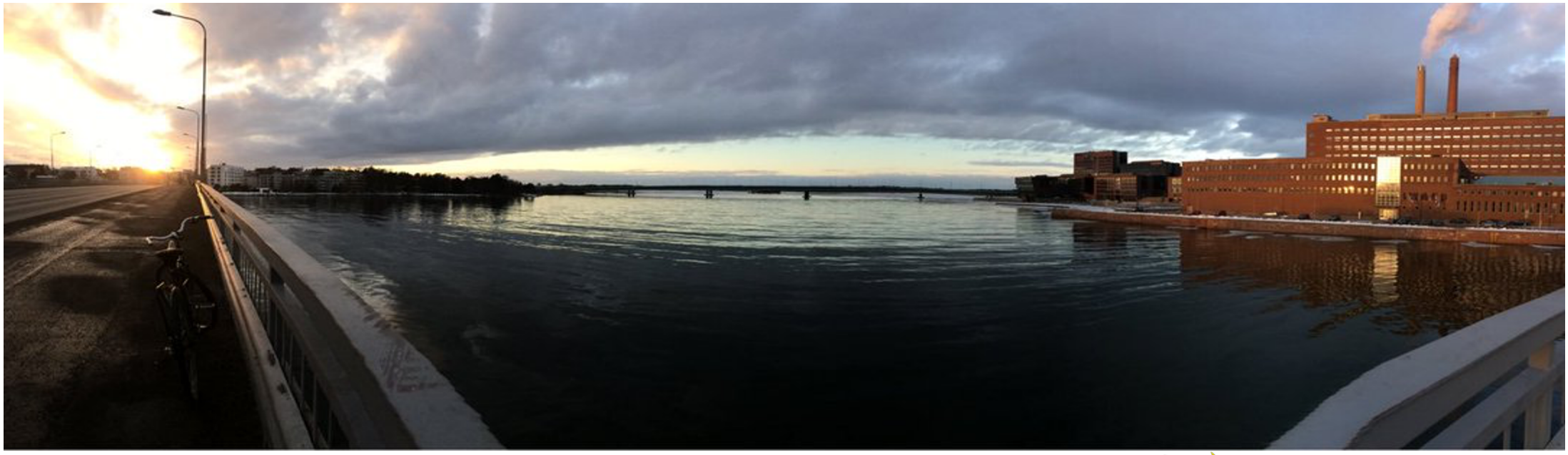

‘Jiihaa, it is almost summer!’

WAT SYNTHESIS SESSION

3.6.2021 online – Marko, Meeri & co

PROGRAMME

14:00- Welcome & introduction

14:05- Synthesis & reflection:
Assessing your own learning

14:50- Feedback: How does WAT work?

- Synthesis on your survey answers + reflections (20 min)
- Group discussion with your mentor & teachers: how did WAT work? (35 min)
- Open discussion (15 min)

16:00- Next steps: 2nd year, incl. exchange + Thesis

These slides available in WAT portfolio page https://mycourses.aalto.fi/course/view.php?id=30189

General instructions

- Welcome – nice to see you, although only online! ☺
- **Turn off your mic** when you are not talking
- Please **keep video on**, at least in small groups
- Use the chat for questions or raise hand
  - and please do ask!
- **Be present & interact**: the session lasts only 2 hours

AIMS FOR TODAY?

All this together with your group, making use of your portfolio

→ Today also helps you to revise your portfolio!

1) Think and breath!

   → *It has been a long & hectic year…*

2) Synthesise & reflect your first year of studies

   → *How does WAT look like for you now, after one year?*

3) Give feedback on our programme

   → *What works, what not? How to improve the programme?*

4) Look forward for the 2nd year

   → *What works, what not? How to improve the programme?*

PROGRAMME

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16:00- Next steps: 2nd year, incl. exchange + Thesis

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REFLECTION

How has your first year as a WAT student been?

Think for a while just by yourself and write key points also down

After, describe your first year to others with
1-2 WORDS written into the chat. Repetition is fine!

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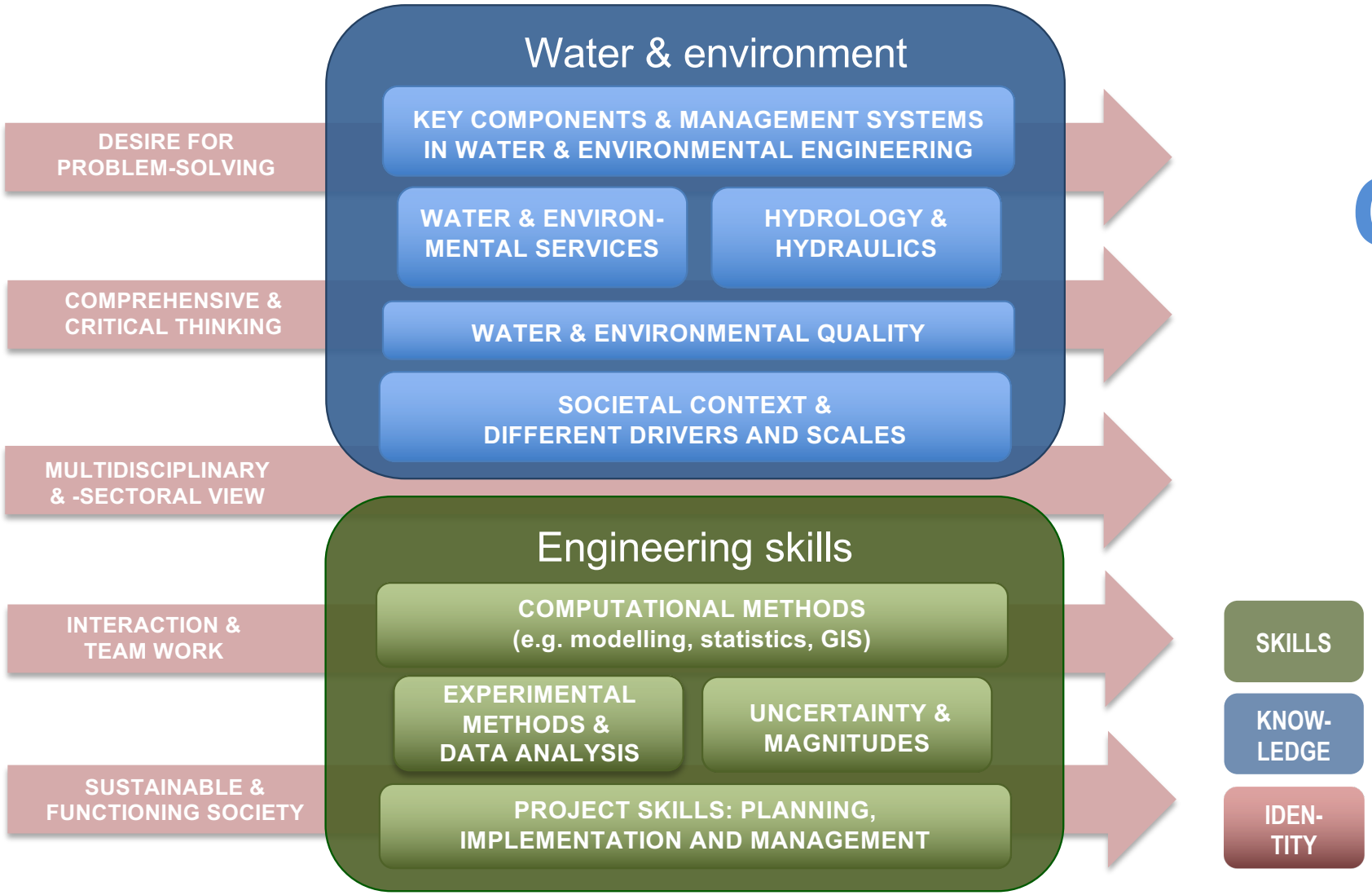
SYNTHESIS & REFLECTION

What have you learned during your 1st year?

Short answer: a plenty!
(we'll discuss this later during feedback session)

Next: synthesising and reflecting your learning against the key competences that the WAT programme aims to provide

→ *Please make use of your portfolio + your WAT Survey answers!*



WAT COMPE-TENCES

ILOs: knowledge

Our graduate is able to:

1) Recognise the key **components and management systems in water and environmental engineering**, and understand the relevance of **sustainability** for the field
2) Understand the principles of the **hydrological cycle** and movements of water in natural and built environments
3) Define and differentiate the main sections of **water and environmental services**, with focus on the treatment of water and waste water
4) Understand the key principles of **water and environmental quality**
5) Identify the **societal context** relevant to the water and environment, and comprehend the different **scales** (spatial and temporal) and key **drivers** applicable to water and environmental engineering

ILOs: skills

Our graduate is able to:

1) Apply **key computational methods** related to water and environmental engineering
2) Understand relevant **experimental methods and data analysis** processes, including the use of data archives
3) Comprehend **uncertainty and different orders of magnitude** related to the measurements, data analysis and modeling
4) Recognise and analyse the main components of water- and environment-related **planning, implementation and management processes, and use related basic project skills**

ILOs: identity

(i.e. general working-life skills)

Our graduate:

1) Is motivated and has a desire for **problem-solving**
2) Thinks in a **comprehensive and critical manner** about his/her work and field
3) Maintains a **multidisciplinary and -sectoral view** related to water and environmental engineering
4) Is able to work as a part of a team and has relevant skills for **interaction and communication**
5) Promotes a **sustainable and functioning society**

Assessing what you have learned

1) Read carefully the Learning Outcomes given in the poll

2) Select 1-2 Learning Outcomes that you have learned most of

3) Select 1-2 Learning Outcomes that you have NOT learned so well

4) You can also write comments for each ILO if you want

https://presemo.aalto.fi/wat2021

Knowledge: 2 questions (most / not so well)

Skills: 2 questions (most / not so well)

Identity: 2 questions (most / not so well)

10 min

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GROUP DISCUSSION 10 min

What did you learn?
What not? Why?

