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A snapshot sample on how COVID-19 impacted and holds up a mirror to European water education

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Abstract

COVID-19 caused many disruptions, not only in society but also in education and teaching environments, including for hydrology and water-related sciences. Taking part in an academic teaching training course at Uppsala University during COVID-19 we got curious about how COVID-19 might impact European water education. The aim of this paper is to communicate the results and reflect on how the teaching of hydrology and water-related sciences changed due to COVID-19. We observed that overall water education changed throughout Europe due to COVID-19. A literature review of the common teaching techniques in the field and our survey indicates that hydrology educators use preponderantly conservative teaching styles, i.e., classical lectures, and therefore these were rather easily moved online during the pandemic. Overall, the COVID-19 crisis impacted student learning negatively (reported by 67% of the respondents) while only 16.7% responded that the impact was positive. The online interaction made it more difficult for the teachers to assess the achievement of the learning outcomes. As most of the respondents (i.e., > 40%) reported that they do not use classroom assessment techniques, the students' performances and whether students reached their learning outcomes during distance teaching were largely unknown. Most affected learning activities were the ones that could not be moved to online teaching, such as laboratory and field work. Hence, the important knowledge of process understanding in hydrology will be missing for generations of hydrologists. In this way, COVID-19 caused a secondary effect on society which needs skills to solve future challenges

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e.g., water management in a changing climate. Next to all of the negative aspects, a spirit of optimism, time of change, and community initiatives could be noticed. COVID-19 made it necessary to explore, improvise and develop novel teaching methods that could be used to modernize education and make practical and "exotic" teaching formats accessible for all hydrology and water students.

1. Introduction

Hydrology and water-related sciences cover among others: water engineering, hydraulics, hydropower, groundwater engineering, water supply and water treatment, hydrogeology, fluid mechanics, ecology, biology and social science. Hydrology and water-related sciences study the occurrence, circulation, and distribution of water for a sustainable use in a changing climate (Foley et al., 2011; Seibert et al., 2013; Beven, 2016; Blöschl et al., 2019). To address these challenges university-level education of water-related sciences is needed (Wagener et al., 2012).

The university education system we know today evolved over centuries and optimized its pedagogical approaches which initially focused on a few elite scholars to the current massive market-driven integrated learning with student mobility across Europe and the world (Forest et al., 2006). Water-related sciences are generally considered applied sciences and are taught to a student audience with different educational backgrounds (e.g. engineering, natural or social science) in different departments and institutions (e.g. engineering, biology, geology, environmental science or geography) each with a variety of educational foci (Gleeson et al., 2012; Wagener et al., 2012; Seibert et al., 2013). The special issue "Hydrology education in a changing world" (Seibert et al., 2013) discusses in 28 papers the variety across hydrology education and different pedagogical approaches up to the year 2012. The pedagogical approaches ranged from teaching and learning activities using physical models in the classroom to explain the physical processes (Rodhe, 2012), teaching hydrological modelling (Seibert and Vis, 2012b), learning theoretical physical processes complemented with experimental work in the laboratory and field (Gleeson et al., 2012; Lyon et al., 2013). General aspects such as the implementation of integrative curricula (Blöschl et al., 2012), addressing transboundary socioeconomic water issues (Douven et al., 2012) and different levels from education at the secondary school level (Reinfried et al., 2012) to post-graduate education and continued learning for practitioners (Kaspersma et al., 2012).

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Contemporary water education has a high complexity and involves multidisciplinary topics and is as Venhuizen et al. (2019) describe “flooded by jargon”. Hence, it requires a broader academic education as well as continuous professional development of modern-day engineers and water professionals with uneven backgrounds (Popescu et al., 2012; Wagener et al., 2012). Students require strong skills in basic subjects like math, physics, soil, ecology, and social sciences which should be taught in well-structured courses which indicate the connections across disciplines (Wagener et al., 2012; Seibert et al., 2013). According to Seibert et al. (2013) the teaching methods should be “rooted in the scientific and quantitative understanding of hydrologic processes, providing flexible hydrologic problem-solving skills that can evolve when new insights become available, and which can be adapted to provide solutions for new problems and to understand new phenomena”. Seibert et al. (2013) suggest that the educational system of hydrology must undergo a paradigm shift away from the current practice. The authors recognize that the current needs of hydrologists to account, for instance, the impact of global and local environmental change, do not necessarily match the training. In water education, new skill sets should be included to read, interpret, and learn from patterns in the landscape, conduct comparative studies to supplement learning through case studies, understand the time-varying characteristics of hydrological systems, use of space for time substitutions, and the modeling of interacting processes such as human-nature interactions and feedbacks.

