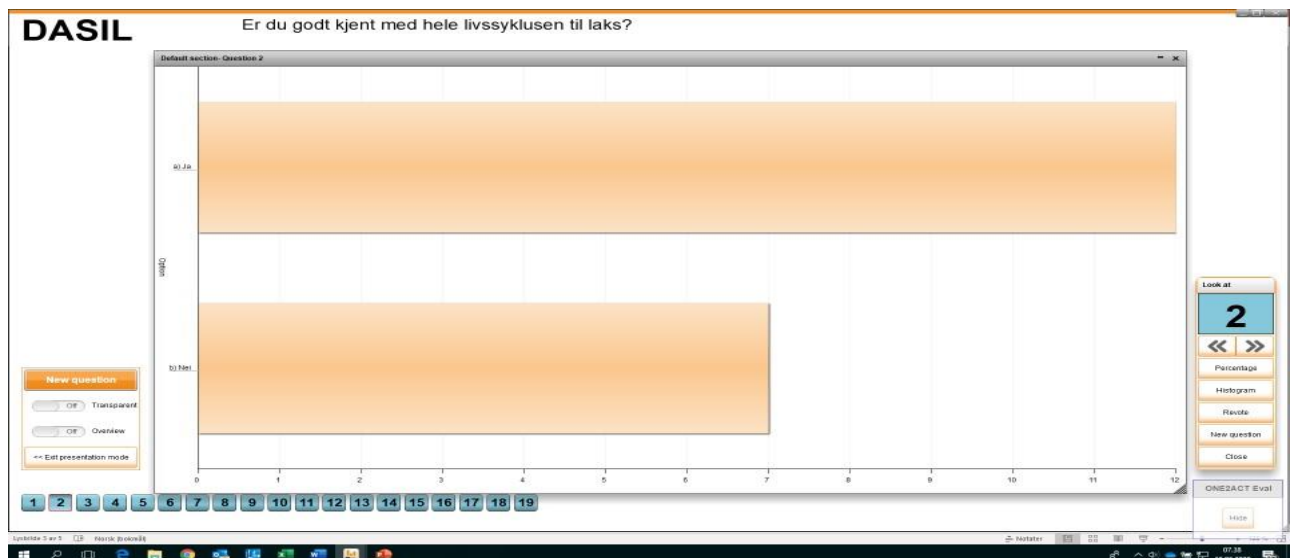
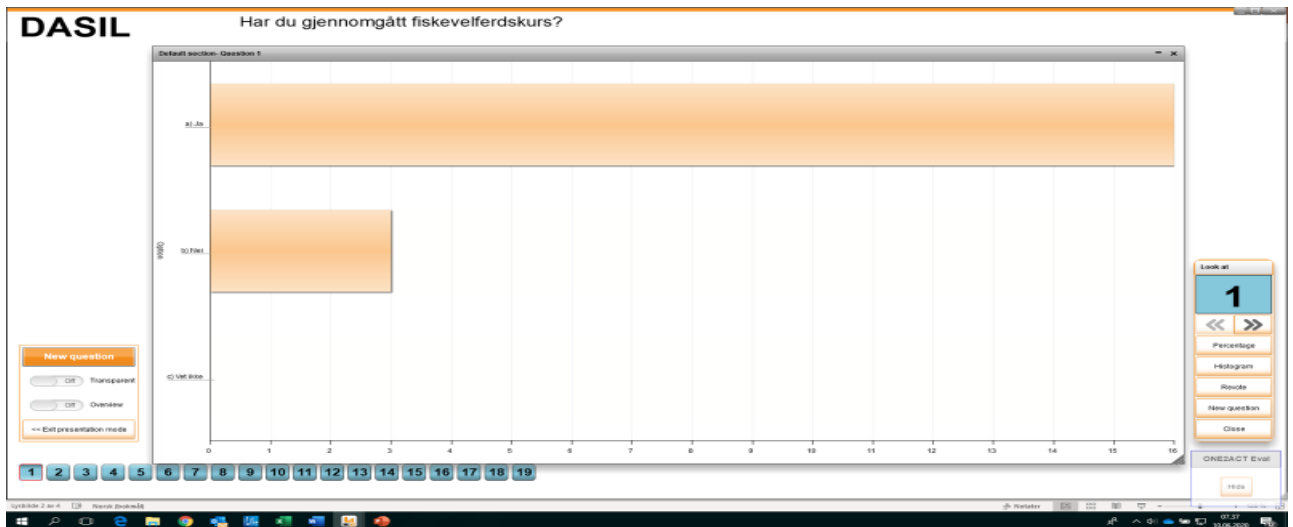
In the courses at Guri Kunna Upper Secondary School, two different applications have been piloted; **One2act** and **Mentimeter**. Both applications have their advantages and disadvantages. One2act is more of a prototype developed at Sør-Trøndelag University College (now NTNU) and may have a slightly "unfinished" design and interface. Mentimeter is a commercially developed application and the results from quizzes and word clouds probably