Differences? Surprises?

Extra: Have you learned what you wanted to learn?

PROGRAMME

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16:00- Next steps: 2nd year, incl. exchange + Thesis

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FEEDBACK ON OUR MASTER'S PROGRAMME

You are the ultimate experts of our WAT Master's Programme: thank you for sharing your views & visions on how to improve it!

WHY TO GIVE FEEDBACK?

Feedback is important for both you and us, as it:

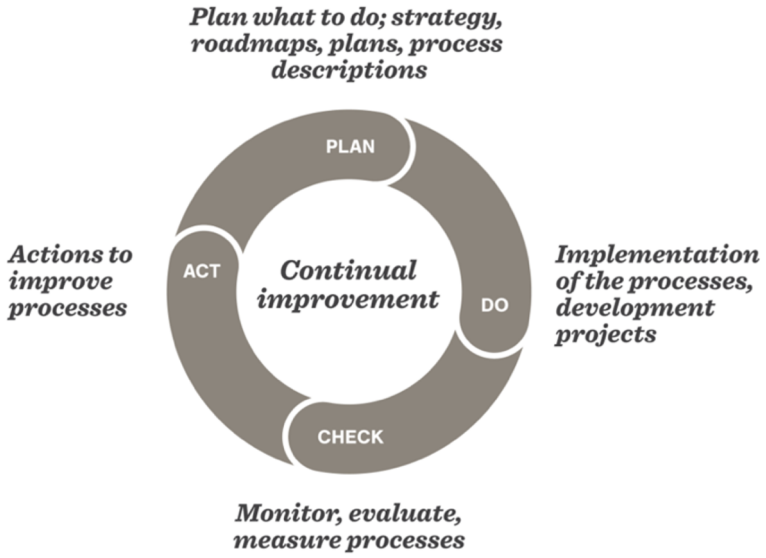
1) Helps you to look back and **reflect** what you have learned and what not - and why (thus links to portfolio process)

2) Provides teachers and Aalto leadership information (**feedback**) on how we succeeded in our teaching

   → Helps us to develop the programme

   → Direct link to Aalto's PDCA cycle

3) Benefits thus future students, as **ensures better courses & programme**!



PDCA = Plan-Do-Check-Act

WAT SURVEY 2021 – THANKS!

- Almost everybody have responded so far (18): thank you!
- You provided very thorough and useful views on our WAT programme and courses: thank you!
- General feeling from the feedback **positive**: programme works, and provides you with a diversity of knowledge and skills from our field
- The majority have started to establish own professional WAT profile / identity

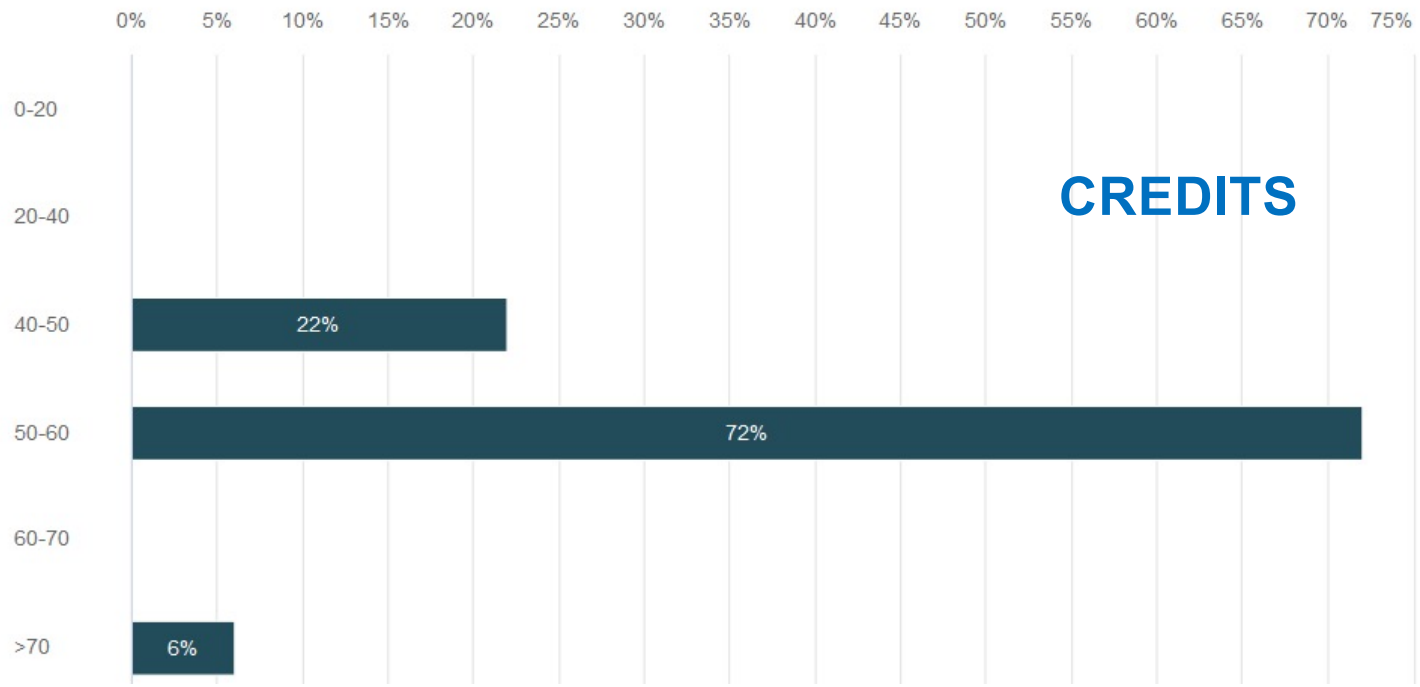
→ You're well on your way to become WAT experts!

WAT SURVEY 2020 - MAIN RESULTS

- 78% have gained > 50 credits

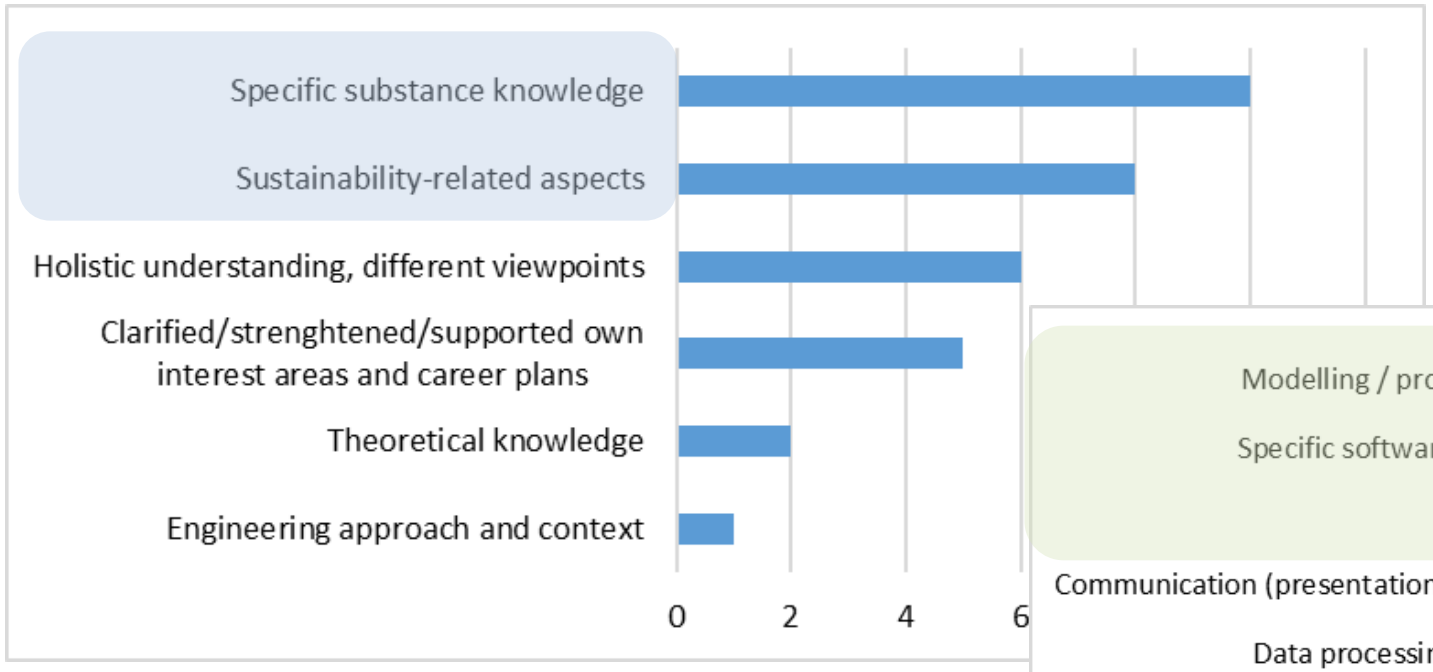
  → Well done!