Next to traditional methods in classroom environments, novel teaching methods are explored. With the development of the internet and digital technology, in recent years education can take a step away from campus teaching by exploring the novel virtual learning. Examples of virtual learning environments are massive open online courses on learning platforms (e.g., edX, www.edx.org; for courses overview use search and keywords hydrology or water; Coursera, www.coursera.org, for courses overview use search and keywords hydrology or water; or CUASHI, www.cuahsi.org/education/cuahsi-virtual-university) and e-learning using e.g. virtual classrooms (Berry, 2019). While classroom lectures were optimized over the centuries, as Berry (2019) described it is necessary to develop different strategies for e-learning that allow students to develop structure, a sense of learning community and social interaction in the virtual environment (Lehman, 2006; Berry, 2019).

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In addition to classroom lectures, it is necessary to teach field and laboratory experiences which stimulate hypothesis testing and develop hydrological theories (Kleinhans et al., 2010; Blume et al., 2017) and prepare students to cope with all challenges in their professional life (John and Khan, 2018). Students should not only get a wet hands-on experience but also practice tinkering with electronics to sense their environment (Hut et al., 2020; Kinar, 2021). Adding electronics to the curricula, not only empowers but also facilitates students hydrological learning and process understanding (Kinar, 2021) and can act as a stepping stone to collect scientific spatiotemporal hydrometeorological data (Hut et al., 2010; Hund et al., 2016; Assendelft and van Meerveld, 2019; Wickert et al., 2019; Karachalios et al., 2021). Unfortunately, due to a generalized trend of decreasing in funds allocated to water education and increasing the number of students, field activities are being more and more reduced. The cuts have "*reached crisis proportions in many universities*" (Nash et al., 1990; Eagleson, 1991; Wagener et al., 2012) and should make the hydrology alarm bells ring (Kleinhans et al., 2010; Vidon, 2015; Blume et al., 2017).

Since 2019, the COVID-19 pandemic impacted the entire world and also the educational systems at all levels. In an attempt to stop the spread of the disease, many countries decided to close the schools and universities in a total lockdown (Schleicher, 2020). Typical measures included preventive measures such as social-distancing and self-isolation. It might be due to the aforementioned technical developments and first steps in virtual education which saved and allowed Universities to continue teaching during the disruptive COVID-19 pandemic. Schaefli (2021) summarizes nicely a teacher's perspective with all challenges involved due to the sudden shift to distance teaching: "*timing was perfect: start of the semester, start of online teaching, video conference infrastructure unavailable, three kids at home and me, a hydrology teacher who has never produced any kind of video exceeding a 20s cell phone video*". Not only that little time was available to prepare high-quality teaching material for distance teaching but also the lack of experience in distance teaching. Despite the large effort and creativity to keep up the water education, a survey among Swedish Universities by Fischer (2020) revealed that important elements in water education such as field excursion were canceled and the contact between teachers and students got lost, affecting the knowledge transfer.

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Taking part in an academic teaching training course at Uppsala University during COVID-19 we got curious about how COVID-19 might impact European water education. Consequently, we chose to investigate this in the mandatory project of the course by conducting an online survey (November 2020 to March 2021) which focused on 1) common teaching methods and classroom assessment and examination techniques in pre-COVID-19 times and 2) how did these education methods and techniques change during COVID-19. In the spirit of "*it takes a community to raise a hydrologist*" (Wagener et al., 2012) during the pandemic and beyond, the aim of this paper is to communicate and potentially learn from the results of our survey.

2. Methods

To investigate the effect of COVID-19 on water education a survey was developed consisting of 30 questions (Table A1) which should take approximately 10 minutes to answer. The survey was aimed to source information from teaching and course administrative staff working in European universities including student assistants, Ph.D. students, lecturers/teachers, (assistant) professors, course administrators, and researchers.

The survey (see Appendix) was set up as different sections to get an overview of the respondents, pre-COVID-19 teaching activities, and during COVID-19 teaching and challenges and solutions enabling teaching during COVID-19 see Table 1.

The survey was set up as a web form using googleForm and it was sent by email to more than 200 contacts of the wider network of the authors, all part of different Universities in water education across Europe (Berlin, Göttingen, Stuttgart, Bucharest, Hamburg, University of Zürich and ETH Zürich, University of Freiburg iBr.,Tu Delft, VU Amsterdam, Wageningen, Florence and the EU-Cost "WATer isotopeS in the critical zONe" consisting of more than 110 colleagues and further to 5 random people). The email with a link to the form was sent in November 2020 with a reminder in March 2021. In addition, a post with the link to the survey was posted on the Facebook Hydrology group. The authors of this group did not participate in the survey.