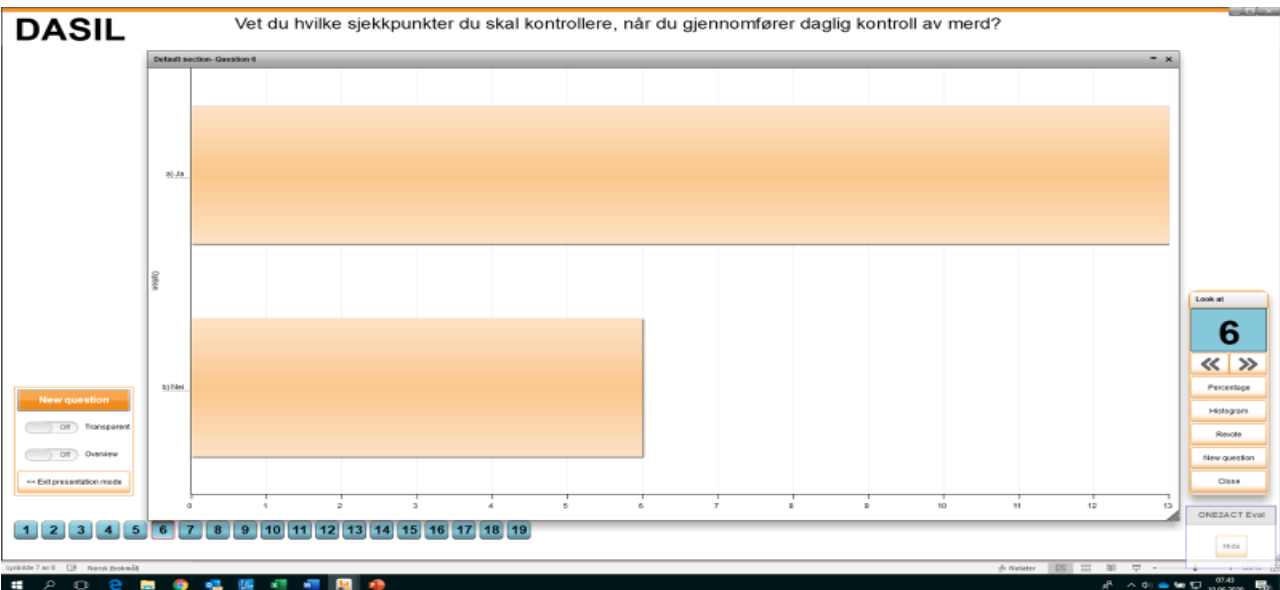
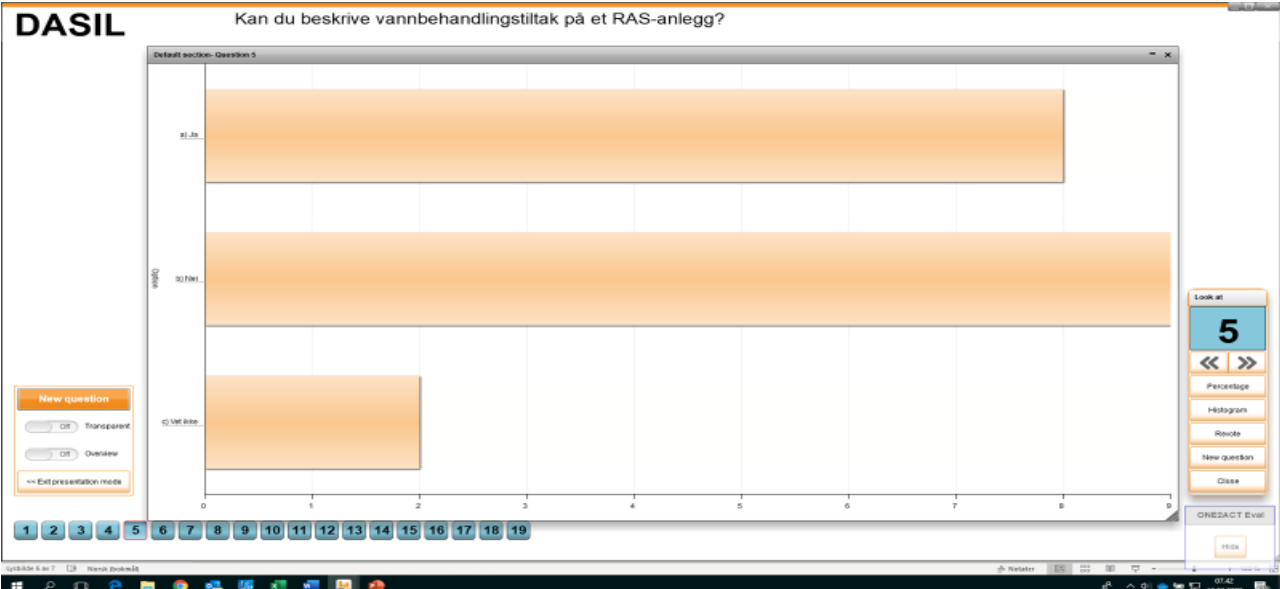
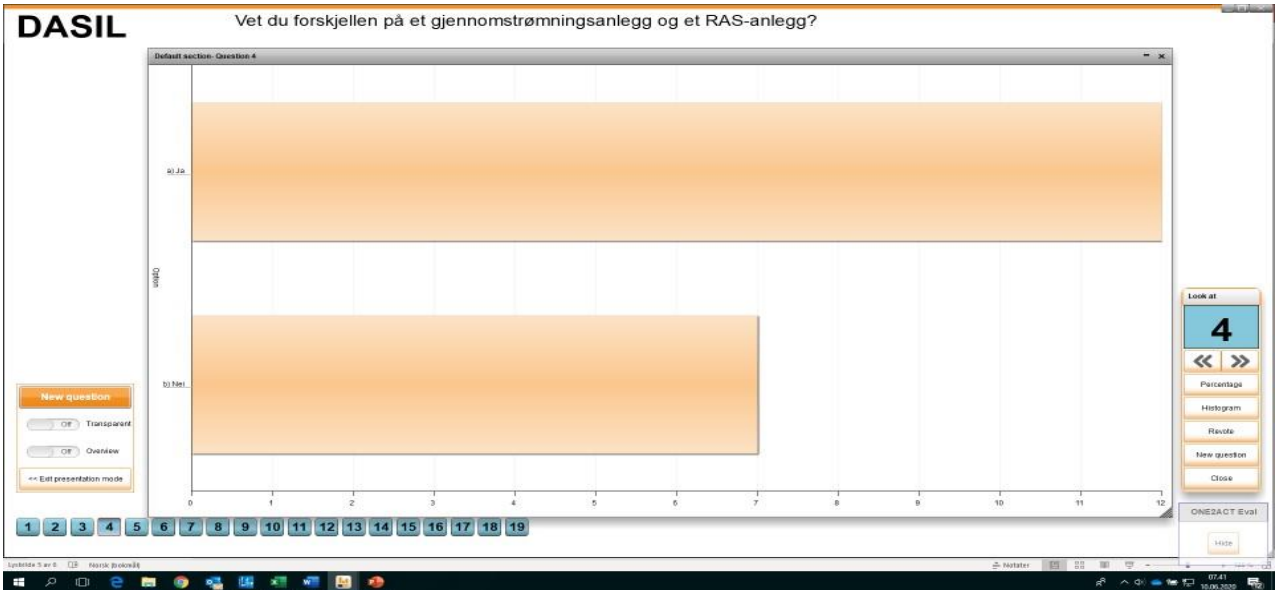
look better on the screen. Nevertheless, One2act contains opportunities for the teacher to be more spontaneous with regard to quizzes and word clouds throughout the lecture when, for example, a good question from a participant / student gives a spontaneous opportunity to follow up with a quiz or a word cloud. With Mentimeter, you then must enter the question in to the application before you can run a quiz or a word cloud. With One2act you don't need to do this. To enter the question in to the application takes some time and the teacher then risks losing the attention of the course participants during the time he is busy writing the question.

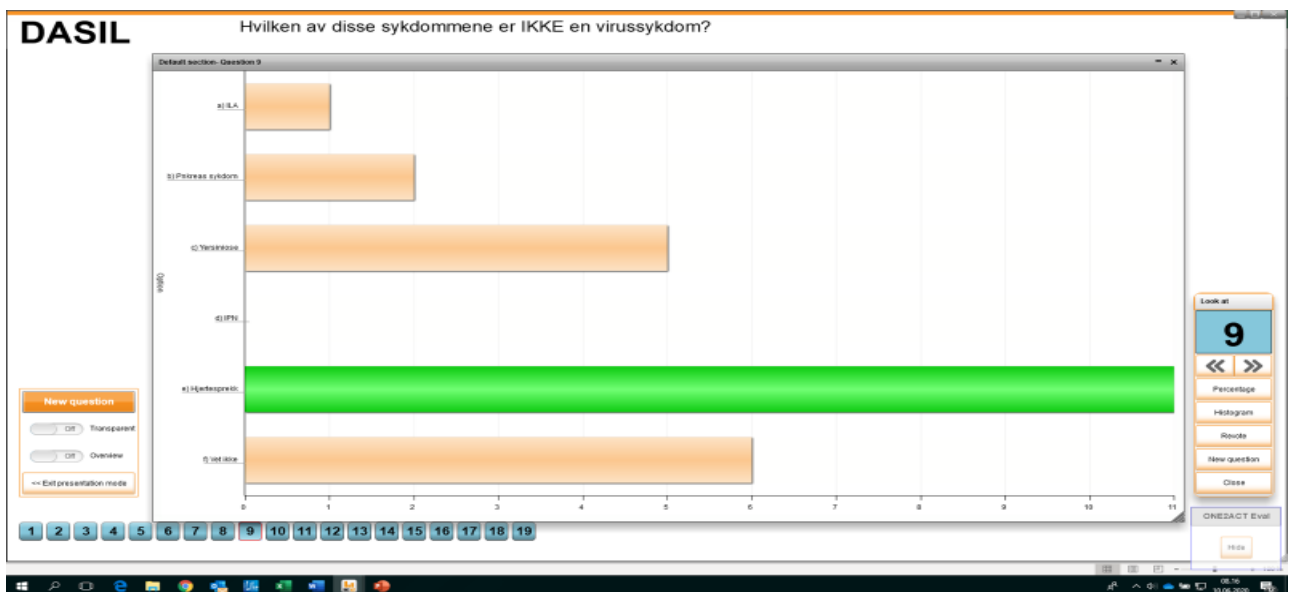
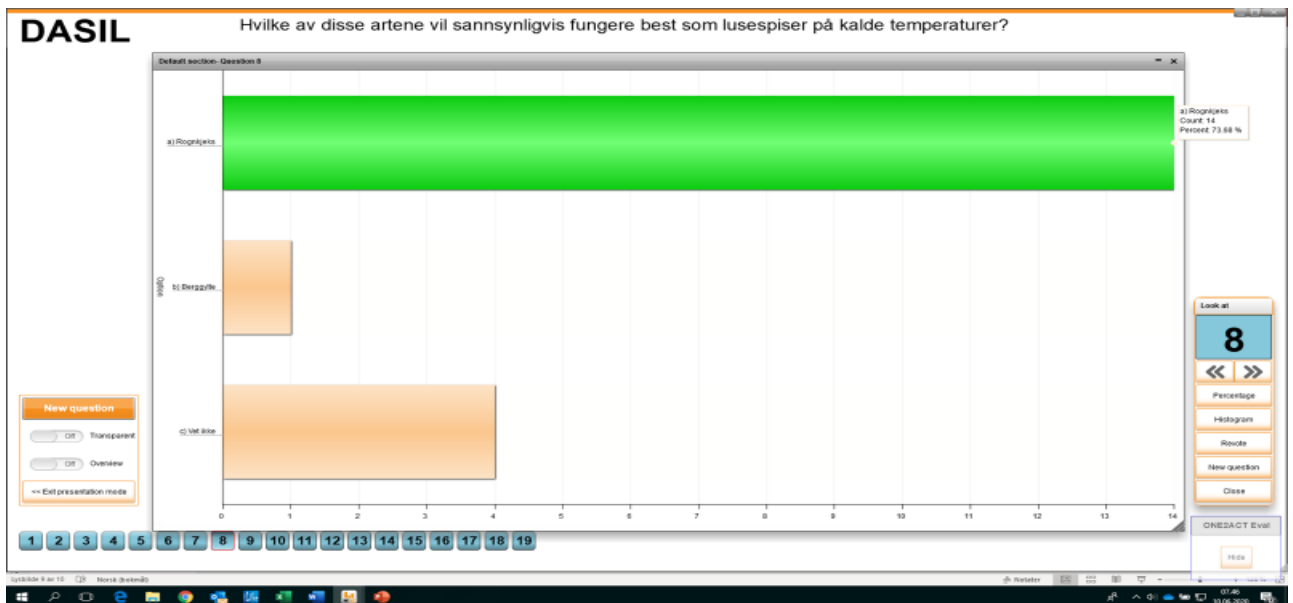
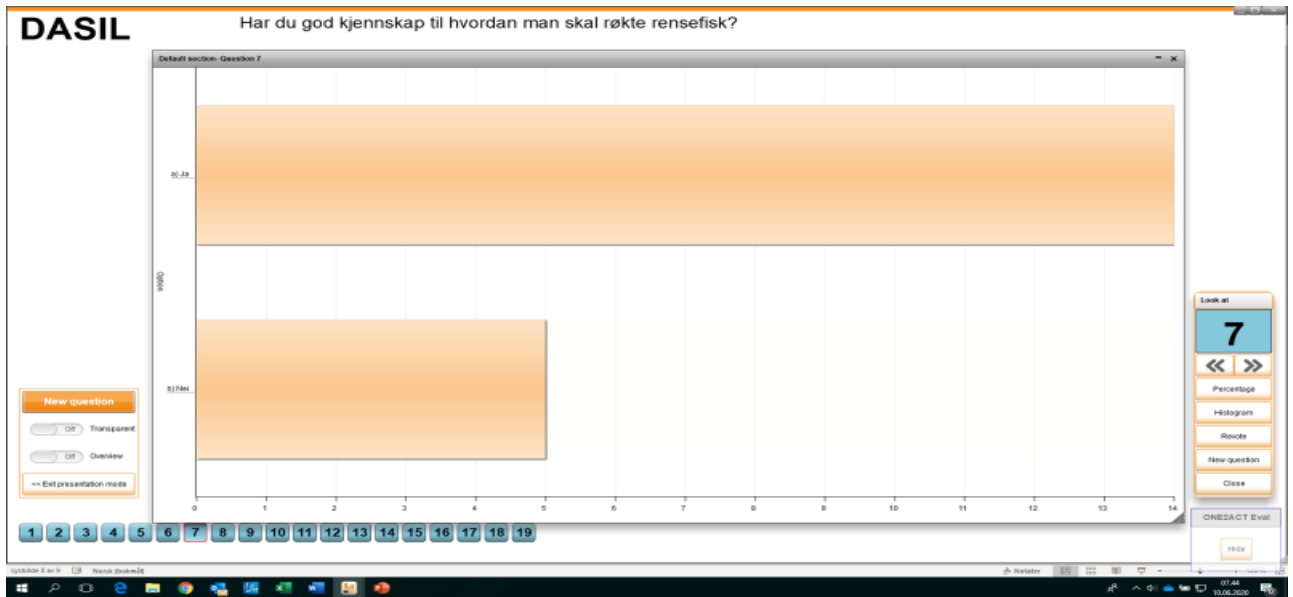
This possibilities for spontaneity in One2act are something we actually not have seen in any other such applications. We would wish for a form of hybrid between the two applications where we have received a fully developed application with finished design and interface, and with functionality from both applications.