- 28% worked during studies



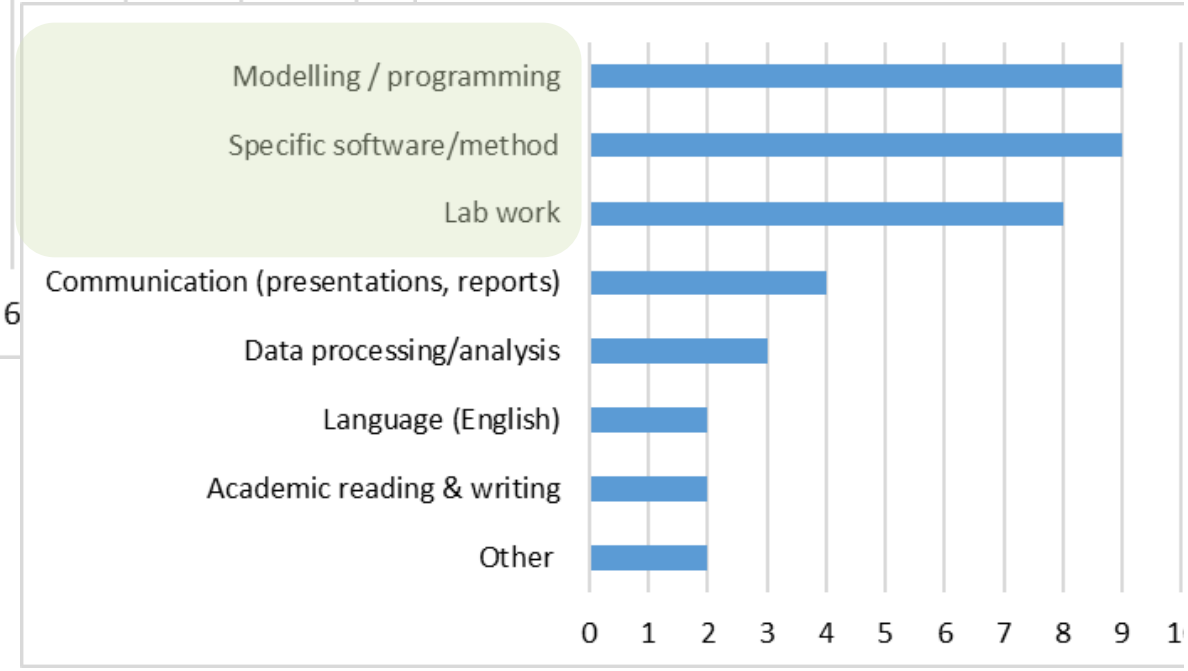
WHAT HAVE YOU LEARNED?

CATEGORISED FROM YOUR OPEN TEXT ANSWERS



Knowledge

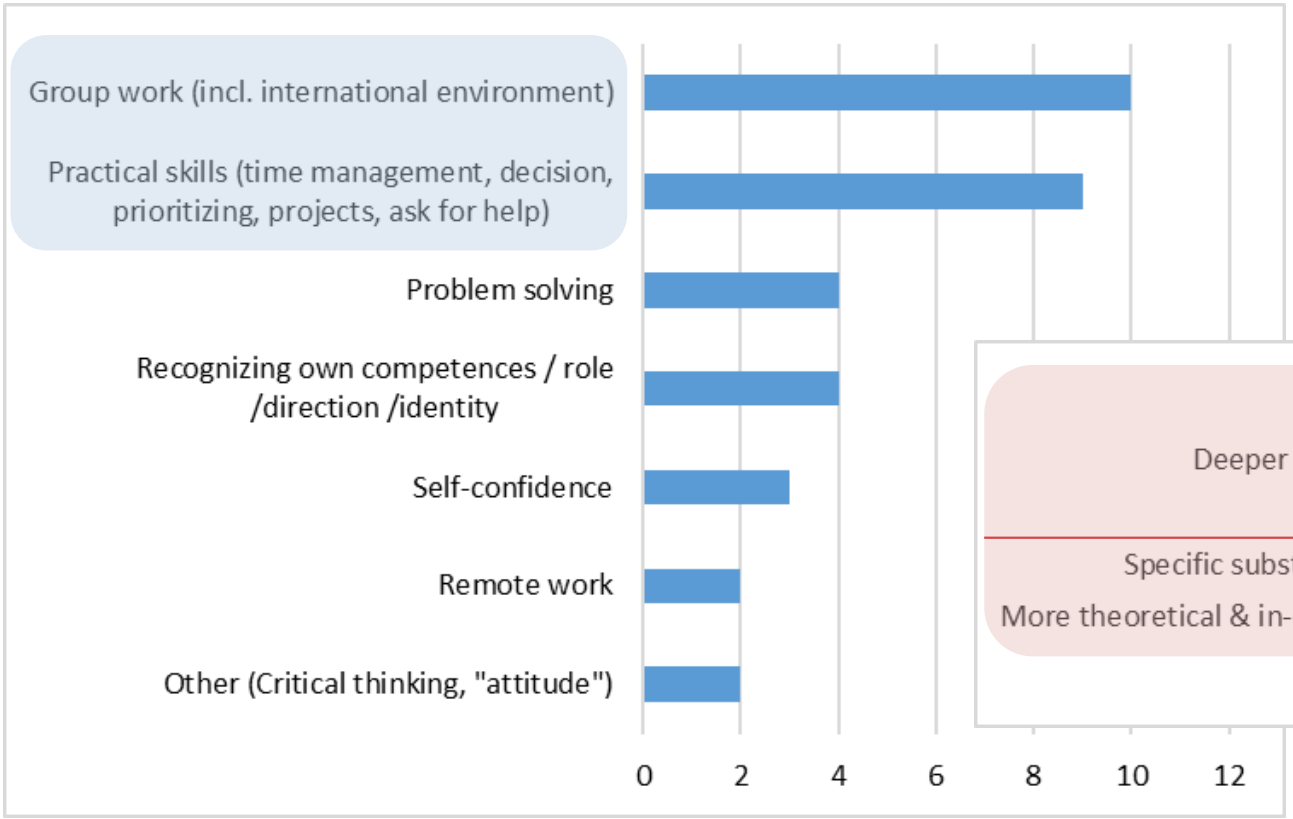
Skills



WHAT HAVE YOU LEARNED?

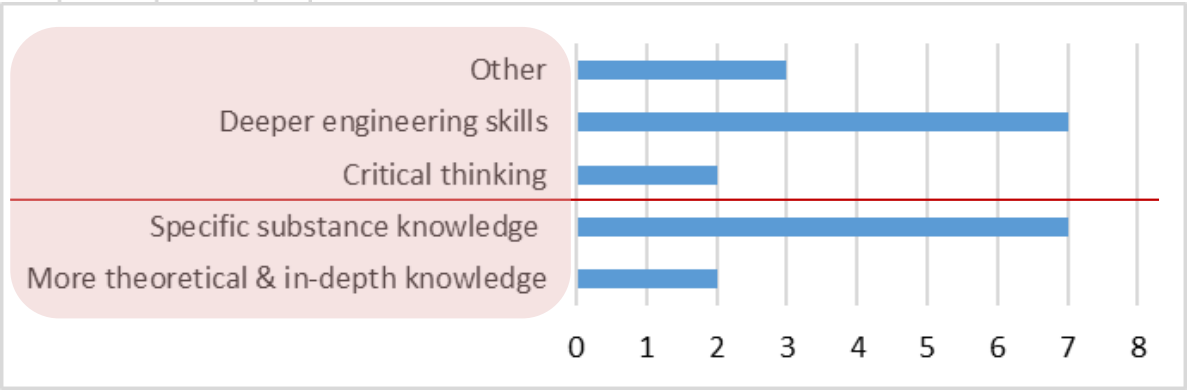
CATEGORISED FROM YOUR OPEN TEXT ANSWERS

Identity skills



Knowledge, skills and identity you felt you are still *lacking*

→ Note: not that many!



