# Contents

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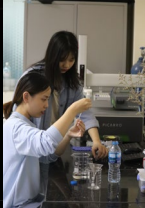# Online education: just do it?

## October 2020, Delft

Dear partners,

The COVID-19 pandemic has created the largest disruption of education systems in history, affecting nearly 1.6 billion learners in more than 190 countries and all continents. Closures of schools and other learning spaces have impacted 94% of the world's student population, up to 99% in low and lower-middle income countries  (UN, 2020*). The evolution of online learning has been widely discussed in the context of COVID-19. In fact, online learning has been proposed for years across the world, but received very little enthusiasm from universities, academics and students. It was not until the outbreak of COVID-19 that governments and universities had no choice but to work out online plans. It has not been easy. Nevertheless, in this issue we hope to inspire you with experiences, tips, and tools.

In this October issue, we share with you the online educational experiences of several staff members across different institutions. What have they done? What has been successful (and what has not?). How can transitioning to (some form of) online education have long-term benefits? Find out more in the article Furthermore, we have the usual news and upcoming activities updates for both our OKP projects, the 'Get to know us' section and a very special opportunities for professional development including the MOOC: 'Beyond Engineering: Building with Nature'.

# OKP Vietnam & Myanmar: News and (planned) activities

## Extended applied Python course: Soon in Vietnamese and Myanmar language



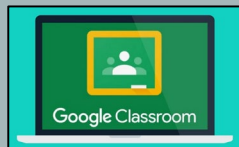Prof. Mark Bakker, a groundwater modelling expert of TU Delft, has developed an online course on exploratory computing with Python. Python is an interpreted, high-level and general-purpose programming language, useful for many applications including those in integrated water resource management and hydraulic engineering. Within Professor Mark Bakker's course, no prior knowledge of computer programming is assumed. Each Notebook is accompanied by a video which covers a specific topic and includes a number of exercises. A few years ago, these notebooks were translated and implemented into the curriculum in Indonesia, allowing over 25.000 students at the University of Bandung to learn Python. Now, within our Vietnam and Myanmar OKP projects, we're planning on having these notebooks and videos translated to the local language as well. This will allow researchers and students to learn Python all over the country.

You can find more information about collaboration on the TU Delft-Vietnam website: https://www.tudelft.nl/citg/vietnam/ and on the TU Delft-Myanmar website: https://www.tudelft.nl/myanmar/

## Introducing Google Classroom

Google Classroom is a free web service developed by Google for schools and universities. It is an educative platform allowing the sharing of materials and creation, distribution, and grading of assignments. How does it work? Watch this short video to find out. Soon we will demonstrate this tool to teachers of our partner universities to show how easy it is to use for communication and education during and even after this pandemic.



## Dr. May Ei's contribution to WWF Mangrove study

Mangrove restoration is a critical challenge for increasing resilience in Myanmar. A virtual workshop for the scope of the study on mangrove restoration and increasing resilience in the Ayeyarwady delta was held on September 24th. During the event, YTU lecturer May Ei presented her findings . Read the full story here.



## Isotope lab standards at HUNRE

Dr. Le and his colleagues have created lab standards using the Picarro at the Water Lab of HUNRE, using samples of water from different regions within Vietnam (mountaineous, coastal, urban). They will now send their standards to TU Delft and we will run them through our isotope analyzer (LGR, type LWIA) for a quality check.

# *Experiences, Tips & Tricks*

### *Maintain your rhythm*

*My trick is to keep the new rhythm similar to my previous 'offline' rhythm. I have been using some online tools for years already, such as discussion boards. I'm continuing to use these now, but the exchanges have also become online. In my particular class, I never lectured a lot, so I do not do that online either. The online time I use for student exchange. Online education is normal education, but by other means. It simply stresses the opportunities for exchange. This means that figuring out how to facilitate exchange is the main thing. I organize zoom break-out sessions for example, which force students into random groups. This is kind of cool, because students meet people and talk to people they normally would not meet or talk to in the physical classroom.*