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The obtained answers were summarized and presented in different graphs using MATAB R2021a (MathWorks). The number or percentage of respondents for a given question or answer was represented as a bar or pie chart. More qualitative open questions were represented as a word cloud or included as text.

3. Results and discussion

3.1 Snapshot overview of water education in Europe

Twenty-eight respondents working at Universities across Europe (Figure 1) in the field of hydrology, geohydrology, chemistry, fluid dynamics, soil mechanics to environmental and civil engineering (Figure 2a) answered the survey "how the European water education got impacted due to COVID-19 measures". The respondents consisted of researchers, lecturers, different levels of professors to course administrators (Figure 2b) who teach a wide variety of hydrology and water-related courses from bachelor to Ph.D. graduate school level (Figure 3a & b). Similar to the observations made by Wagener et al. (2007) the number of students per course ranged between 10 to more than 40 students per course (Figure 3c).

The response rate to the survey was 14%, some European countries are missing and only a few universities per country responded to the survey. However, the results are of interest as they give a first impression, similar to a snapshot sample campaign, on the state of hydrology and water education across Europe as a result of COVID-19 pandemic (a snapshot sampling campaign is a common and useful method to infer spatial process within a catchment, e.g., Likens and Buso (2006); Temnerud et al. (2007); Fischer et al. (2015); Floriancic et al., (2019)).

3.2 Water education in pre-COVID-19 times

In pre-COVID-19 times lectures were the most common teaching format used by the respondents, (27 out of 28 respondents) followed by seminars (Figure 4a). Laboratory, experimental, and field work were used by less than 50% of the participants as teaching format. Peer teaching, role-play, group discussion, and video recording seem the more "exotic" and less practiced teaching formats in water education.

Classroom assessment techniques (CAT) are useful tools to give student feedback and gauge student performance during a lecture (Goldstein, 2007). The majority of the respondents did not use or answer that they are not familiar with CATs (Figure 4b). The respondents who indicated using CATS used specific software/tools ranging from questionnaire survey style to quizzes or peer review techniques (Figure 4b). To assess whether students achieved the learning goals of a course the written closed-book exams and project work were the most common formats while some participants used oral and take-home exams (Figure 4c).

Seibert et al. (2013) showcased the state-of-the-art in water education and Kleinhans et al. (2010); Wagener et al. (2012); Vidon (2015) and Blume et al.(2017) warned that more practical components are needed in the hydrological curriculum. Despite some novel teaching examples (Rodhe, 2012; Rusca et al., 2012; Seibert and Vis, 2012a, b; AghaKouchak et al., 2013; Lyon et al., 2013; Kinar, 2021) and exploring virtual learning environments (e.g., edX, Coursera and CUASHI), a decade after these calls, it seems that traditional classroom lectures are still the dominant method of teaching. Methods to gauge students' performance are purely focused on the final exam while other methods seem to be less known to improve the students' performance. Hence, these results give the impression that hydrology and water education use rather conservative teaching methods and is far from the needed paradigm shift proposed by Seibert et al. (2013).

3.3 Water education during COVID-19

The beginning of 2020 came as a shock when campus-based university education came to a halt. COVID-19 acted as a catalyst that forced a move from classroom lectures to teaching lectures online at distance (Figure 4a). Although teaching online was a new experience for most of the teaching staff and students, the teaching format of lectures remained unchanged while practical teaching methods, so important for hydrology were terminated (Figure 4). Instead, an increase in the use of exotic teaching formats could be noticed such as prerecorded videos and group discussions.

The cancellation of the physical classes implied that online learning became the critical method of education which perhaps was only possible because of the digital tools and technical infrastructure available (Figure 5). Despite the available tools, the teaching material was tailored for classroom teaching and needed to be suddenly adjusted to online distance teaching. Generally, when teaching a course for the first time, the preparation ranges between 3 to 5 hours for a one-hour course, while teaching the same course in subsequent years only requires 1 to 2 hours of preparation (Wagener et al., 2007). Similarly, teaching during COVID-19 required extra time was needed for teaching preparation, as well as, for holding and wrapping up teaching activities (Figure 6). The extra time is comparable with the teaching load when preparing a new course. The only notable difference is that when preparing a new course one can plan ahead, while during the COVID-19 pandemic, it became necessary to improvise and rapidly change from classroom to online teaching. The initial time investment for the preparation and development of the new distance teaching methods was high, but it is expected to decrease the longer the COVID-19 situation lasts. The survey focused mainly on the beginning of the pandemic period. Meanwhile, after the finalization of the survey, additional hybrid formats appeared (e.g., students attending lectures in class and online). Such hybrid formats require other skills compared to on-campus or distance teaching only and require further research. Next to the time aspect, common challenges respondents faced/ noticed