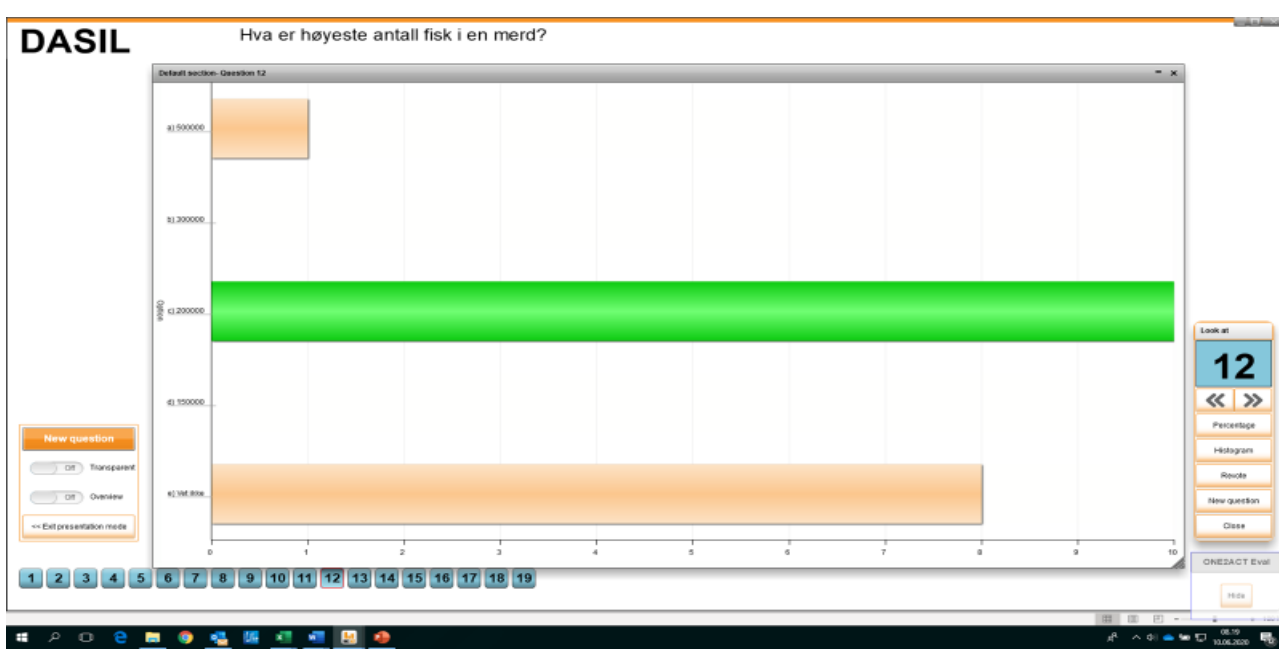
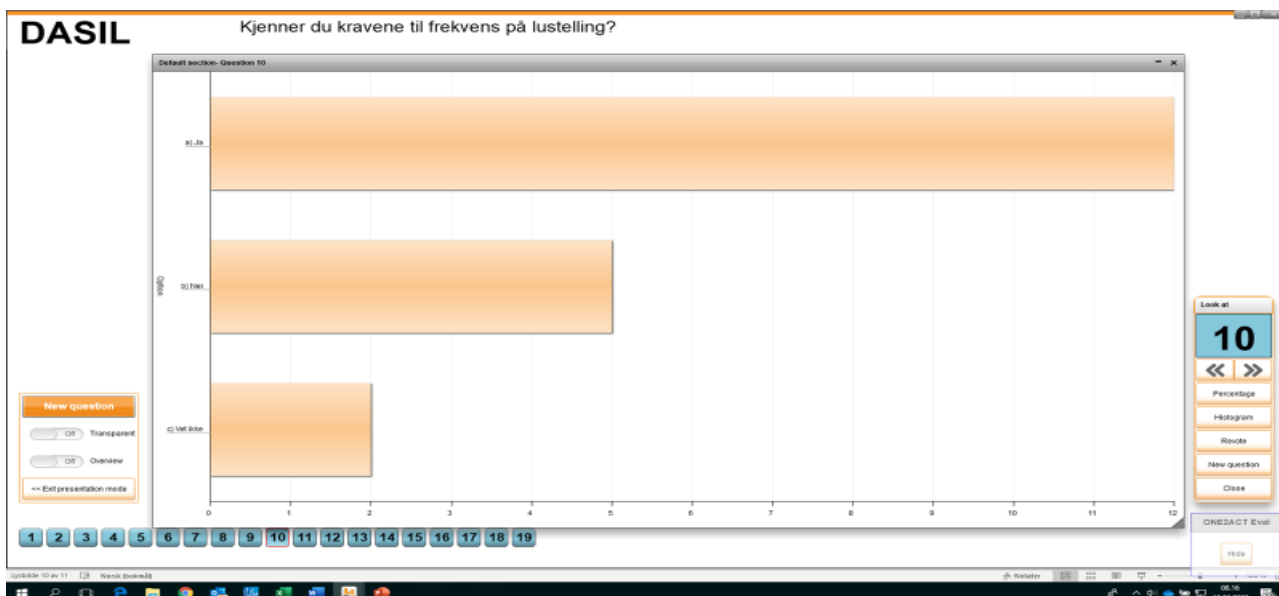
ASK for BEST PRACTICE, PRE-TEST EXAMPLES:

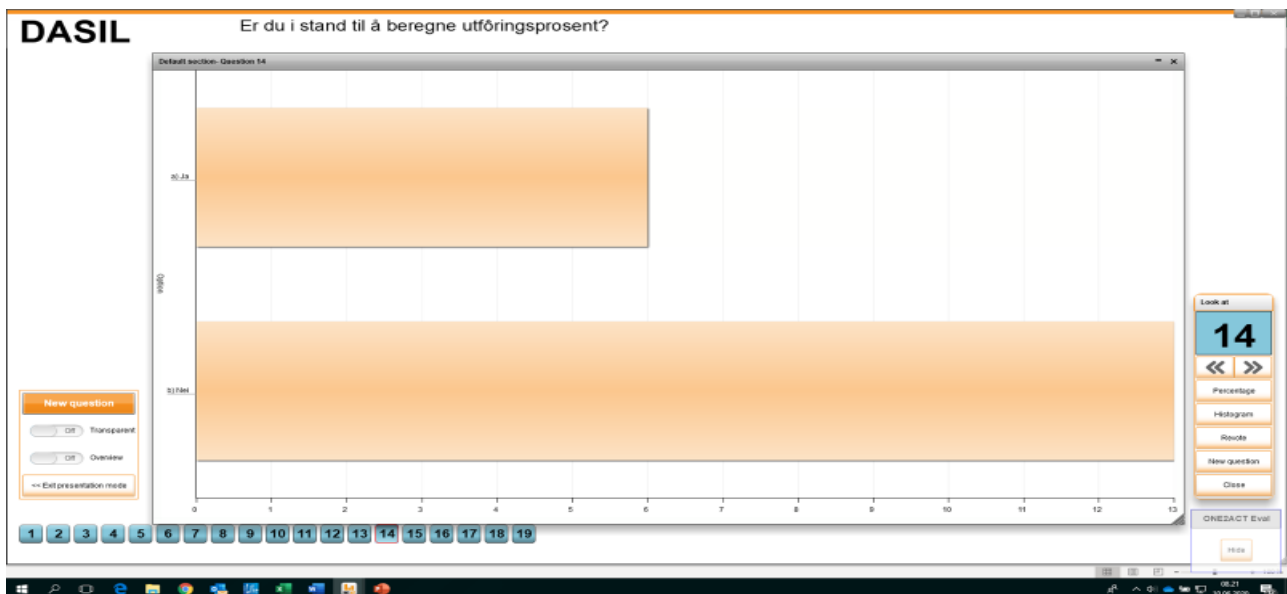
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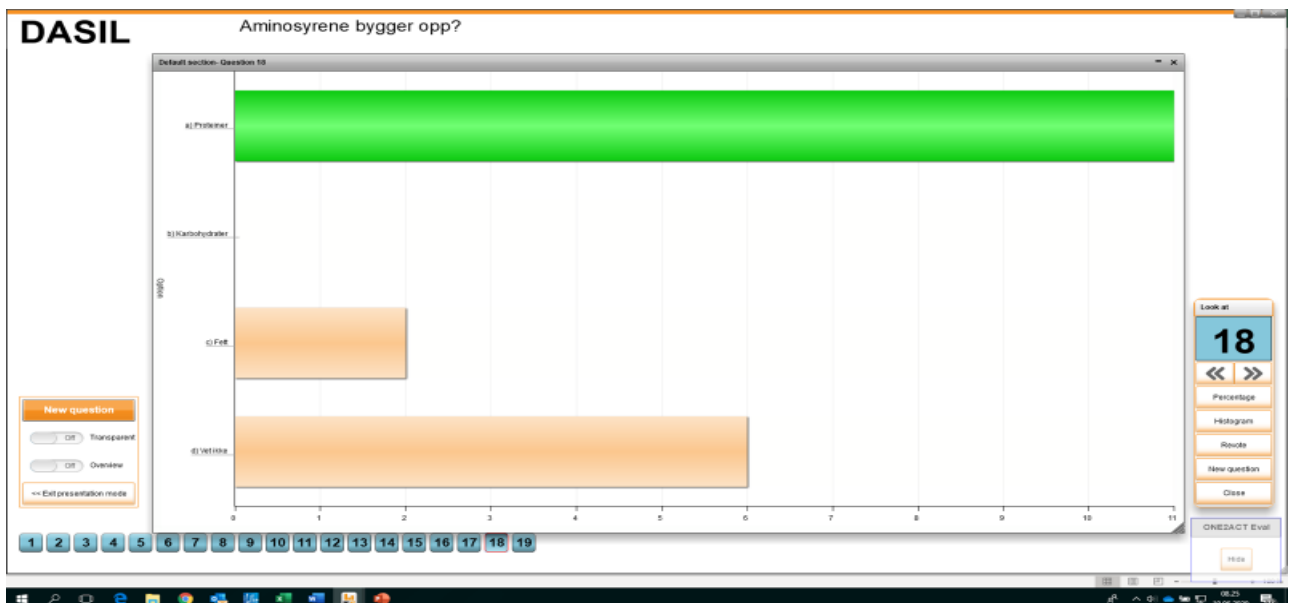
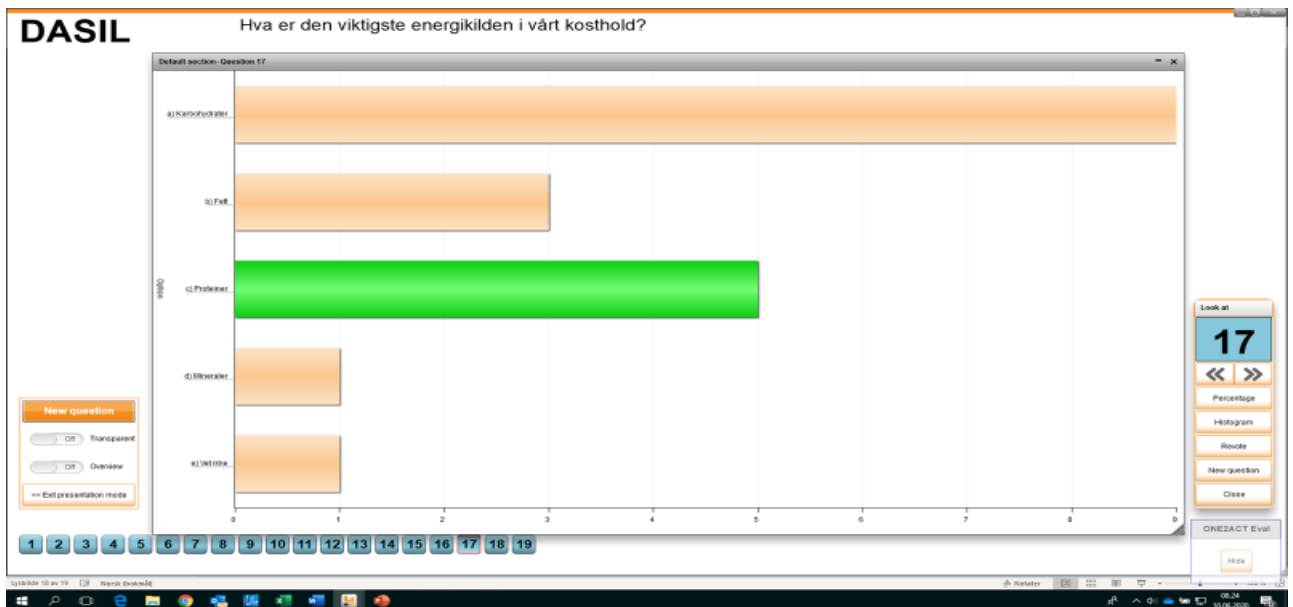
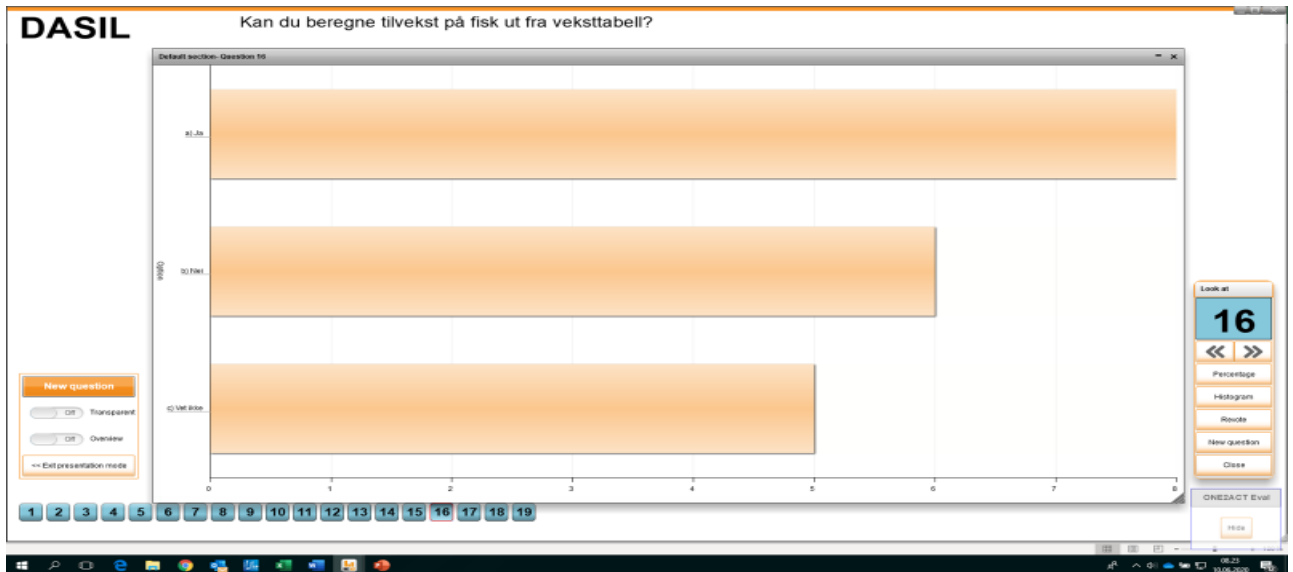












DASIL Hva er funksjonen til gjellene på en fisk?