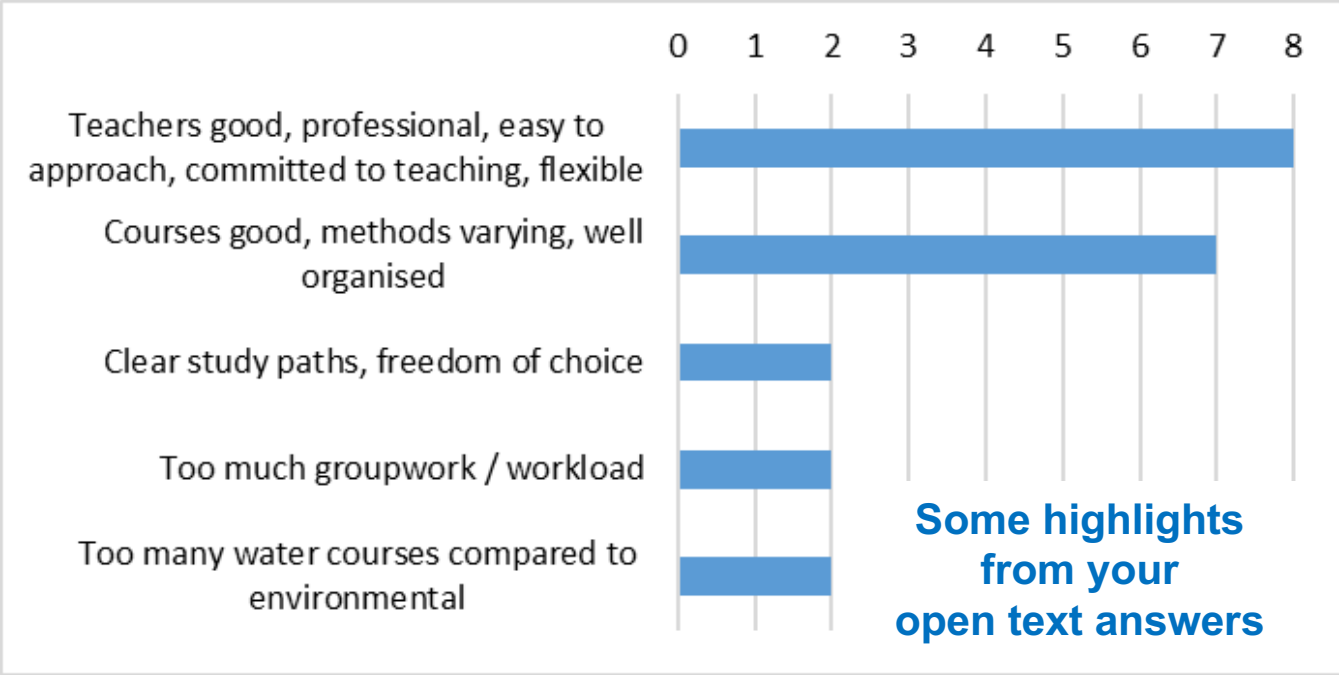
How satisfied you are with WAT?

All satisfied and a great majority of respondents very/extremely satisfied with the programme (89%) and teaching (83,3%)

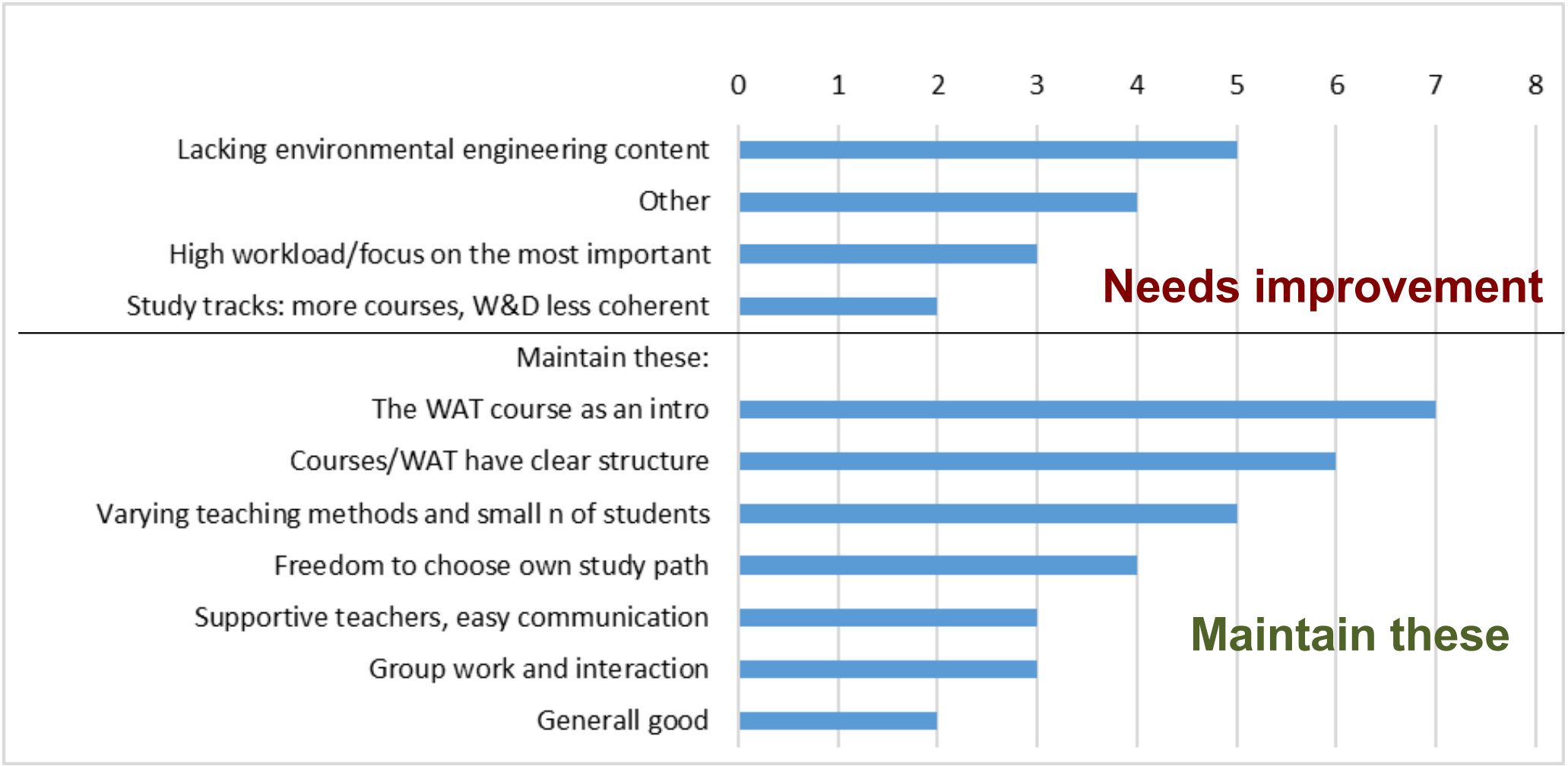
Has WAT met your expectations?

	n	Percent
Yes, why?	17	94,4%
No, why?	1	5,6%
I didn't have expectation: please specify	2	11,1%

Great to hear!



WAT programme & teaching (categorised from your open text answers)