- Rethinking the organization of the learning process and designing a new time plan - when moving the classes online, teachers need additional training, extra budget, new devices, stable internet connections, getting accustomed to new digital tools and the virtual learning environment. Some required personal gadgets, e.g., laptops, tablets with pens, video cameras, microphones and headsets, lights etc.
- Acquiring computer literacy – learning to deal with different platforms, and solving various computer problems with different degrees of difficulty with no support (e.g., installing software, driver conflicts when attaching new devices)
- Adjusting of the online courses to students with visual or hearing problems
- Change from student-focused to teacher-focused surface learning
- Data privacy and cyber security for students and staff

Despite the effort and extra time, it might be that the overall quality of education might have decreased due to COVID-19. The respondents indicated that students were less focused during the lecture (Figure

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6d) and it is difficult to tell whether students reached their learning goals (Figure 6e). However, since the majority of the respondents did not use CATs during pre-COVID-19 teaching and likely also not during COVID-19, in combination with the lost student-teacher interaction makes it is hard for teachers to give student feedback and gauge the student performance (Figure 6d-f). The examination changed from the written exam (open- and closed-book) on campus to open book take-home exams(Figure 4c and 6b). Respondents indicated extra effort to prepare exams, trusting students to not cheat (which is hard to control) up to lowering the level of exams.

The loss in human interaction is a largely known secondary effect of the COVID-19 pandemic. Traditional classroom teaching involved student-teacher interaction and during breaks social student-student interaction. The lack of interaction is an important psychological factor that is affecting students' metacognition, where students indicated a loss of self-motivation (personal communication with students) showing that they were not fully aware of their limits, boundaries, and obligations making learning their own. At the base, it might be the loss of inter-human interaction between students and teachers and students and students in combination with the isolation, which is leading both teachers and students to have a negative experience (Figure 6c and g, Figure 8). Ultimately, such negative experience could lead to depression which was observed in a survey conducted by Uppsala University e.g. (Ljunghammar and Waxell, 2020).

Half of the respondents perceived a difference in teaching between the 2020 spring and autumn semester (Figure 7h) which is likely due to the different governmental-imposed infection control measures by which pre-COVID-19 teaching styles were possible (campus teaching including field or laboratory work).

Concluding remarks and outlook

The presented results are only a first snapshot overview of how COVID-19 affected water education throughout Europe. The presented results cover Europe and only a short period of time during the multi-peak pandemic. Therefore, the long-term effect on global water education needs to be seen. However,

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similar to a snapshot sampling campaign, these results can be extremely relevant to form an impression on how water education was impacted.

During pre-COVID-19, conservative classroom lectures and to a minor extent field- and laboratory-work were common teaching formats that were examined mainly in closed-book exams.

Overall, the majority of the respondents reported that the COVID-19 crisis impacted student learning negatively up to very negatively. The online interaction was more difficult and costed extra time. Teachers lost student contact and it was difficult to assess whether students achieved the learning outcomes. However, most of the respondents reported that they do not use classroom assessment techniques. The most affected learning activities were the ones that could not be moved to online teaching, such as laboratory and field work (Figure 8). As discussed by (Wagener et al. 2012), field and laboratory exercises were already downscaled from the teaching curricula in many universities in pre-COVID-19 times, reaching a critical level. Hence, due to COVID-19 the important knowledge of process understanding in hydrology will be missing for at least several cohorts of hydrologists. Transferring hydrological knowledge and passion for water got disrupted affecting generations of students. In this way, COVID-19 caused a secondary effect on society, a loss of knowledge and skills, which are needed to tackle the existing and future local and global environmental challenges. This highlights that COVID-19 added a new layer of complexity on top of the challenges already existing in hydrological education (Wagener et al., 2012).

In the open feedback, respondents expressed their frustration. However, next to all the COVID-19 misery, a spirit of optimism and time of change could be noticed. COVID-19 made it possible to explore, improvise and use novel teaching methods. Positive aspects were bottom-up initiatives sharing knowledge and resources on different social media and websites (Table 2). Such efforts highlight that even during extremes such as COVID-19, with imagination, improvising, and by sharing as a community it is possible to teach hydrology and overcome limitations during a pandemic, and with potentials for beyond. It needs to be evaluated and studied what worked, which elements are valuable to keep, and whether we as a community want to go back to the more conservative teaching styles in post-COVID-19 hydrology and water education. Or take the opportunity and finally make the next step in teaching hydrology and water education. Especially the range of practical and exotic teaching formats indicated in Figure 4a, using improvised low-budget or high-cost materials and thought at distance e.g. Hut et al. (2020), could be an add on to classical classroom teaching. Such activities promote learning, by not only stimulating the lower two-third of Bloom's taxonomy (remember, comprehend, apply and analyze water facts and concepts) but also to evaluating and discussing water concepts which facilitate to produce new original work. Even more, it could be a solution to repair the damage in hydrology and water education by making practical and exotic teaching formats accessible for all hydrology and water students. The aforementioned initiatives showcase that hydrology is not only a scientific community effort but above all it needs "a hydrological community to raise a hydrologist" (Wagener et al., 2012) who can solve old (Blöschl et al., 2019) and pose new questions of hydrology.