Default section- Question 19

a) Å opprettholde den osmotiske balansen ved å utskille klorid

b) Å skille ut karbondioksid

c) Å absorbere mikronæringsstoffer

d) Å oppta oksygen fra vannet ved diffusjon

e) Opptak av oksygen fra vannet ved osmose

f) Å skille ut ammoniakk

Look at: 19

Percentage

Histogram

Revs

New question

Close

ONEZACT Eval

Hide

Session - Water treatment an water transport:

LASED Når vann blir varmere, hva skjer med evnen til å holde på oksygen?

Default section- Question 1

a) Den øker

b) Den forblir den samme

c) Den reduseres

d) Det blir

Look at: 1

Percentage

Histogram

Revs

New question

Close

ONEZACT Eval

Hide

LASED Hvilke av de følgende nitrogenforbindelsene er giftige? (Velg alle alternativer du mener er riktig)

Default section- Question 2

a) Ammoniak (NH_3)

b) Proteiner

c) Nitrat (NO_3)

d) Nitrit (NO_2)

e) Ammonium (NH_4^+)

f) Nitritt

Look at: 2

Percentage

Histogram

Revs

New question

Close

ONEZACT Eval

Hide

LASED Hva er salinitet?

Default section: Question 3

Option	Description	Count
a)	Konsentrasjonen av natriumklorid i vannet	5
b)	En måling av tettheten i vannet	0
c)	Konsentrasjonen av alle salter oppløst i vannet	15
d)	Konsentrasjonen av forurensende stoffer i vannet	2
e)	Surhet i vann	1
f)	Salinitet	2

Buttons: New question, Transparent, Overview, Exit presentation mode

Navigation: 1 2 3 4 5 6 7

Right Panel: Look at 3, Percentage, Histogram, Revote, New question, Close, ONEFACT Eval, Hide

LASED Hva er pH i vann en måling av? (Velg alle alternativer du mener er riktig)

Default section: Question 4

Option	Description	Count
a)	Vannets surhet	15
b)	Hvor rent vannet er	2
c)	Alkaliteten i vannet	1
d)	Konsentrasjonen av protoner (H+) i vannet	8
e)	Vannets salinitet	1

Buttons: New question, Transparent, Overview, Exit presentation mode

Navigation: 1 2 3 4 5 6 7

Right Panel: Look at 4, Percentage, Histogram, Revote, New question, Close, ONEFACT Eval, Hide

LASED Hvilken av de følgende verdiene regnes som pH-nøytral?

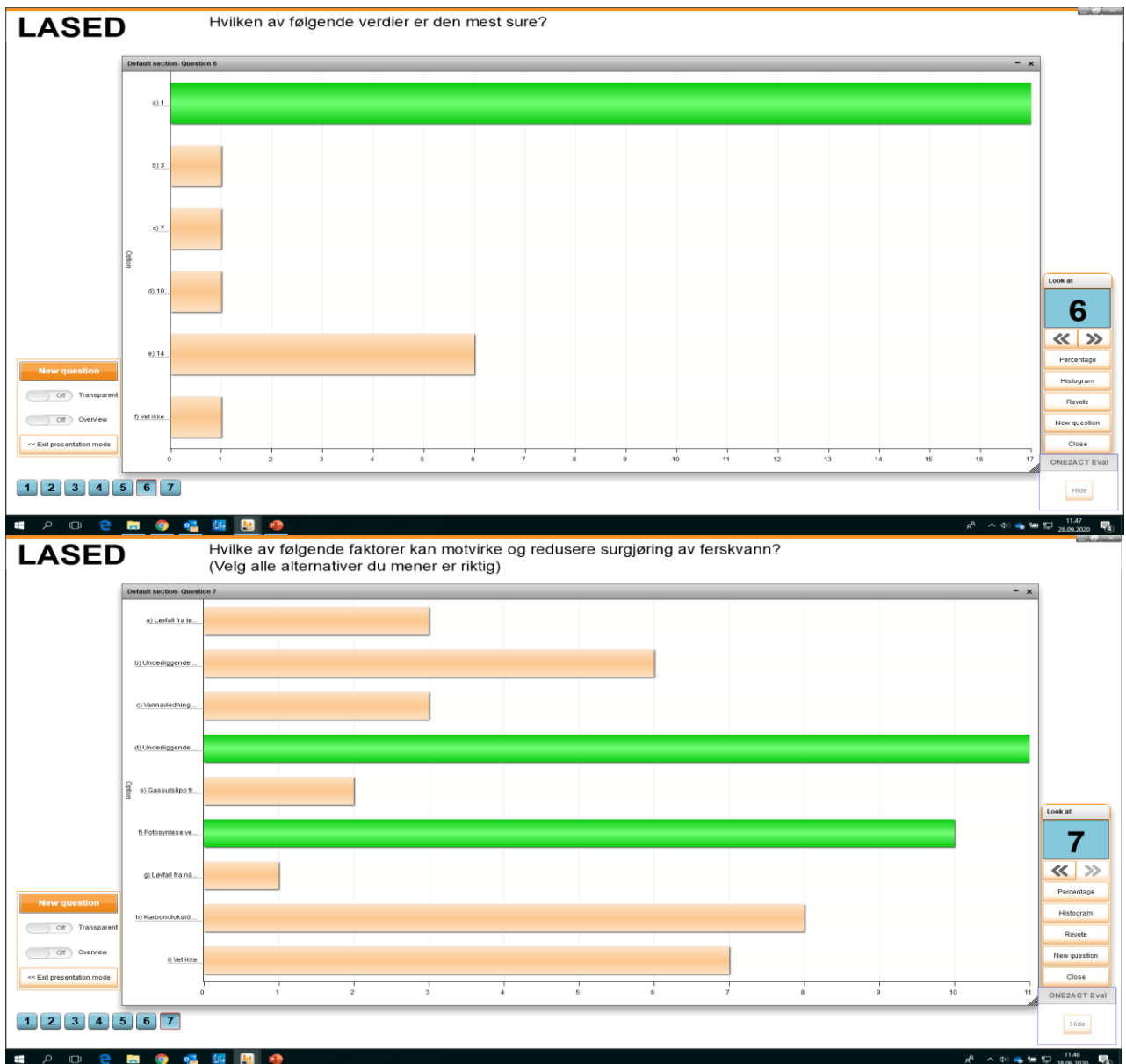
Default section: Question 5

Option	Value	Count
a)	0	1
b)	3	3
c)	7	15
d)	10	0
e)	14	0

Buttons: New question, Transparent, Overview, Exit presentation mode

Navigation: 1 2 3 4 5 6 7

Right Panel: Look at 5, Percentage, Histogram, Revote, New question, Close, ONEFACT Eval, Hide



8.



Da vi så denne besvarelsen, og at den var litt «all over the place», gjennomførte vi en runde med verktøyet, One2act – iLike, der vi fikk laget en ordsky med en påfølgende diskusjon blant kursdeltakerne. **Problemstilling: Kan du nevne et ord du forbinder med årsaker til forsurening av ferskvann?** (Dette ble gjennomført før vi viste frem besvarelsen fra Pre-testen for å etablere en felles forståelse av problemstillingen)

iLike fungerer slik at deltakerne logger seg inn i verktøyet og (anonymt) sender inn ord ved hjelp av sin mobiltelefon.

Den aktuelle ordskyen vises på neste lysbilde.

9.