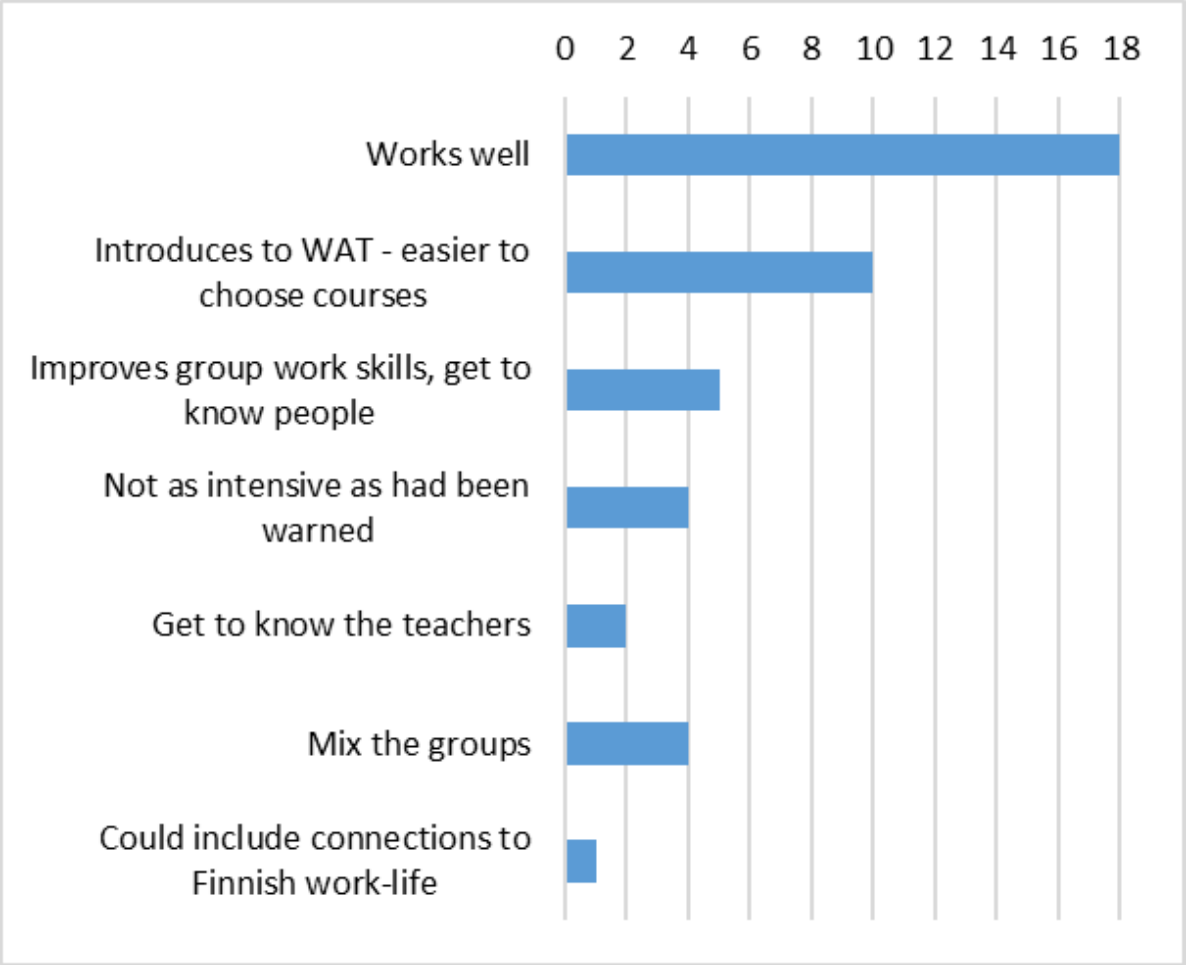


COMMON WAT COURSE WORKS WELL

- Essential in choosing advanced courses
- Well structured
- Prepared for intensive studying

→ Was less intensive than other periods: no overlapping DLs, shared schedule

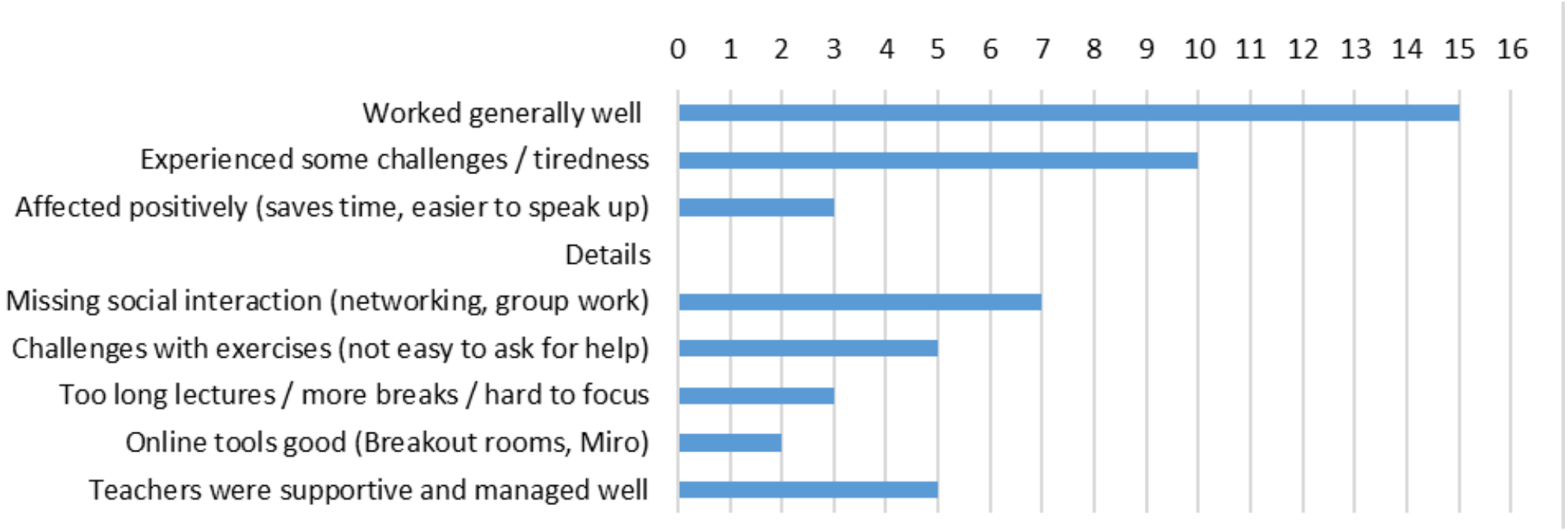
- Would be good to mix the groups more (especially in online mode)



ONLINE LEARNING EXPERIENCES

Online learning worked generally well – nice to hear!
→ Encourages us to think ways to increase it in the future

Yet, many are tired with it and missing social interaction

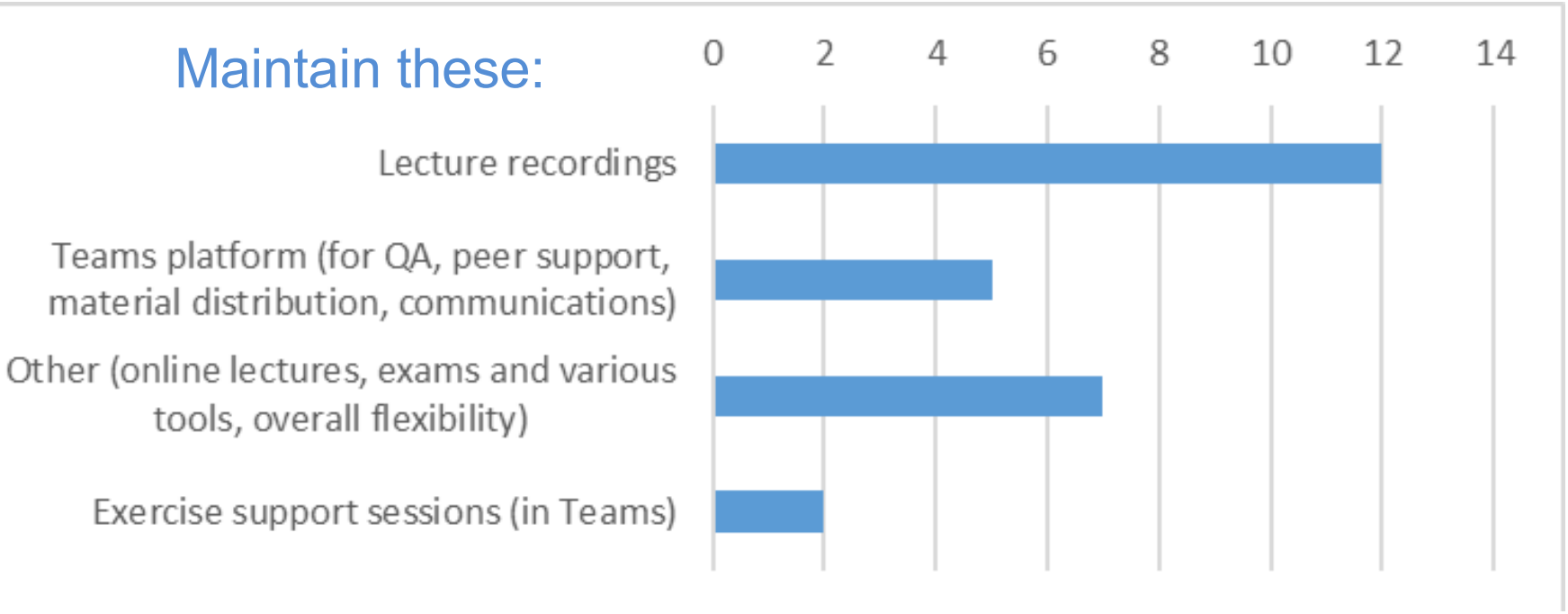


Other suggestions for improvement: consider the size of contents in slides, technical support with devices, go hybrid)

HYBRID LEARNING 2021-22?

	n	Percent
...fully remotely	1	5,5%
...mainly remotely, with only necessary assignments done in campus	0	0,0%
...in a hybdrid mode (around half of the learning remotely and another half in campus)	10	55,6%
...mainly in campus, but making some use of online learning (e.g. recorded lectures)	7	38,9%
...fully in campus	0	0,0%

Maintain these:



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REFLECTION ON YOUR OWN

How does this feel?

Anything surprising?

Questions, comments?

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GROUP DISCUSSION

(WITH MENTORS & TEACHERS)

GROUP DISCUSSION 35 MIN

The last part of our session discusses
our Master's Programme and its
general strengths and weaknesses

→ *You may be joined by our teachers, who are there to listen and to comment if needed*

→ *But the idea is that you lead the discussion!*

Open group meeting in your "Group X" Teams channel

WAT STRENGTHS & WEAKNESSES

A) What are the three things that require attention + development?

B) What are the three best things in the programme? What to maintain?

→ First 5 minutes: think yourself and make notes to Miro A) and B)

→ Then 20 minutes discussion together, using Miro

→ Last 10 minutes: select three most important for both (mark wits stars) and prepare to present to others using your Miro!