*Dr. ir. Maurits Ertsen
Ass. Prof. Water Resources
TU Delft*

*"Online education is normal education, but by other means. It simply stresses the opportunities for exchange"*

### *Dealing with infrastructure issues*

*Of course you will deal with some infrastructure issues. "My connection did not work" has become the new "The bridge was open". To deal with this, I use online facilities that do not require real-life presence. The benefit is not just that you don't have to be online all the time, but it also makes online sessions more interesting. Most discussion points or questions have been dealt with on the discussion board, and the sessions are used for the more complex issues. I allow students to miss some classes. Essentially you need to make online education less vulnerable to real-life presence, and that is something you can do as a teacher!*

### *Keep your lecture time short*

*I think you should always keep your lecture time short. Teaching has nothing to do with lecturing. You can use a PowerPoint to structure your story and slow yourself down, but your talk should not be the focus. Talk briefly, provide written guidance on a platform and allow the online meet-ups for exchange between the students.*

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# Experiences, Tips & Tricks



Dr. Thom Bogaard
Ass. Prof. Hydrology
TU Delft

## Steep learning curve for teachers

I have almost 30 years of educational experience and this transition has been hard for me. It was kind of awkward to have to talk into the camera for the first time. I'm on a steep learning curve in discovering technology options, trying to find out what works best for me and my courses. The time investment has been huge, especially during the beginning. I don't think teachers should be afraid in admitting that they find online teaching challenging and frequently difficult. But as I have become more experienced and skillful in this process, I think I have become a more complete lecturer. I am proud of some of my new material and I will be able to use this both on- and offline.

*"We, as educators, have to be aware that as hard as it is for us, it is even harder for the students"*

## Participation through polls

It is hard to get students to participate online. I have been experimenting with using polls. These provide an easy way for students to participate, and also give feedback to the teacher. By testing the students through a poll, you can also know whether they understand the material. You can share the poll result on the screen and go more into detail on aspects of your material which are not yet clear.

## Smaller chunks of material

I think teaching online means having to make smaller stitches of material. You have to slice it up into different topics, and spend more time on exercises. I would even advise making pre-recorded, more professional videos for the material in small chunks.

## It is difficult for the students too

We, as educators, have to be aware that as hard as it is for us, it is even harder for the students. The information density is massive, and they must remain very self-motivated. You cannot blame them for zoning out sometimes. Instead you have to help them in staying focused. You can combine online and offline education. Give the floor to the students to do some reading, perhaps some exercises, and then organize an online Q&A which is active.

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# Experiences, Tips & Tricks

### Why not just stream?

The key thing to remember is that we need to have different e-learning products which relate to different types of students. This depends on the learning culture, the availability of internet, the learning goals and many other things. Within online education, people expect streaming products. Streaming, however, is in my opinion the worst. It carries the most risks because it requires the best internet connection and there is no back-up if students miss parts or the whole session. Furthermore, there are disadvantages regarding the student attention span because the sessions tend to be too long, and you cannot re-use your product easily.

**Dr. Hans van der Kwast**
**Senior Lecturer**
**IHE Delft**

*"Less hand-holding, more empowering people with the right tools to figure out things themselves. That should be the goal in higher education"*

### Adapt education to the local conditions

I often compare knowledge transfer to a delta-plan. You cannot copy and paste the Dutch delta-plan to South-East Asia and just expect it to work, where the climate, culture and almost all other conditions are different. It is the same for knowledge transfer. Although education worldwide may be based on the same principles, you need to adapt it to the local way. This brings with it some restrictions but there also are many opportunities. What are the local challenges, how do you solve them and what works best under these circumstances? I think in some ways digital means can even bridge cultural gaps in education. For example, sometimes asking questions or giving feedback can be easier through online platforms.

