WAGENINGEN
UNIVERSITY & RESEARCH

Tips & Tricks based on experience with an OCW funded project

Co-creation of an online living laboratory for a water management design course

Gerlo Borghuis & Alex Bolding

Environmental Sciences Group

DATE
11 June 2024

AUTHOR
Gerlo Borghuis

Table of contents

1 Introduction

The following document contains seven tips & tricks for the development of an online living lab / an online case study. These tips and tricks come from the project team and are meant for other teachers and educational innovators, who are planning to set up a living lab or work with an online case study. These tips and tricks are particularly applicable for the environmental sciences domain and for working in an international context.
Before we provide our lessons learnt, we will briefly summarize the process of re-designing our water system design course, providing an overview of the steps we took to create an on-line living laboratory in Jordan.

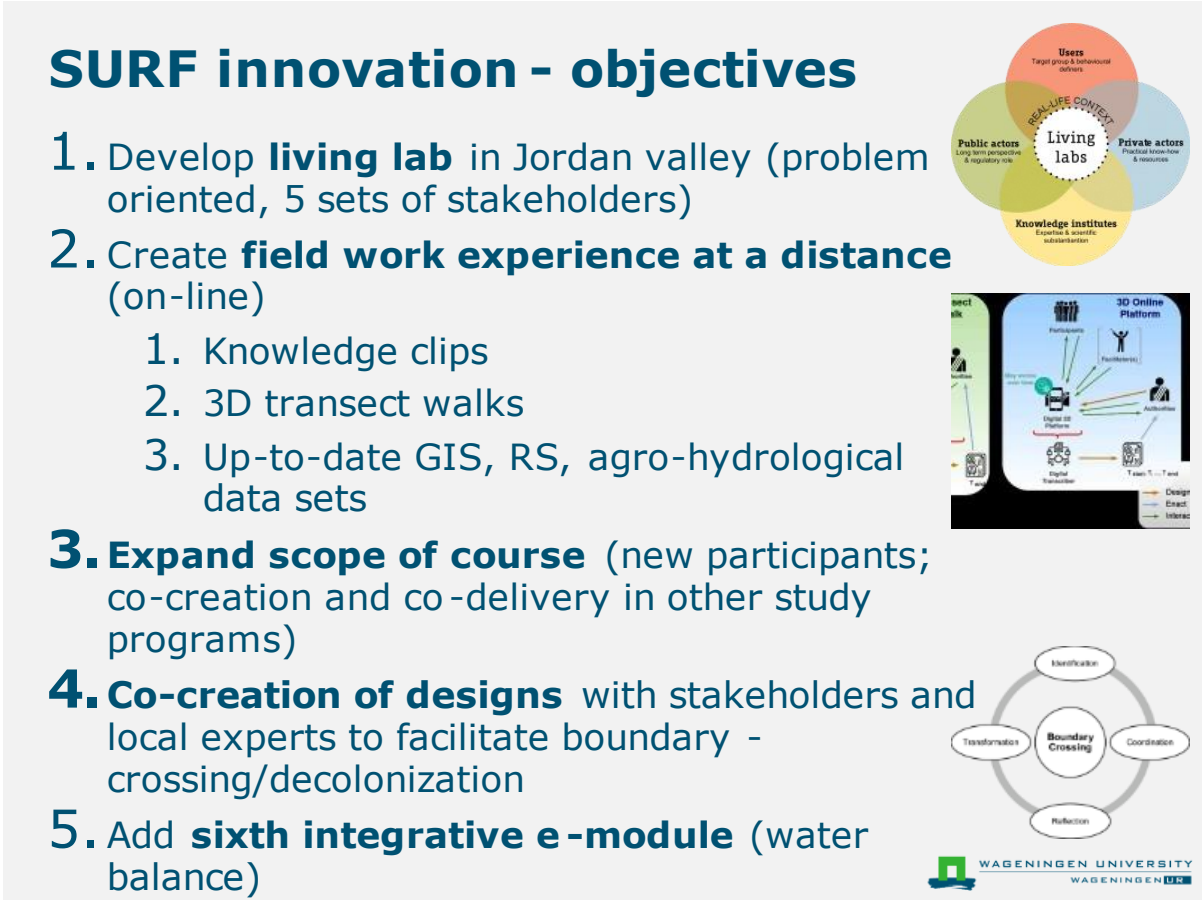
2 The re-design process and steps we took to establish an on-line living laboratory in Jordan

The picture above provides an overview of the steps we undertook to innovate our water system design course at Master level, between August 2021 and December 2023 (when the pilot run of the course was completed).