Collect your views to Miro:

https://miro.com/app/board/o9J_lBRdAWk=/

NOTE: Each group has
an own board,
make sure
to use the right one

DEVELOPING OUR PROGRAMME

Your feedback has been very valuable: thank you!

→ We'll discuss this with our 'opetiimi' during June, but it seems overall things are working pretty well

→ Some things naturally require attention still, including the course workload

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16:00- Next steps: 2nd year, incl. exchange + Thesis

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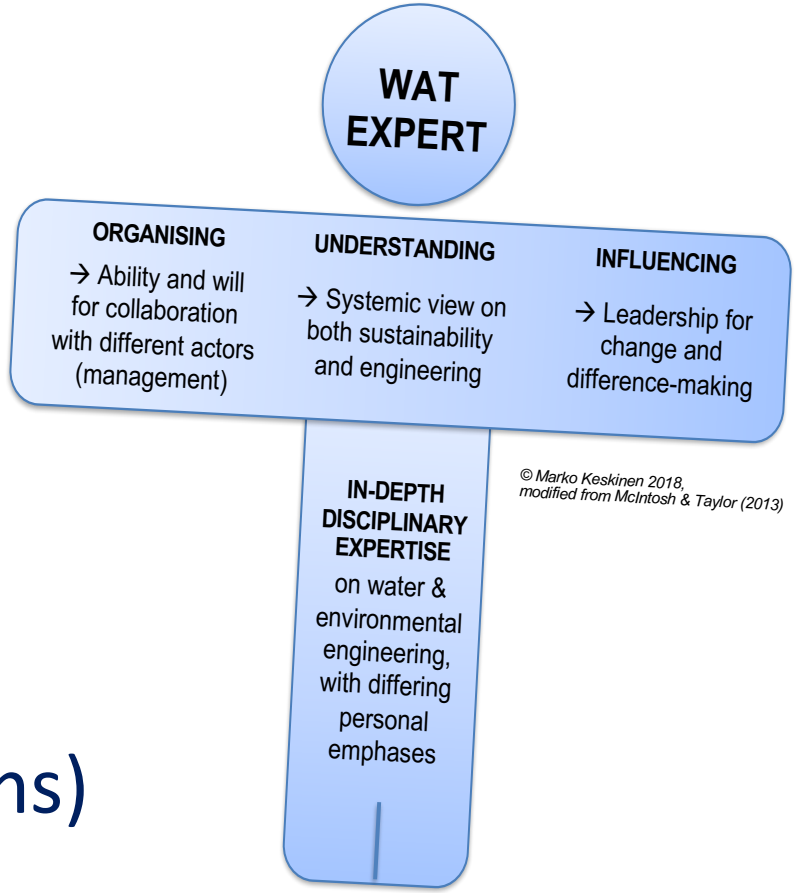
WHAT NEXT?

WAT EXPERT – WHO, ME?

Our programme aims to provide you with a T-shaped learning profile

→ *What is it..? (we discussed this during WAT Course's last week)*



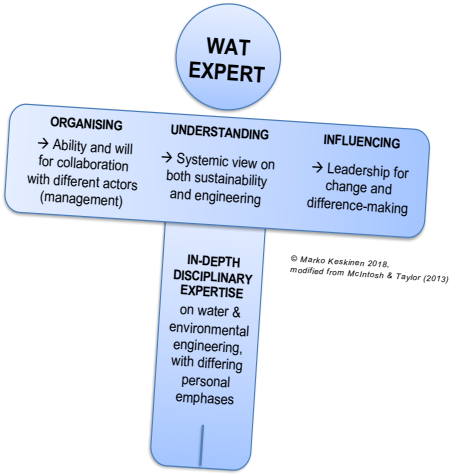
Combination of in-dept disciplinary expertise (legs) and capacity for collaboration with other experts (arms)

→ *See more in additional slides*

WAT EXPERT – WHO, ME?

Now you may think: I don't have any in-depth expertise, just random bits and pieces!

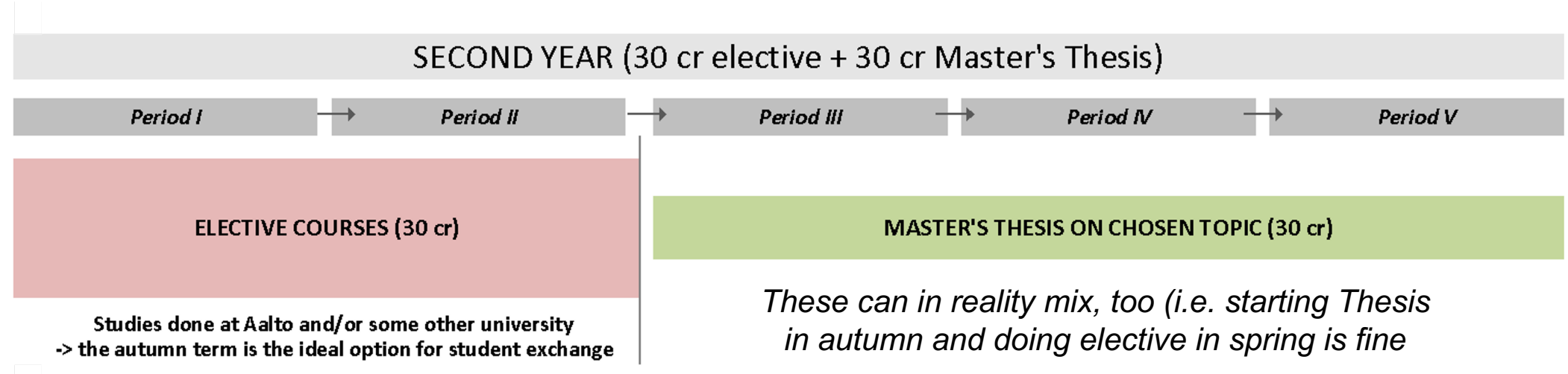
→ You do have the expertise: it is just more 'fundamental' and broad than the specific expertise provided e.g. by UASs (AMK:t)



WAT experts must see the big picture and be able to apply their expertise into different contexts and under changing circumstances (group & project work one key ☺)

→ Think how to strengthen this during your 2nd year + Thesis

WAT 2ND YEAR



Study things that you are interested in and support your career goals (use your portfolio as a help)

→ Going outside Aalto (at least ENG) is strongly recommended!

Master's Thesis very important for both your studies and your career, so think carefully its topic + place to do it

→ Come and listen to our seminars, too!

MASTER'S THESIS

- PREMISE: It is part of your studies, not a working place

→ Provides a possibility for summative learning + creates a specialisation: think carefully its focus (use e.g. your portfolio)!

→ Supervised by our professors: accepts your plan

- Yet, WAT students have traditionally had ok chances of doing their Thesis to a company/organisation with salary

→ But requires activity (and also bit of luck) from you!

→ We will announce open positions through email

- If you haven't found a Thesis topic by Spring 2022, contact Meeri and we'll think together what to do!

Master's Thesis Process

Compulsory parts of the process:

1. Listening to one Master's thesis seminar
2. Presenting own research plan in Pre-seminar
3. Attending Thesis Finalising session
4. Presenting final Thesis in Master's thesis seminar

→ Detailed information in Portolio page (MyCourses)
+ in our Master's Programme's Into pages

WAT surveys 2017-20

WAT Stakeholder survey 2019-20, report in Finnish here:
http://urn.fi/URN:ISBN:978-952-60-3785-1

English summary slides of the stakeholder AND **WAT Alumni Survey** 2017 available here: https://mycourses.aalto.fi/course/view.php?id=30189

Also check alumni survey -related Master's Thesis + 2 articles:
https://aaltodoc.aalto.fi/handle/123456789/31604
https://www.mdpi.com/2071-1050/10/8/2605
http://bit.ly/KarvinenVehmasKeskinen

Main message: employment situation in our field is good, employers satisfied and the tasks & employees diverse

→ Do your Thesis on the topic that interests you most!

Questions, comments?

(You can also ask privately after the session)

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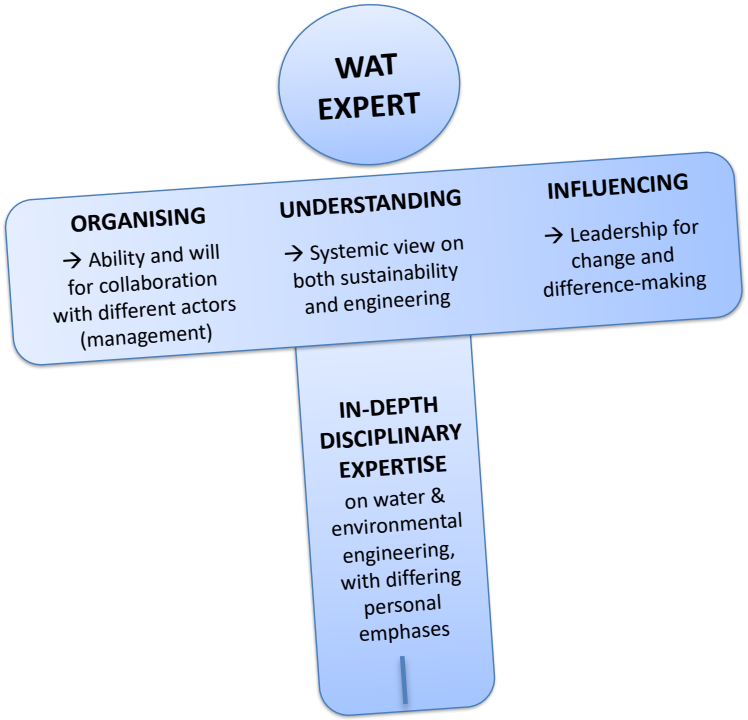
THANK YOU VERY MUCH FOR THE FIRST, EXCEPTIONAL YEAR OF WAT MASTER'S PROGRAMME!

