

OPPSKALERING AV WORKSHOPS PÅ BEST PRAKSIS AV DATA SCIENCE OG FORSKNINGS PROGRAMVAREUTVIKLING - HVORDAN KAN DE NÅ DE SOM TRENGER?

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Goals of this presentation

- **Sharing experiences on large scaled workshops**
- **Dissemination of opportunities that national universities in Nordic countries can take advantage of regarding the Carpentries and CodeRefinery**

Questions

Hvordan ble workshops kjennetegnet av mye **live-coding** med **hands-on** vellykket med oppskalering ved å beholde det så **inklusive** som fysiske workshops?

Og hvordan kan de skalere opp enda mer og nå de som trenger det?



Instructor is
live-coding



```
git branch testing
# detached files:
# Use "git add <files>..." to include in what will be committed)

git add .
git commit -m "initial commit"

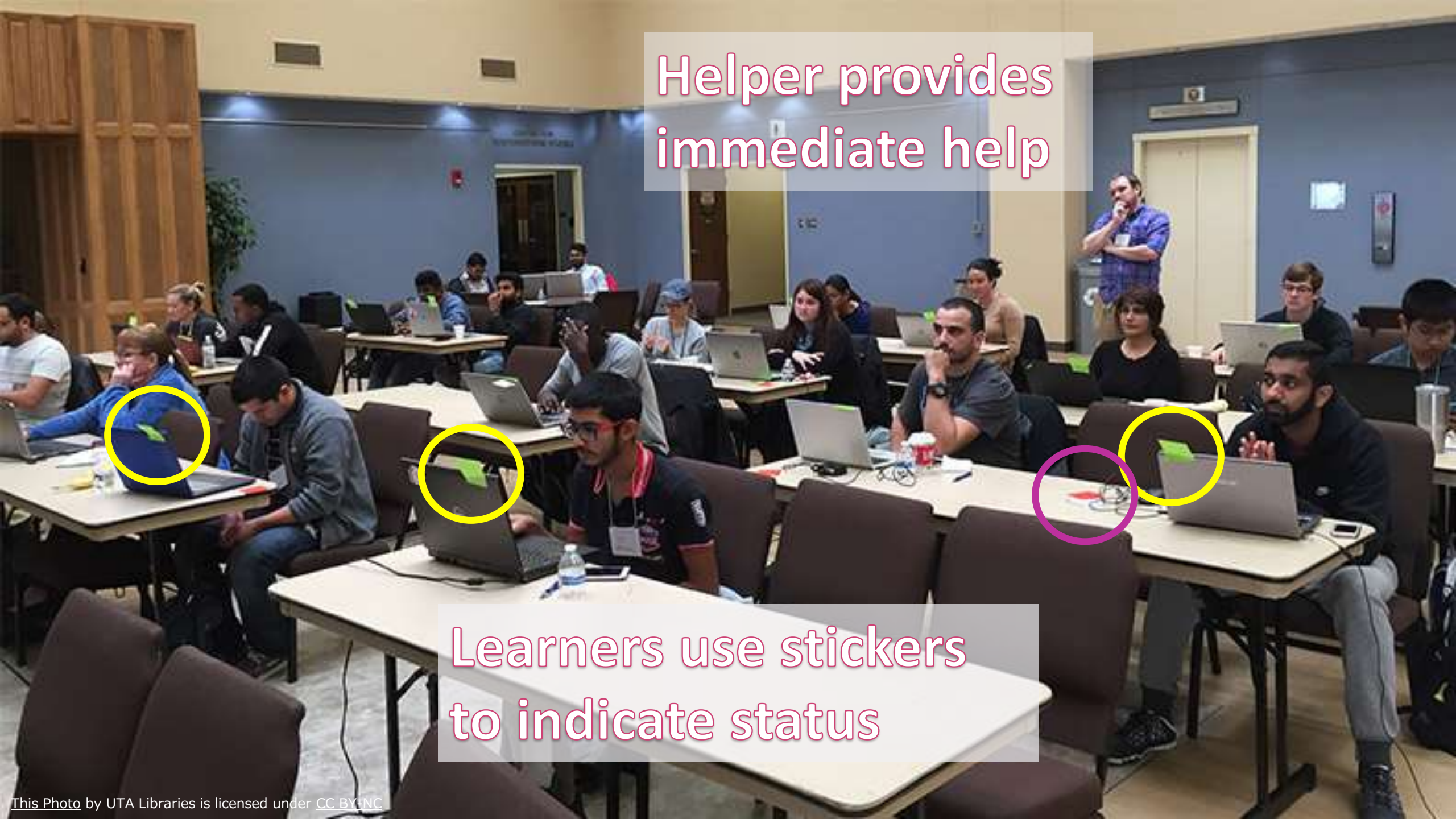
git branch testing
git checkout testing
git add .
git commit -m "initial commit on testing branch"

git checkout master
git merge testing
git push origin master

git checkout testing
git add .
git commit -m "initial commit on testing branch"
git push origin testing
```