3 Preparations – Re-design of existing course

We already had a water system design course, which was based on a passive case in India. Over time we ran into a number of (common) problems: the knowledge clips which had been shot on location five years previously slowly got outdated and so did the available data base. Moreover, the stakeholders featuring in our old case played no active role, hence the students had to rely on the expertise we could offer through our own teaching team. Moreover, this strengthened the undesirable tendency to rely on Western expertise and ideas of what was desirable development, which we felt did not auger well with our intention to decolonize the science used in our course.

In our new vision for the course we wanted to emphasize the need to simulate existing (consultancy) design practices, whereby students engage with a real-life design challenge offered by a local commissioner (problem-owner) in a water stressed context, developing cross-disciplinary solutions based on decolonized assumptions and locally available knowledge and desires. This new vision implied the selection of a new case (Jordan Valley in an extremely water scarce context) and a new didactic approach, whereby local stakeholders (farmers, policy actors) would be central (in knowledge clips and by providing both the design challenge and locally available data). The fact that we could not take our Wageningen based students on an excursion to the project area, meant we had to develop an on-line interactive map (featuring 7 key stakeholders), update our 5 existing e-modules and calibrate them to the Jordan valley context, and mobilize potential commissioners in a so-called living laboratory. We also wanted the developed material to be available for local Master programmes offered in Jordan itself, thus also allowing for co-creation of the educational materials.
We applied for funds to SURF to develop the on-line, open access educational material and establish a living lab with the following objectives:



4 Preparations – Five missions to Jordan

As soon as we received approval from SURF, we embarked on the first of five missions to Jordan. The first *scoping mission* aimed at getting to know key stakeholder (organisations) in the agricultural water field, identifying potentially interested partners (farmers, policy actors, consultancies). In total 30 representatives of various organizations were contacted and interviewed.
During a second follow-up mission we visited potential partners, who engage in higher education and research, identifying interested lecturers/researchers and scanning existing curriculums that are on offer in Jordan. We soon noticed that Jordan's status as donor darling meant we were often confronted with rather steep demands in terms of funds and manpower compensation. This forced us to rely on an existing network of Wageningen and IHE Delft alumni, who were intrinsically motivated to work with their *alma mater*.

During the third mission we organised a *curriculum development* workshop with lecturers from interested knowledge institutes and visited the 7 key stakeholders, who would feature in our knowledge clips and interactive map. These were also potential commissioners, who could act as problem owners and coaches for our student design teams. However, we failed to obtain official permission to film and entered into a byzantine process of formulating MoUs with various Ministries.
An extra, unforeseen, mission was organised just before the filming mission with the explicit aim of *obtaining official permission* to film government owned infrastructure and interview interested government officials.

However, when we finally embarked on our *filming mission* with an professional cameraman from our University's audio-visual department, we still did not have official permission. Helped by our now extensive network of relations, local champions and one of our own Master students (who spoke the local language), we nevertheless charged ahead. After 8 days of intensive filming and interviewing we hit a wall – we had to stop filming and were not allowed to continue our planned interview with a key government official. With help of some pressure from the Netherlands Embassy and a lot of goodwill from the Secretary General of the Ministry of Water and Irrigation, we managed to repair strained relations and finish the key film shots and interviews.

In the succeeding months, when the audio-visual department edited and processed all materials, we still found some key information missing. However, our Master student who had embarked on his thesis research in the Jordan Valley, managed to film and send us this missing footage.
Below we highlight seven key lessons we learnt when we established our living lab and collected and co-developed the necessary educational material (you can also watch the 9 minute movie we made about setting up a living lab in Jordan - https://wur.yuja.com/V/Video?v=726849&node=3567023&a=98631622)

5 Tips and tricks

5.1 Locate local champions and look beyond the scope of your course

A strong local partner is vital for the success of this type of project. It is impossible to set up a living lab in another country without the involvement of local actors who share the same vision as yourself. Invest time to find these people and use your (alumni) network to locate them. It is vital to spend time together and to get to know one another.
Try to identify synergies between your project and the projects a local partner is already undertaking. What can you offer to local partners? Sometimes a foreigner can open doors that remain shut for locals, which can be beneficial for both parties. Hereby it is important to not only look at the course and the project at hand, but also look at other (project) opportunities.
In our case we performed four missions to Jordan (each for about one week) in order to establish relations and develop a network. While at the same time also acquainting ourselves with the local context and to learn as much as possible from local experts. After these four missions we felt prepared enough to do the filming mission, which shows that investment in relations is needed before jumping to the actual work.