ASK for BEST PRACTICE, WORD CLOUD EXAMPLES:

Session - Environmental challenges in the aquaculture industry:

1. Nevn eksempel på hva du kan redusere for å minske ditt økologiske fotavtrykk?



1

2. Hvilke miljøutfordringer som ligger i akvakulturnæringen slik dere kjenner den?



3. Hvilke miljøutfordringer er det i forhold til lakselus?



4. Hvilke miljøutfordringer er det i forhold til rømming?



5. Hvilke miljøutfordringer er det i forhold til dødelighet?



6. Hvilke miljøutfordringer er det i forhold til utslipp av organisk materiale?



7. Hvilke miljøutfordringer er det i forhold til Rensefisk?



8. Hvilke interessekonflikter møter oppdrettsnæringa?



9. Hvilke utfordringer er det i forhold til medisinbruk?



10. Hvilke interessekonflikter er knyttet til ferskvann?



Session - Processes for solving exam assignments with word cloud methodology:

Eksamen høst 2019:

Situasjonsbeskrivelse

Du arbeider som driftsoperatør på et oppdrettsanlegg. Driftslederen har gitt deg i oppdrag å planlegge og lede en arbeidsoperasjon som innebærer høy risiko for de ansatte. På anlegget er det en nyansatt som skal delta i denne operasjonen for første gang. Du har fått ansvaret for å gi den nyansatte relevant opplæring for arbeidsoperasjonen. Gjennomføringen av arbeidsoperasjonen krever god planlegging og bruk av riktig sikkerhetsutstyr.

Som ofte ellers ved arbeidsoperasjoner på et oppdrettsanlegg må du også vurdere om arbeidsoperasjonen kan omfatte andre risikomomenter, som for eksempel redusert fiskevelferd, skade på det ytre miljøet eller rømning. Underveis i operasjonen oppstår likevel en farlig situasjon som du må håndtere. I etterkant av arbeidsoperasjonen setter dere i verk forbedringstiltak for å unngå at en slik uønsket hendelse oppstår igjen. Du velger selv type anlegg, oppdrettsart og arbeidsoperasjon.

Oppgave

Ta utgangspunkt i situasjonsbeskrivelsen. Forklar arbeidsoperasjonen for den nyansatte og hvilket sikkerhetsutstyr som skal brukes. Vurder hva som kan være risikofyllt ved arbeidsoperasjonen, og hvilke forbedringstiltak som kan gjennomføres for å redusere risikoen. Begrunn valgene dine.

3. Prioriter de tre viktigste begrepene i ordskyen over for «avlusing» (sjø):

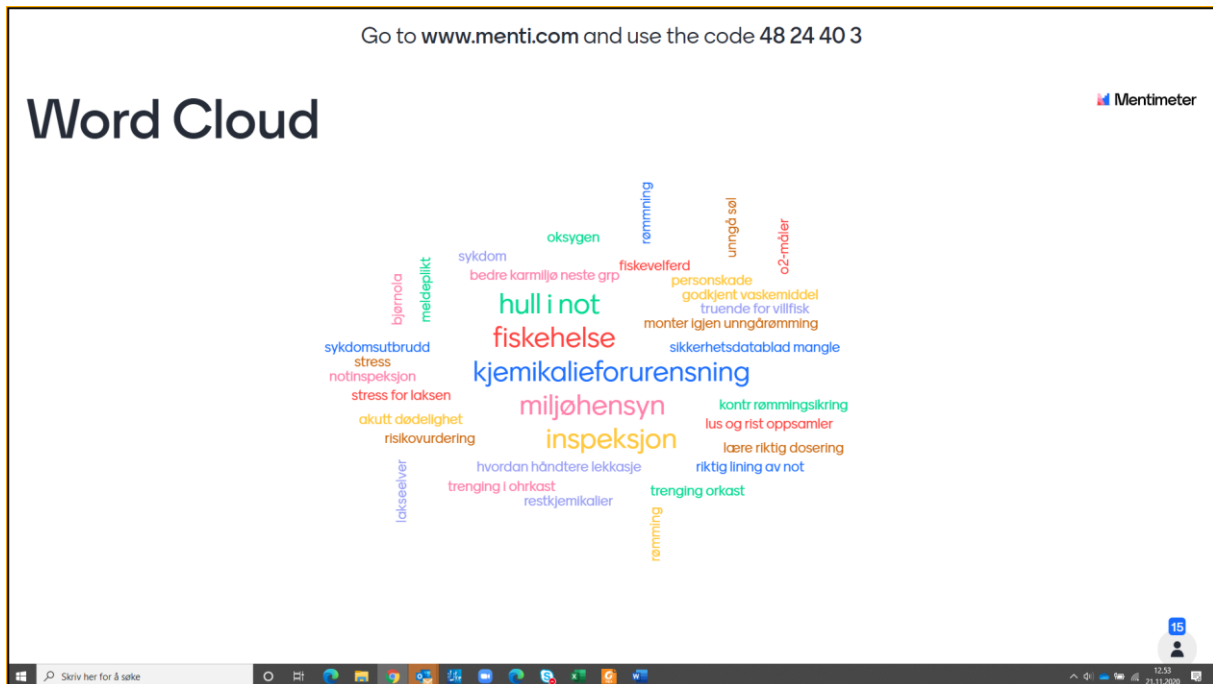


4. Prioriter de tre viktigste begrepene i ordskyen over for «vasking av kar» (land):



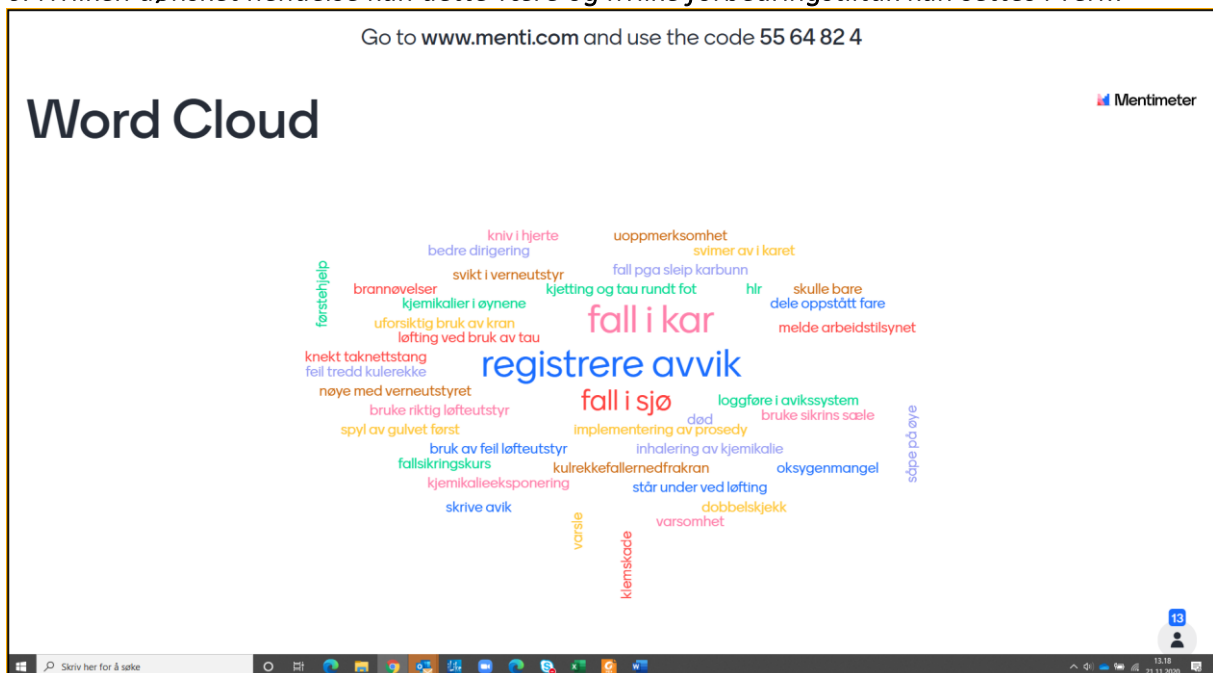
Som ofte ellers ved arbeidsoperasjoner på et oppdrettsanlegg må du også vurdere om arbeidsoperasjonen kan omfatte andre risikomomenter, som for eksempel redusert fiskevelferd, skade på det ytre miljøet eller rømning.

5. Hva vil være viktige momenter her?



Underveis i operasjonen oppstår likevel en farlig situasjon som du må håndtere. I etterkant av arbeidsoperasjonen setter dere i verk forbedringstiltak for å unngå at en slik uønsket hendelse oppstår igjen.