Learners are type along

Helper provides immediate help



Learners use stickers to indicate status



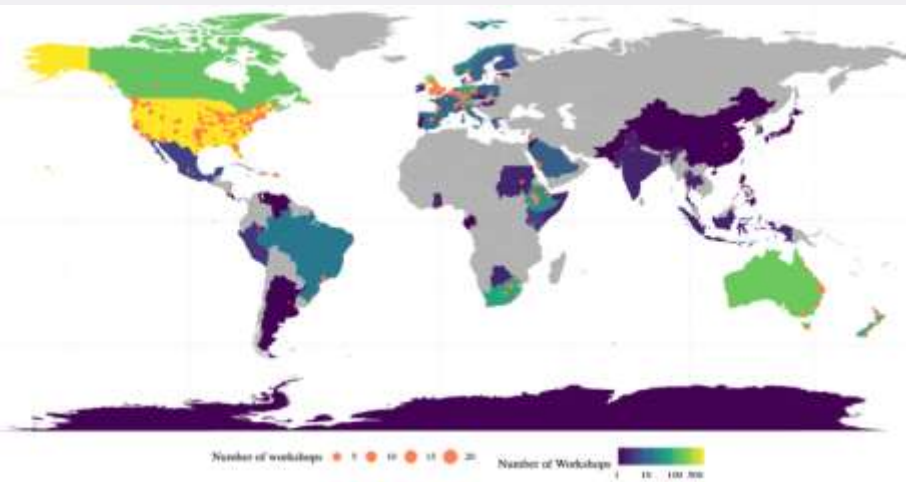
Code of conduct

- Use welcoming and inclusive language
- Be respectful of different viewpoints and experiences
- Gracefully accept constructive criticism
- Focus on what is best for the community
- Show courtesy and respect towards other community members

The Carpentries CC-BY

The Carpentries (Workshops)

- Teaching **foundational** coding and data science skills to researchers worldwide (novice)
- Global community of like-minded volunteers of different roles. (e.g. 3000+ instructors, helpers, lesson maintainers, instructor trainers, etc.)
- Centrally-Organized standard 2-day standard curriculum workshops and Self-Organized workshops with flexible choice of lessons



The Carpentries CC-BY





CodeRefinery (Workshops)

- Funded by NeIC and national infra providers
- Training to advance FAIRness of software management and development practices
- (pre-pandemic) Mainly 3-full day workshops at each training hub in Nordic countries by project staff
- As a project, a platinum member of the Carpentries providing opportunities to National univ. in Nordics

SHIFT TO ONLINE IN 2020

- Carpentries recommended small-sized workshop with around 12-15, max 20 learners.
- CodeRefinery envisioned large-sized workshop, aimed to reach >100 learners.
 - 3 big online CodeRefinery workshops (May-June, October, and November 2020)
 - Up to around 100 participants (helpers and learners)
 - Piloting diverse cross-organizational workshops
 - Upcoming workshop in May: 200+ sign ups