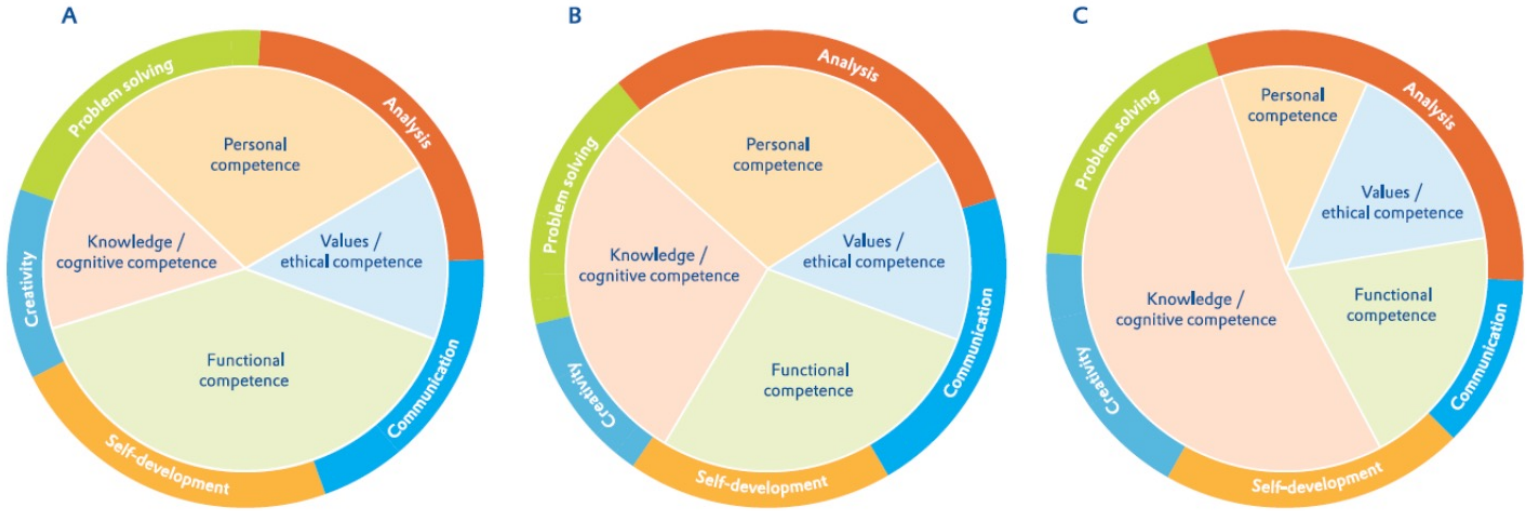
Enjoy the summer!

Background slides



WAT T-SHAPED LEARNING PROFILE?

T-SHAPED LEARNING PROFILE?



Uhlenbrook & de Jong 2012

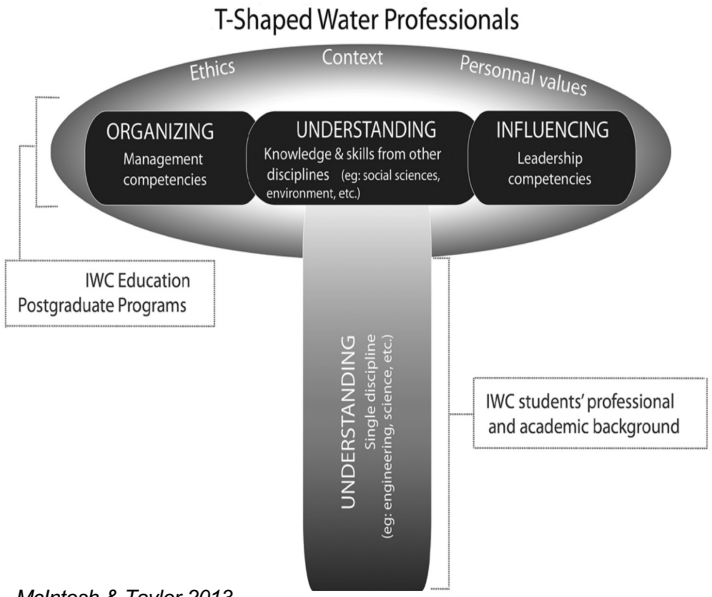
Fig. 1. Comparison of possible occupational competence mixes of different water professionals: **(A)** director of a catchment agency interacting with various stakeholders and managing various resources (human resources, finances, facilities and infrastructure etc.), **(B)** water engineering consultant who specialized in hydraulic structures, and **(C)** research water chemist specialist in processes related to transport of micro-pollutants.

Sources: McIntosh & Taylor 2013 + Uhlenbrook & de Jong 2012: https://www.hydrol-earth-syst-sci.net/16/3475/2012/

APED LEARNING PROFILE?

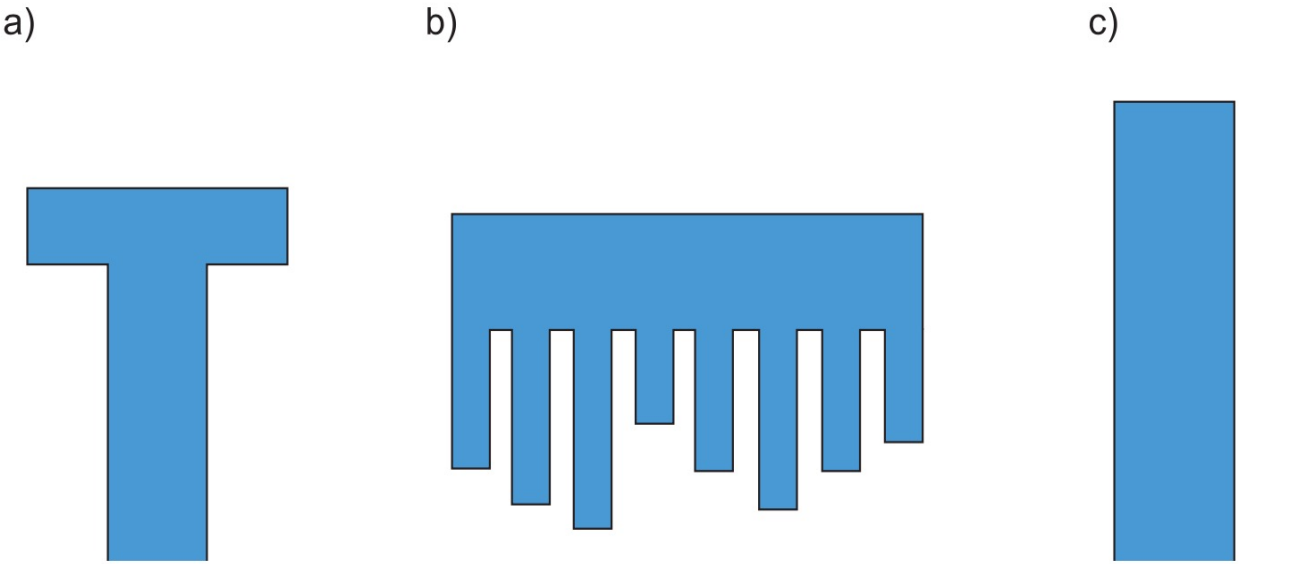
Uhlenbrook & de Jong 2012:

It is not enough to be trained as a generalist, somebody who knows a little bit of everything. To tackle the global changes, a T-shaped competencies profile is required for the graduates of future (Fig. 1a). The vertical leg of the T stands for the solid knowledge in one discipline such as hydraulic engineering, hydrology, aquatic ecology, economics, (water) chemistry, microbiology, informatics, sanitary engineering, environmental policy and law, agronomy etc (mainly knowledge and cognitive competence, cf. Sect. 2). However, this is not enough for an effective professional. The horizontal bar of the T stands, on the one hand, for knowledge and cognitive competence outside the own discipline, on the other



McIntosh & Taylor 2013

Figure 2. Conceptual model of a T-shaped water professional (used with permission from the International WaterCentre).



Uhlenbrook & de Jong 2012

Fig. 2. Schematic sketch of the competency profiles of **(a)** T-shaped professionals, **(b)** generalists, and **(c)** I-shaped professionals (adapted from Oskam, 2009, modified).