*Hans offers open courseware and online tutorials on GIS applications. Check out the IHE GIS OpenCourseWare page and his Youtube Channel.*

### Less hand-holding, more empowering

By profession lecturers like to talk and show they can lecture. However, I would advise to not lecture at all. Instead, pre-record videos and use the live sessions for activities and interaction. You can even create some competition, students like that! Package your learning goals in good online products so that they do not need the teacher to continuously guide them. Do less hand-holding, more empowering people with the right tools to figure out things themselves. That should be the goal in higher education.

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# Education - pushed to change - could lead to surprising innovations

## Short-term benefits:

Work from anywhere, at any time
Less intimidating
Flexible learning schedule/learn at own pace
No travel time
Eco-friendly

## Long term benefits:

Re-use of materials

Increasing your impact

Cost-effective

Curricula update more regularly

Life-long learning

Quality control (by sharing with community)

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# Get to know us!

In each newsletter, we introduce Dutch OKP partners. In October we introduce Joan and Tiedo.



**Name:** Joan Looijen
**Current position:** Lecturer, ITC Twente
**Main expertise:** SEA & EIA using spatial decision support tools, dynamic land use modelling, land cover mapping, ecology
**Passionate about:** Hiking (with dog), cycling, gardening, working with clay
**Contact:** j.m.looijen@utwente.nl

**Role in OKP projects:**
Knowledge exchange, organising and giving (online) courses

**Favourite thing about South-East Asia:**
The culture, kindness & enthusiasm of the people, nature and climate

UNIVERSITY OF TWENTE. | ITC



**Name:** Tiedo Vellinga
**Current position:** Professor Emeritus Ports & Waterways
**Main expertise:** Sustainable ports and waterways
**Passionate about:** Sharing knowledge on inclusive development and nature based solutions
**Contact:** T.Vellinga@tudelft.nl

**Role in OKP projects:**
Training and lectures

**Favourite thing about South-East Asia:**
The people, their culture, the beautiful nature, the vast potential for further development and the eagerness of the students and locals to learn about sustainability.

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# Opportunities

## MOOC Beyond Engineering: Building with Nature

If you're a coastal engineer, ecologist or planner, then this is the course for you. You already know that engineering and ecological principles are not enough to realize nature-friendly solutions in practice. You need people on your side! Join this course and explore the interface between hydraulic engineering, nature and society.

Follow this course for free & at your own pace

**Sign up here**

3 - 5 hours per week for 5 weeks, self-paced

## Course objectives:

- Identify relevant stakeholders for the design and implementation of nature-friendly hydraulic infrastructure.
- Analyze the power and interests of these stakeholders, including their interdependence in terms of resources.
- Apply basic game-theory principles in combination with the stakeholder analysis to determine potential coalitions in a Building with Nature project case.
- Evaluate the suitability of the coalitions for designing and implementing a particular Building with Nature project case.

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# Opportunities

International Water Resources association (IWRA) 2020 Online Conference:

## *Addressing Groundwater Resilience under Climate Change*

*28-30th October*

[Register here]

International Water Resources Association
IWRA

## *Van Oord's Online Climate Adaptation Webinar*
22nd  October

Van Oord
Marine ingenuity

Our climate is changing rapidly. We need to adapt for future generations. That's why Van Oord is launching the Climate Adaptation Action Plan; a plan that features new perspectives for communities, cities and governments.

[Register here]

## *The Rural Water Supply Network (RWSN) Late Webinar Series*
*Every Tuesday from October 13th, 2020 until December 1st, 2020, in English, French and/or Spanish.*

[Register here]

| Date | Topic |
|------|-------|
| Oct 13th | Water supply in rural areas: the right for a regulated and sustainable service |
| Oct 20th | Prioritization and sustainability of rural WASH service delivery |
| Oct 27th | Strengthening accountability and broader WASH systems in fragile contexts |
| Nov 3rd | Increased resource mobilization for rural WASH in Africa |
| Nov 10th | Achieving sustainable WASH at scale; lessons from an NGO-led Payment by Results Programme |
| Nov 17th | Data for rural water decision-making |
| Nov 24th | Exploring the relevance of borehole drilling associations |
| Dec 1st | Overlooked and underestimated: The role & importance of household investments |