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Tables

Table 1 The different sections of the survey.

Information on respondent
Field of hydrology
Role and courses thought
Class size
Water education in preCOVID-19 times
Teaching learning activities
Classroom assessment techniques
Type of examination
Water education during COVID-19
Which measures did the University take to guarantee the educational continuity
Was more time needed to prepare, hold and wrap up lectures
Teaching aids to continue teaching
Teaching learning activities
Classroom assessment techniques
Type of examination
Was it necessary to adjust learning outcomes and student assessment
Perception of the situation by students and the teaching staff
Did students reach the learning objectives
Was there a difference between spring and autumn
Which part in knowledge and skills in water education got lost due to COVID-19?
Open feedback

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Table 2 Overview of different positive novel teaching methods and resources (see link in bibliography for more content).

Activity	**Category**	**Author**	**Potential and message**
Distance field-lab work	Movie exercise	(Stocker, 2020)	Make field work or excursions accessible for a wider educational public
Distance field-lab work	Course design	(Mayer and Hug, 2020)	Distance field work could be offered as add on to traditional teaching
Distance field-lab work	Course design	(Hut et al., 2020)	Make field work or excursions accessible for a wider educational public
Teaching material	Collection of material	(Sprenger, 2020)	Community platform with different educational material
Teaching material	Sharing	(Schaefli, 2021)	Sharing most important then quality
Classroom assessment technique	Circus/ dance and movie	(Brandimarte, 2021)	Think out of the box and develop novel ways of learning useful to stimulate creativity, learning and outreach activities
Virtual meetings	Best practice	(Gurung, 2020)	Organize distance meetings
Blog	Blog post	(Nassar, 2021)	Sharing experience through social media

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Figures

Figure 1 Schematized map of Europe where respondents to the survey are indicated as water droplets.

Figure 2 respondents indicated in which part of water science they work in (a), represented qualitatively as a word cloud. The larger the font, the more respondents indicated to feel connected to and work in (multiple answers were possible). The different roles (levels) in water education indicated by the respondents given as percentage (b).

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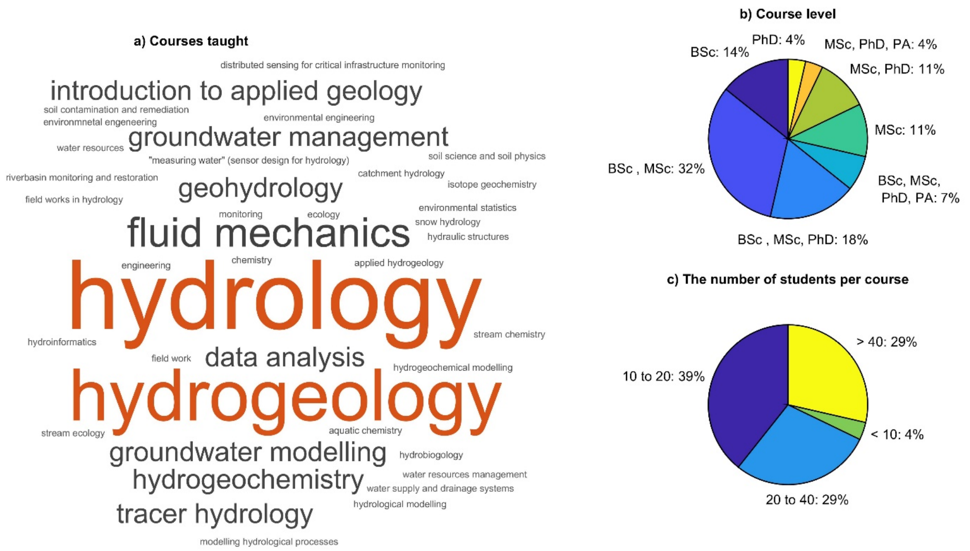

Figure 3 ***respondents indicated which courses they taught, represented as a word cloud (a). The larger the font, the more respondents indicated to teach the course (multiple answers were possible). The percentage of respondents teaching BSc to PhD level or post academic (PA) courses (b). The percentage of respondents indicated to have had <10 up to >40 students in their course (c).***