6. Hvilken uønsket hendelse kan dette være og hvilke forbedringstiltak kan settes i verk?



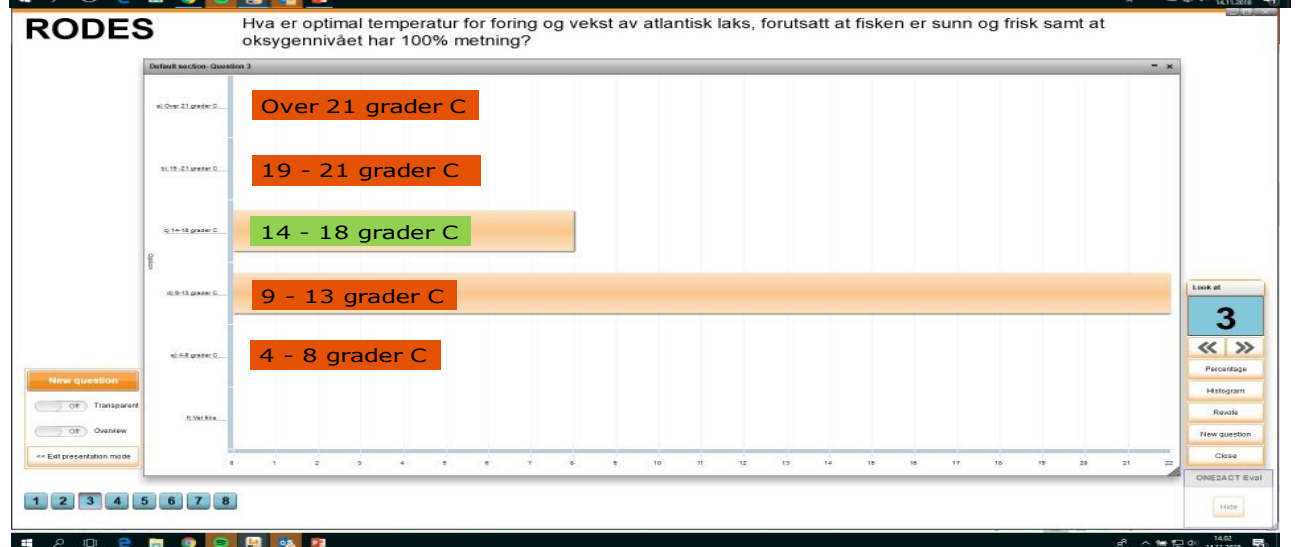
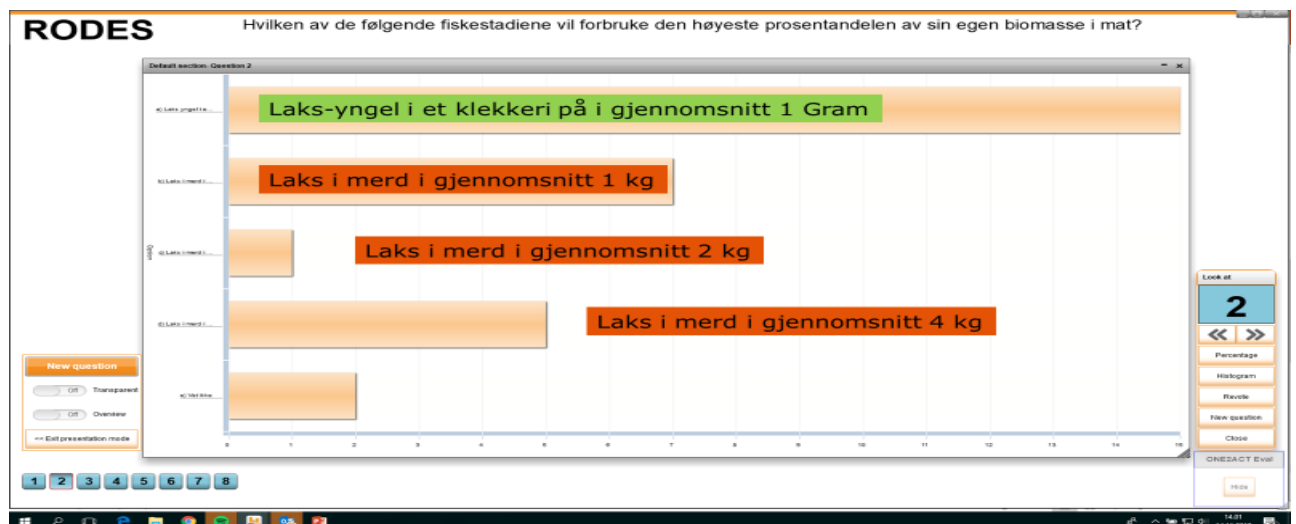
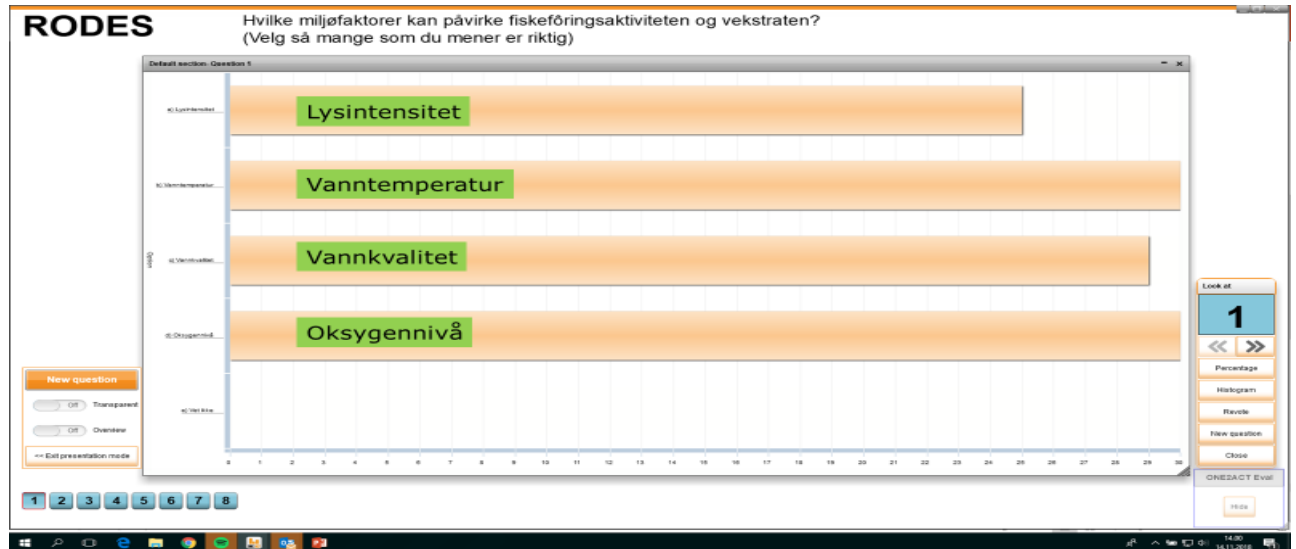
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Appendix

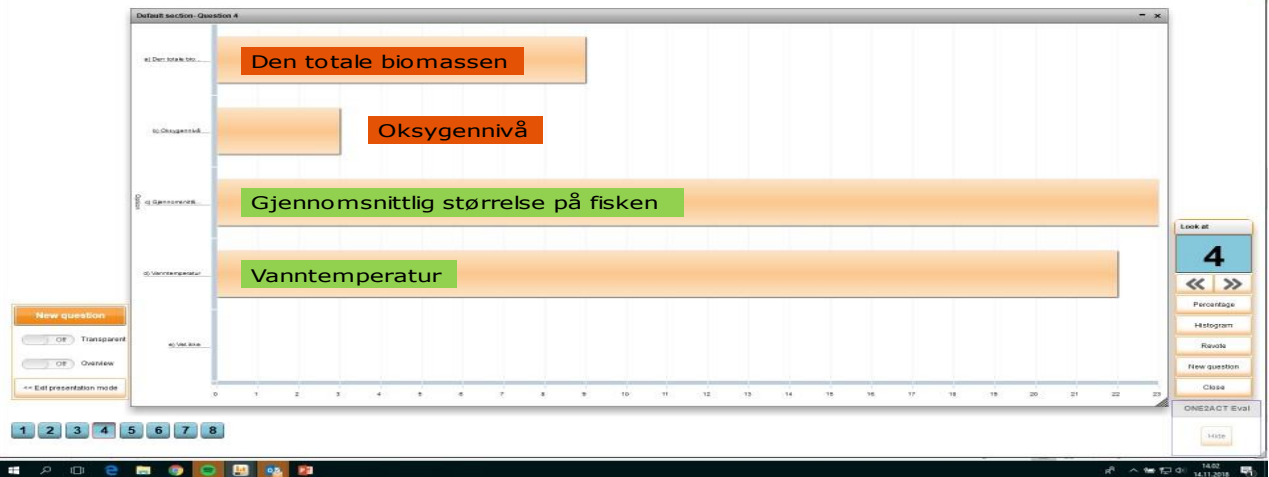
Unsorted RPL results:

Session - Nutrition and Growth:



RODES

Hvilke to faktorer nedenfor bestemmer vekstraten for forproduzentenes foringstabeller?