Sources: McIntosh & Taylor 2013 + Uhlenbrook & de Jong 2012: https://www.hydrol-earth-syst-sci.net/16/3475/2012/

OUR RESEARCH ON WAT

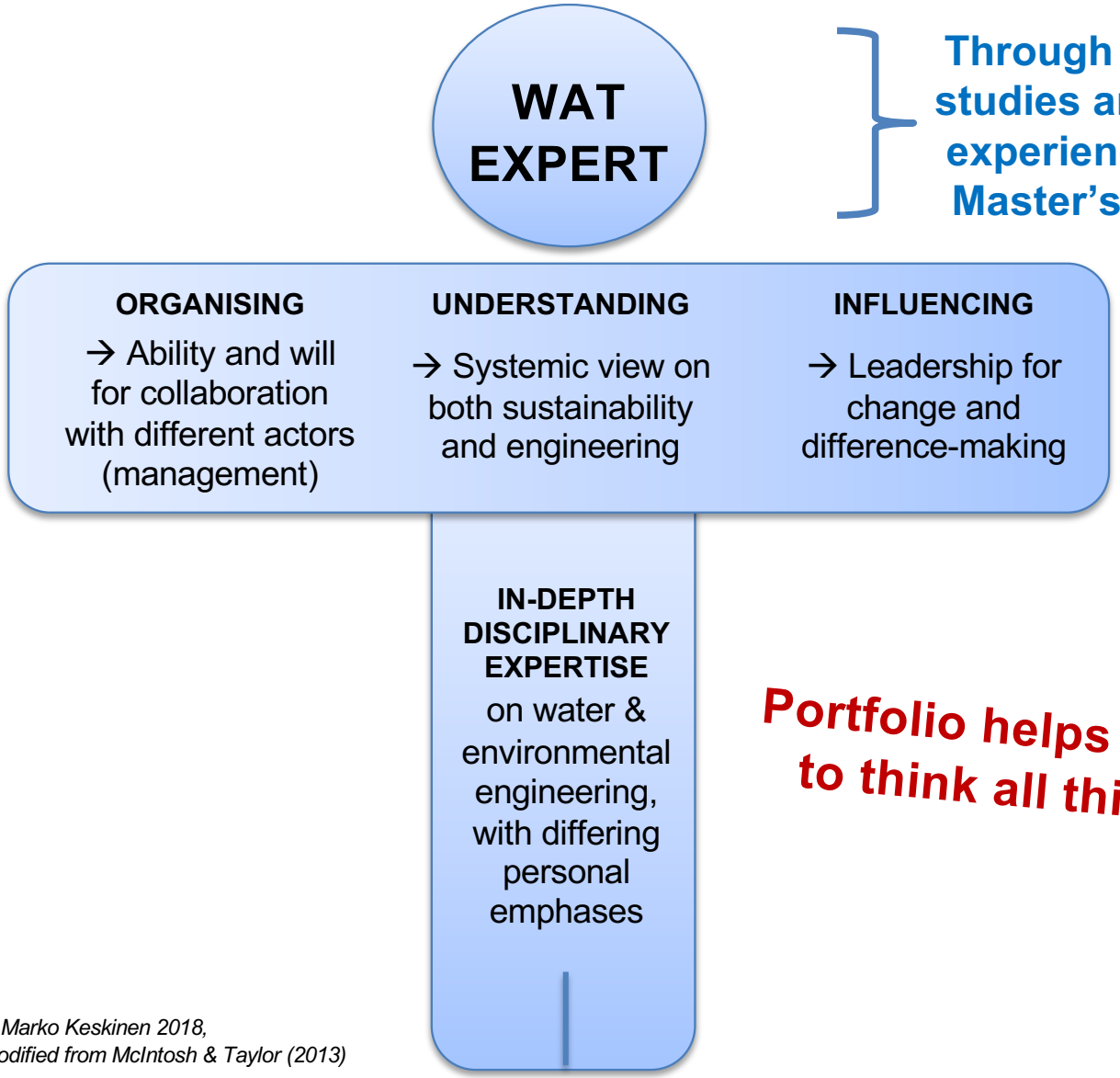
We also carry own research on the competences required in our field + their link to our teaching

- *WAT Feedback Surveys*
- *WAT Teacher Surveys*
- *WAT Alumni Survey in 2017*
- *WAT Stakeholder Survey in 2019*

→ Stakeholder Survey Report:
http://urn.fi/URN:ISBN:978-952-60-3785-1
→ Anu Vehmaa's Master's Thesis:
https://aaltodoc.aalto.fi/handle/123456789/31604

→ Scientific articles:
https://www.mdpi.com/2071-1050/10/8/2605
https://lehti.yliopistopedagogiikka.fi/yliopistopedagogiikka-1-2019
Conclusion: T-shaped learning profile works!

WAT T-PROFILE?



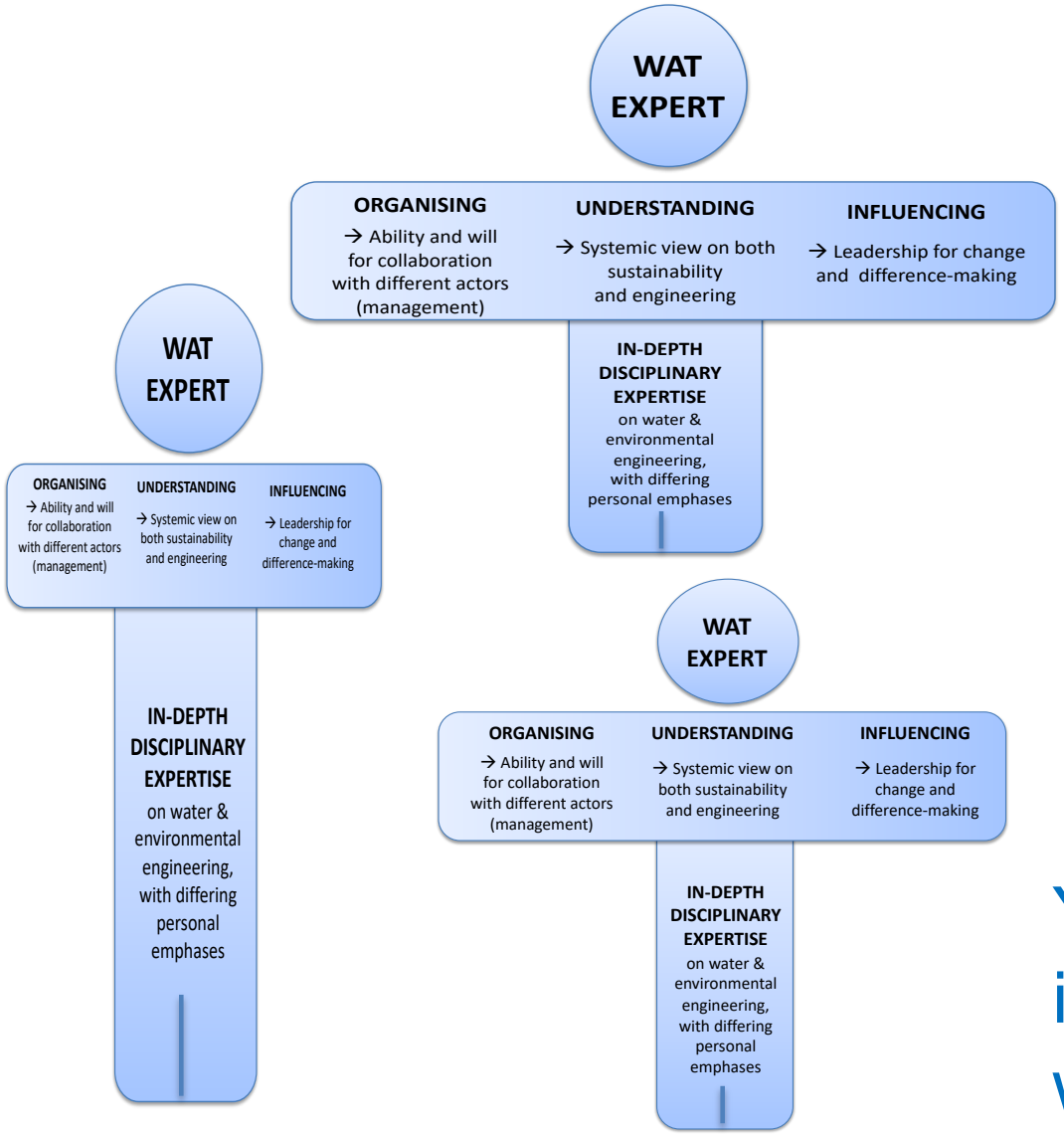
Through all your studies and other experience, incl. Master's Thesis

Through your WAT studies + other experience

Through your WAT major (common & advanced studies), possibly also elective studies

Portfolio helps you to think all this!

© Marko Keskinen 2018,
modified from McIntosh & Taylor (2013)



© Marko Keskinen 2018,
modified from McIntosh & Taylor (2013)

WAT T-PROFILE?

You will all still be different: others will have longer legs, others longer arms – it is ok!

→ Main point: everyone should have both legs and arms…

Your Personal Learning Portfolio is one way to think what you want to become: make use of it!