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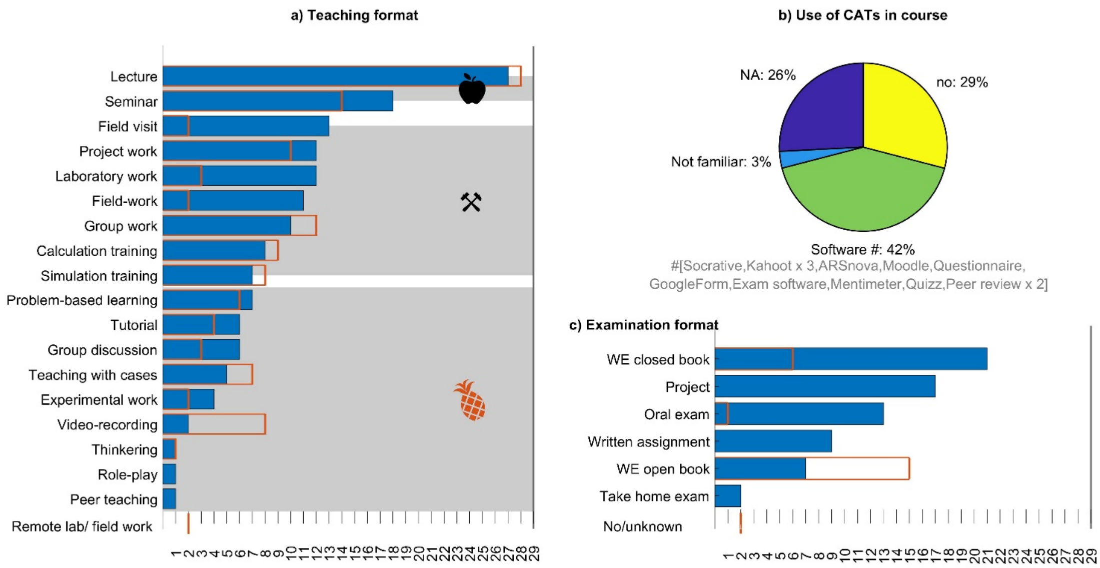

Figure 4 ***traditional, practical and exotic teaching formats indicated as 🍎, ⚒ or 🍍 respectively used by the respondents before preCOVID-19 measures (blue bars) and during COVID-19 measures (orange bar) where the x-axis indicates number of respondents (a). Percentage of respondents indicate to use classroom assessment techniques (CAT) using including a specific software/tool, not answered (NA), not, not familiar (b). The respondents indicated to use different examination formats before preCOVID-19 measures (blue bars) and during COVID-19 measures (orange bar) where the x-axis indicates number of respondents (c).***

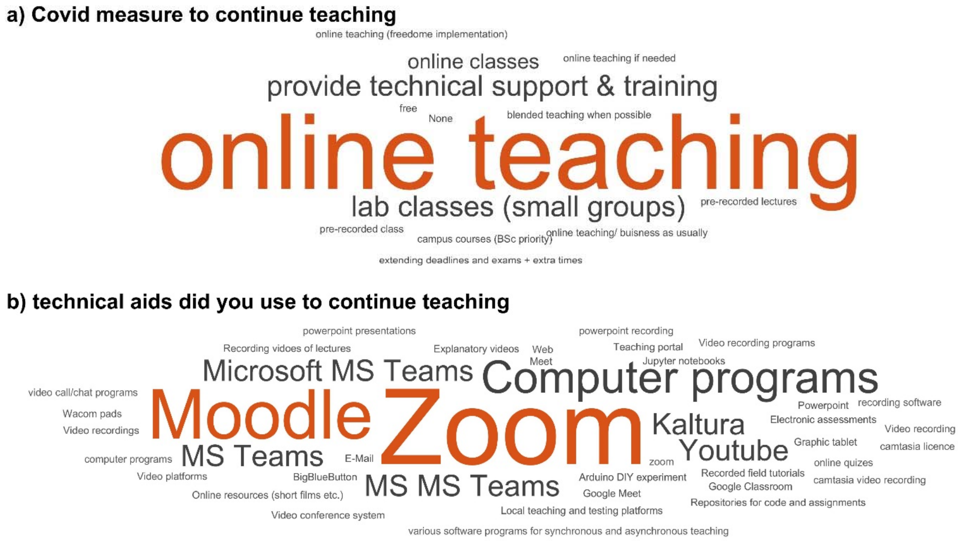

Figure 5 ***Measures (a) and technical aids (b) used by the respondents to continue teaching. The larger the font, the more respondents indicated to use the measure or aid (multiple answers were possible)***