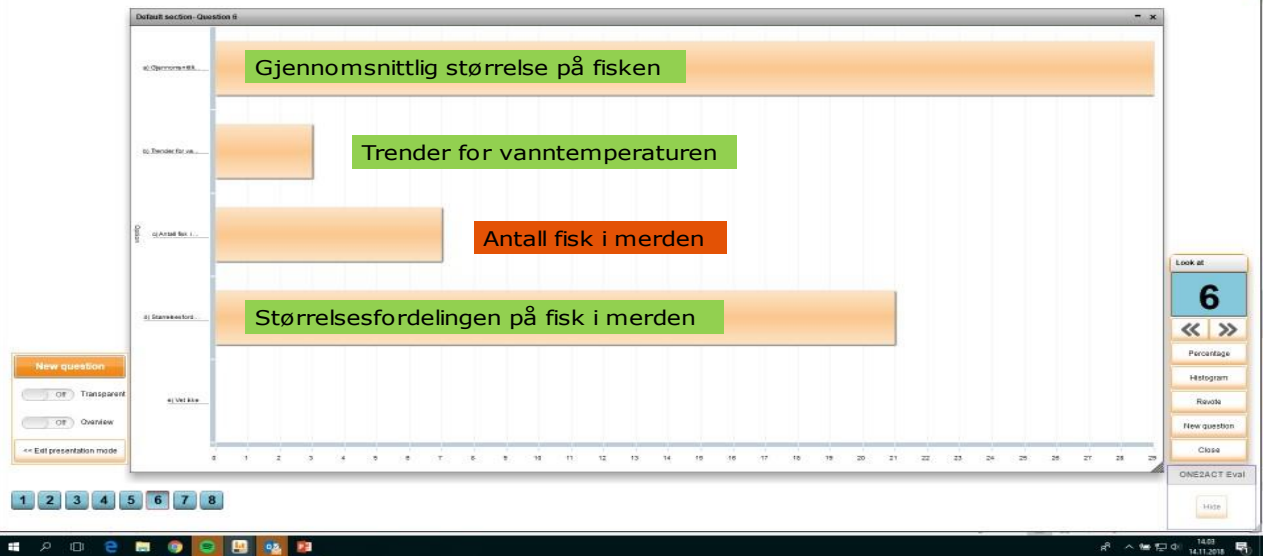
RODES

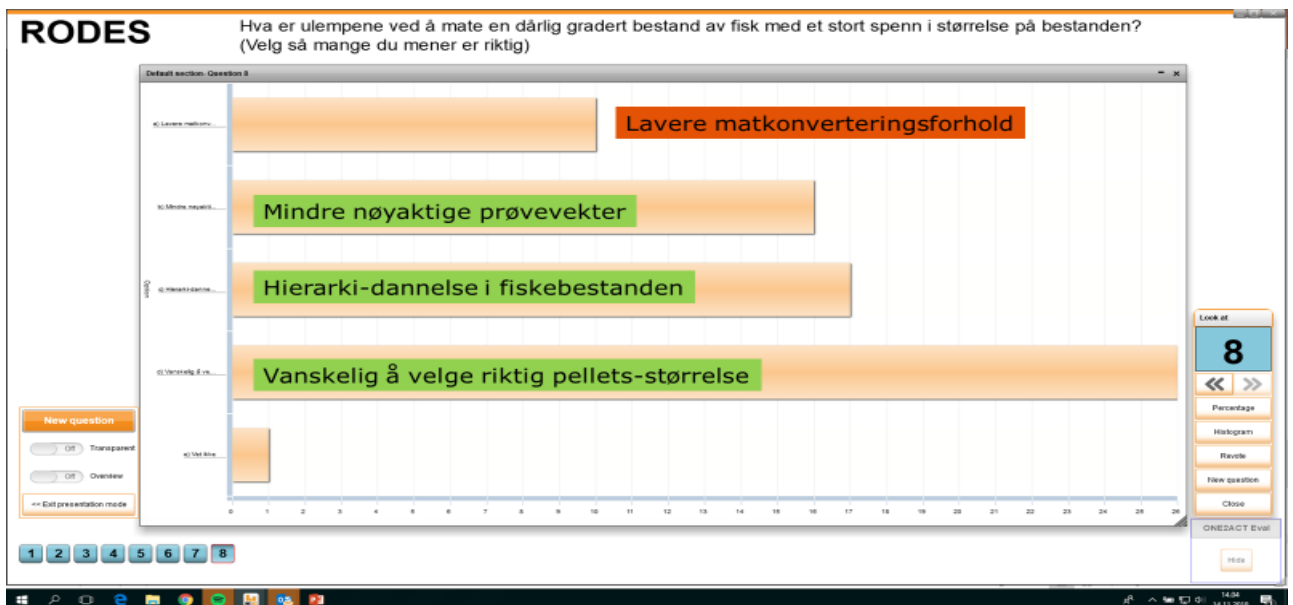
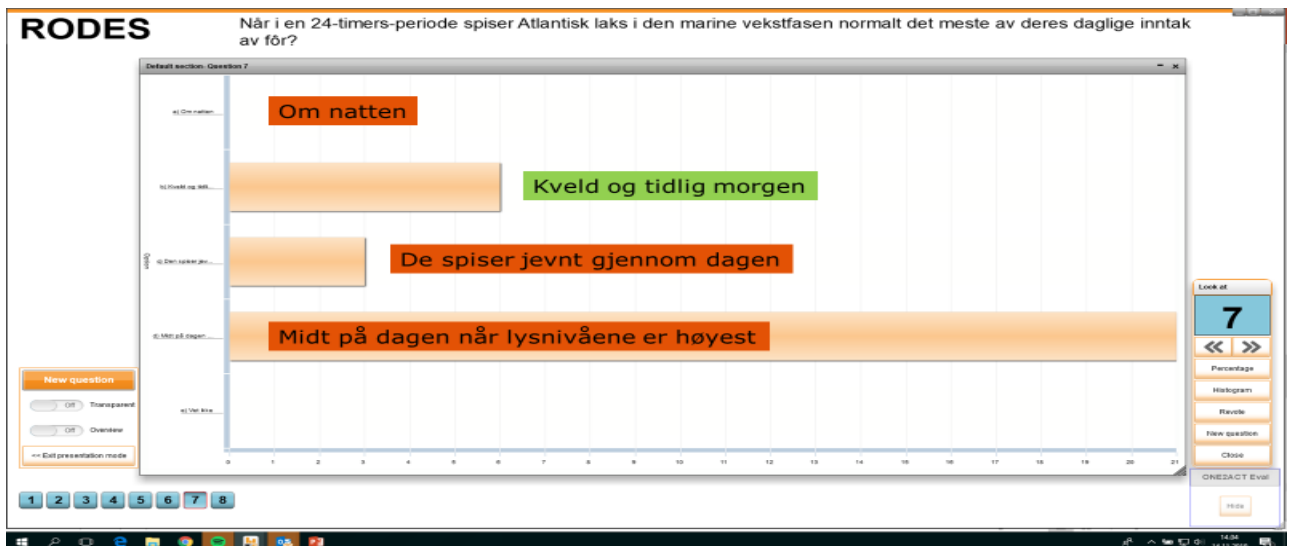
Hvilken informasjon trenger du for å utarbeide en daglig plan for foring av fisk? (Velg så mange som du mener er riktig)



RODES

Hva må du vite for å øke størrelsen på pellets for en populasjon av oppdrettsfisk? (Velg så mange som du mener er riktig)





Session – Current regulation for aquaculture industry.

1.



Session – Exam training.

Eksamen vår 2012

Situasjonsbeskrivelse

Du er ansatt i et selskap som produserer laks. Selskapet har et moderne settefiskanlegg og flere lokaliteter for matfiskproduksjon. Selskapet ønsker å utnytte kapasiteten i settefiskanlegget og ha slakteklar fisk i matfiskanleggene i store deler av året. Det er derfor valgt en produksjon som gir mulighet til smoltutsett både vår, sommer og høst. I forbindelse med at dere skal få besøk av en gruppe studenter, blir du bedt om å lage en oversikt over produksjonssyklusen til fisken i anleggene. Studentene har også bedt om å få en grundig beskrivelse av disse temaene:

- utfordringer med smoltifisering og smoltkontroll
- bruk av lys for å styre produksjonen i både settefiskanlegget og matfiskanleggene
- utfordringer med fôr og fôring i matfiskanleggene

Oppgave

Gjennomfør arbeidsopdraget.

1.

Go to www.menti.com and use the code 65 27 17 2

Mentimeter

Hva er viktig for å beskrive livssyklusen for laks?

The word cloud contains the following terms:

- plommesekeyngel
- vaksinering
- smolt
- rogn
- lekking
- lysstyring
- smoltifiseringsprosessen
- familierogn
- kjønnsmoden
- smolttest
- startfôringsklar yngel
- parrr
- utsett
- temperatur
- generikk
- øverogn
- smoltkontroll
- foring
- genetikk
- vanntemperatur
- vannkvalitet
- befruktningstest
- stort spørsmålstepn
- leeds tape imårra
- modningsortering
- stamfisk
- produksjonsplan
- innkjøring stamfisk
- startfôringsklar yngel
- startfôringsklar
- stryking
- dverghann
- startfôring
- øverogn
- rognsortering
- roking rogn
- øverogn
- øverogn
- øverogn
- øverogn
- øverogn

14

2.



3.