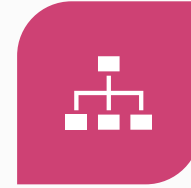
LECTURES & CODE-
ALONG EXERCISES
IN THE MAIN ROOM



COLLABORATIVE
NOTE FOR
IMMEDIATE Q&A



GET HELP AND DO
GROUP EXERCISES
IN A BREAKOUT
ROOM



HIERARCHICAL
STRUCTURE AND
HELPER TRAINING



"BRING YOUR OWN
BREAKOUT ROOM"



STREAMING AND
VIDEO ARCHIVE

How CodeRefinery workshops scaled up



Lectures & code-along exercises in the main room

- Short lectures to explain a concept
- Demonstrate the concept on a very short example (and often repeat explanation)
- Frequent check-in: understanding and speed
- Flexible choice of code-along or demonstration

Collaborative note for immediate Q&A

- HackMD/CodiMD – quite robust for 50-100 active editors, allowing instant pasting screenshots
- Interactive Q&A during the main room session
- Safer way to ask questions anonymously
- Index where we are right now, links to lessons
- Archived note for reviewing



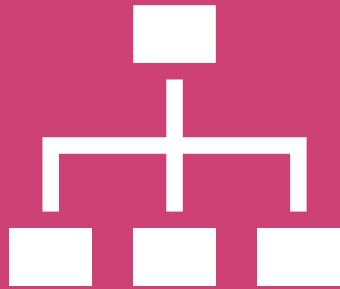
Get help and do group exercises in a breakout room

- Exercises to try concepts previously taught to check understanding
- Pre-defined and fixed breakout rooms with 3 to 10 people in each
- Interactive learning process
- Post-session debriefing or continuation on exercise on each day



Hierarchical structure and helper training

- Helpers
 - They don't have to know "everything"
 - Helper onboarding in advance (Code of Conduct)
 - They can call in other helpers
- Expert helpers
 - They support helpers on demand
 - They cycle between breakout rooms





“Bring your own breakout room”

- Learners could register as a team (3-10 persons) with their own helper(s)
- The team worked together in a same breakout room
- The helpers were very often someone who already attended a CodeRefinery in-person workshop, or someone in charge of technical support for the team



Streaming and video archive

- Twitch platform for streaming (from Zoom streaming or OBS)
- Affording learners who wanted to be rather viewers than active doers
- Online collaborative note and Twitch chat used for interaction with Twitch viewers
- Streamed videos automatically archived and available for 14 days



Positive outcomes of this strategy

- Open and equal opportunity to participate in the workshop regardless of location
- Engagement by more volunteer helpers and instructors leading to community building
- Team participation, team building
- Easier time management of workshops
- Effective team work leading to less workload and flexibility for project staff

Is it applicable to Carpentries workshop?

- Piloted at UiO with "Plotting and programming with Python" lesson
- 3 instructors and 10 helpers
- 12 Break-Out rooms (inc. 3 teams) with **39 learners** in total



Carpentry@UiO



Appreciation for helpers



Well organized



Knowledgeful and skillful instructors



More time on exercise

**Learners'
feedback**

A blurred background image of a woman presenting to a group of people in a meeting room. The woman is standing at the front, holding a laptop, and addressing the audience. The audience is seated at round tables, and the room has large windows in the background.

TAKE ADVANTAGE OF THE CARPENTRIES AND CODEREFINERY

The Carpentries workshops and instructor training using Platinum member benefits

- Requesting Centrally-Organized workshops without or with discount administrative fee
- Taking the Carpentries instructor training to be certified instructor
- Self-Organizing workshops with certified instructors at your institute or in collaboration with other institutes



CodeRefinery workshops

- Online workshops are open and free for all and students/staff at national universities/research institutes in Nordic countries are prioritized.
- Team registrations are always welcome and most likely accepted.



For more info

- carpentries.org
- coderefinery.org
- Take contact: naoe.tatara@ub.uio.no