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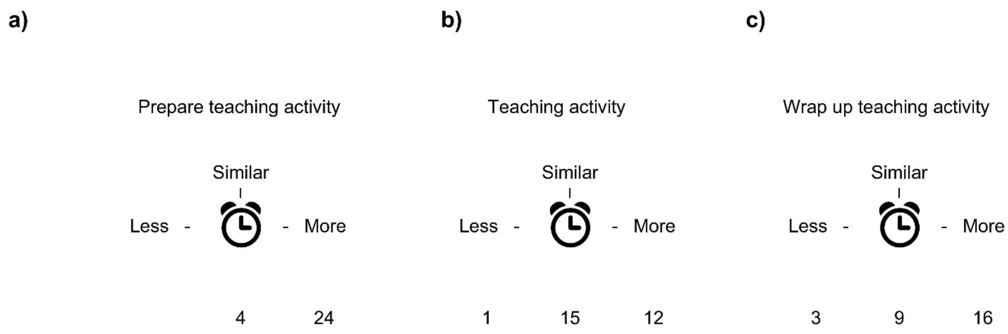

***Figure 6** The amount of time (less, similar or more) the respondents indicated to have spent compare to pre-COVID-19 measures preparing the teaching activity (a), during the teaching activity (b) and wrapping up the teaching activity (c). The numbers indicate the number of respondents.*

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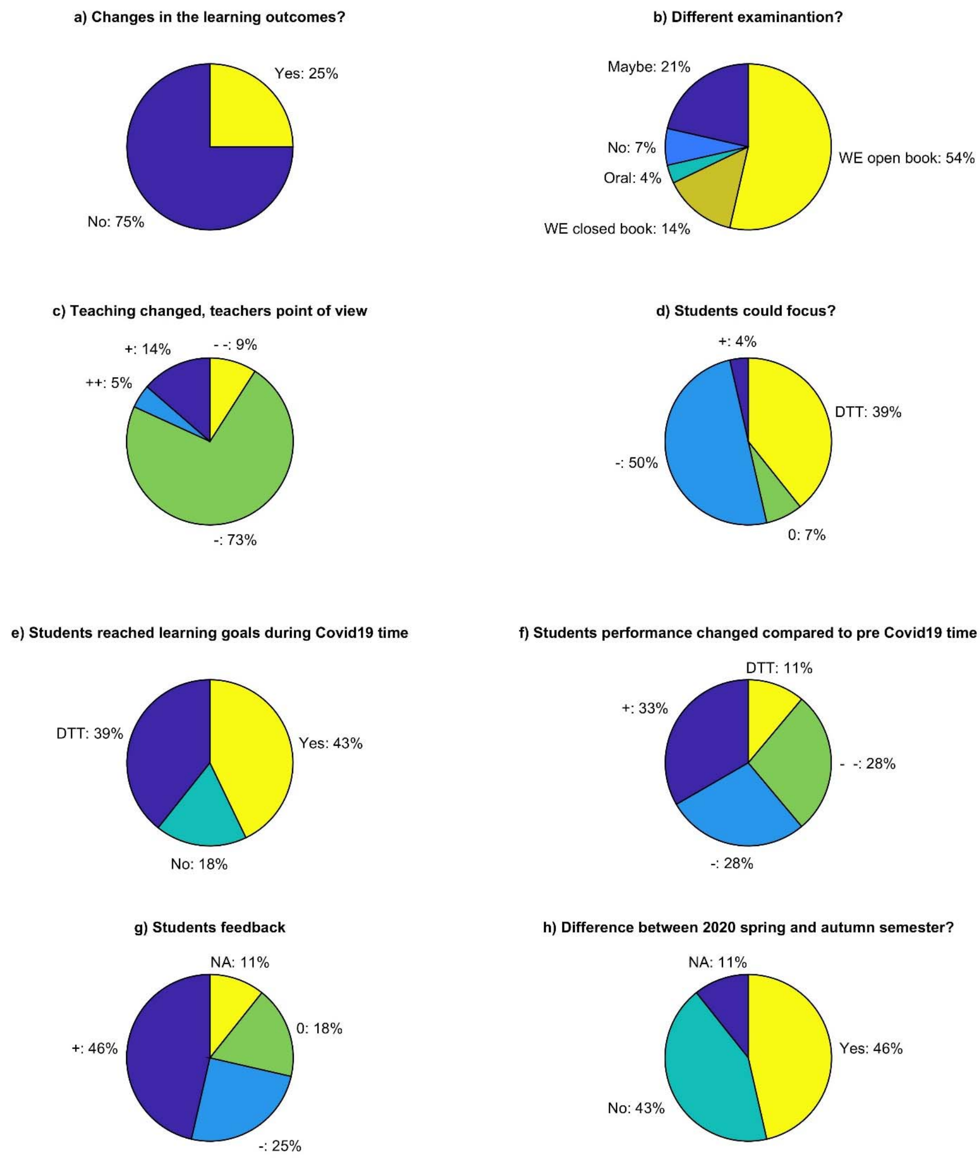