5.2 Enrol didactic and audio-visual experts as soon as possible

Within this project we were assisted with the help from didactic experts from the Teaching and Learning center at WUR. Teachers often have the tendency to really dive into the content of a course, which is not always helpful during the (re)-design of a course. Enlisting the help of didactical experts made sure we designed the course in such a way that it would enhance the student experience. Didactical experts offered us new viewpoints, which is sometimes overlooked by us lecturers. They can also assist the teachers in the development of their education material, and can propose certain ways of working and organizing the course.

Within WUR we are very lucky to have our own studio and audiovisual department. Since our project relied heavily on filmed material, we enlisted their help early on in the project. They freed up one of their cameramen to support us in our project. He also accompanied us on our filming mission to Jordan, making sure all the camera related aspects were taken care of. This allowed us to focus on organizing the interviews and filming locations, doing the interviews itself, checking if we got all the material we needed etc.

Enlisting the help of these experts early on in the process also ensures you are not designing a course (or elements of it) which turn out to be (technically) not feasible in the end.

5.3 Make sure you secure the necessary permissions to film

From experience we know it can be tricky to film certain infrastructure or to interview stakeholders. Particularly when the topics discussed have strong political aspects. Therefore make sure to ask explicit permission from the authorities involved, before planning the actual filming. In this project we even organized a separate 4-day mission to Jordan in order to secure the necessary permit from the Ministry of Water and Irrigation. So this step can take serious investments in terms of time and financial resources.

Another possibility to ensure the right to film can be through a strong local (governmental) actor. In our case it was also very helpful to have the backup of the Dutch Embassy in Amman. Make sure they are informed about your plans and actions, and if necessary they can maybe help to pull some strings (formal or informal).

For both locations and interviews you also need waivers of the filmed material. These waivers state that the responsible person / organization gives permission to the university to use the material in a education context. We encountered one stakeholder who also wanted to review the edited material. This is something you can facilitate, but make sure to think about the practicalities. And think about the compromises you are willing to make, once the person objects to the use of certain fragments.

5.4 Define beforehand how you will evaluate the projects' success or failure

In order to evaluate the project's success a framework for evaluation is needed. Especially when a course is renewed it is helpful to already start this evaluation when running the old version of the course. Special attention can be paid in the final version of the old course on points you wish to improve through the course innovation. In our project it was very helpful to enlist the help of an education innovation expert, who could help us to set this up.

In order to determine the success or failure of the project it is vital to assess students opinions about the course. The next step is to assess what the teachers in the course think of the innovation, and how it changed the interaction with the students. In the case of a living lab it is also necessary to involve the local actors in the evaluation and assess how they experienced the project and what they would like to improve upon.

5.5 Find funds to do a follow up and sustain the living lab

In order to keep the living lab 'living' continued activities are needed. Therefore it is helpful to already think about possible follow up projects and funding at an early stage of the project. Especially since writing proposals and obtaining funding is not always successful. In our case we submitted two proposals during the course of this project, trying to secure follow up funding. Both of these proposals were not granted however. This is hampering the current involvement from our side in the Jordan Valley.

Another good way of sustaining activities within the living lab is the involvement of students through thesis or internships. They can be in the field for longer times (several months) and allow for a relationship with the region and local partners. In our case we had two Master thesis students in the field during this project. They also proved to be essential for building relations and collecting field data which is very beneficial for our course. Involving students is something you can already try to set up before the project even starts. It is a low key starting point, also for involvement of local partners.

5.6 Devise a good way of organizing, transcribing and translating all the filmed material

This relates to point 2 in this list of tips and tricks, and it is a subject an audio visual expert can assist you with. In this project we ended up with an enormous amount of filmed material, after filming eight days in the field. This material consisted of filmed interviews, infrastructure, 360 images, and various B-roll shots.
Some of the interviews were done in English, while others were done in Arabic with the help of a translator. We needed to get these interviews transcribed in order to select certain elements we wanted in the edits of the filmed material. In our case these interviews were transcribed and translated by a specialized company, making sure we had quick access to the transcribed material. This allowed us to make quick selections in the material, to prepare scripts for editing.
The same goes for the clips with infrastructure and B-roll. Our cameraman organized all the material in a very concise manner, in one labeled catalog. This made it very easy to search for specific shots to be included in the edit. It also helped that our cameraman had been with us to the field, so he understood the local context and what we wanted in the end.
The advise would therefore be to have the camera person also do the editing. This saves a lot of effort and explanations (which we have experienced in earlier project).

5.7 Agree on which online platform you will use to host and share learning materials

It is helpful to do this early on in the process, so all project members understand the conditions and limitations for the use of the developed materials. It also aids the communication with local partners who are also interested in adopting the same learning materials. Different organizations often use different platforms to host their learning materials. Knowing what the limitations are of these platforms are, allows you to devise a strategy to ensure materials can be used on multiple platforms at the same time.

Good luck with your own innovative efforts!