Figure 7 ***The percentage of respondents indicated that (a) the learning outcomes changed, (b) different examination were used (written exam as WE), (c) teaching changed from a teachers point (), students could focus (d), students could reach learning goals during COVID-19 measures (e), students' performance changed compare to COVID-19 measures (f), the student feedback (g) and if there was a difference in teaching between the 2020 spring and autumn semester? With positive or more (+), neutral (0), negative (-), very negative (--) and difficult to tell (DTT).***

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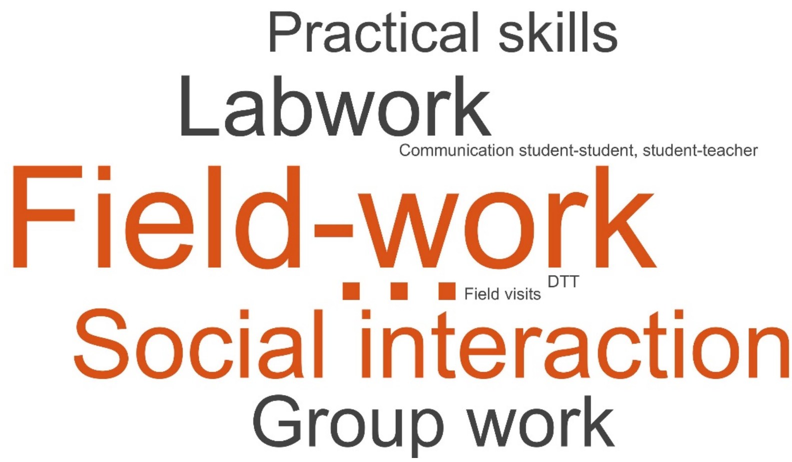

Figure 8 ***Which part in knowledge and skills in water education got lost due to COVID-19 indicated by the respondents. The larger the font, the more respondents indicated to use the measure or aid (multiple answers were possible).***

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Appendix

Table A1 Questions from the survey "The effect of COVID-19 on water education"

#	Question
1	At which University do you teach?
2	Please specify the country of your university where you are teaching at
3	What is the field are you are working in (e.g., hydrology, engineering, ecology, water manager, sociology ...)?
4	What is your role in teaching? (Multiple options possible)
5	Which level do you teach? (Multiple options possible)
6	Which courses do you teach (hydrology, ecology ...)?
7	How many students do you have on average in your courses? (One options possible)
8	Which format do you generally teach in your lectures (during non COVID-19 times)? (Multiple options possible)
9	Do you use classroom assessment techniques (kahoot, mentimeter, muddiest point, peer review...) in your course(s)? If so, please specify below which (ones) are:
10	Which type of examination do you generally use to (test) asses the knowledge of students (more options possible)
11	Describe shortly which measures your university took during COVID-19 to guarantee the educational continuity.
12	How much time did you spend to PREPARE the teaching and learning activities compared to the pre-COVID-19 measures?
13	How much time did you spend DURING teaching and learning activities compared to the pre-COVID-19 measures? (e.g., extra time needed to explain concepts or give support to students)
14	How much time did you spend to AFTER the teaching and learning activities compared to the pre-COVID-19 measures? (Examination, wrap up of course, ...)
15	Which technical aids did you use to continue teaching (e.g. computer programs ...)?
16	Which teaching formats did you use to continue teaching? (Multiple options possible)
17	Did you need to make changes in the learning outcomes?
18	If you selected in question Qv17 yes, please specify how:
19	Did the assessment/ examination of the course(s) change due to COVID-19?
20	If you selected in question Q19 yes, please specify how:
21	If the way of teaching changed, was this a positive or negative development from a teacher's point of view?
22	In case of negative development, what could be done to overcome these limitations?
23	Please fill in: Students were able to focus during the lectures:
24	Did you have the feeling that students could reach the learning objectives despite the Covid-19 measures?
25	If the way of teaching changed, how was the student feedback?
26	In case students had negative experiences, what could be done to overcome these limitations?
27	From your teaching experience, how good did students achieve their learning outcomes of the course(s) compared to pre-COVID-19 situation? The students performed
28	Was there a difference between the 2020 spring and autumn semester?
29	Which part in knowledge and skills in water education got lost due to Covid-19?
30	Open feedback (you can write here additional information you want to share concerning teaching during COVID-19)