Ingunn Marie S. Engebretsen
Senter for internasjonal helse

Institutt for global helse og samfunnsmedisin

Universitetet i Bergen

**Scholarship of teaching and Learning (SOTL)-project UP50 2017**

This SOTL assignment discuss the 5 credit Master course Global Nutrition INTH360 which goes in the spring and if the time and labour intensive task 'practical food exercise' should be included or not. It builds on two years' teaching experience and one specific student evaluation.

## Background

One of the mandates of the professorship in Global nutrition at Centre for International health at UiB is to bring in global perspectives into the Nutrition scientific environment at the Faculty of Medicine. The cross-department involvement at bachelor and master level in supervision, course design and teaching is one way to achieve that.

I started new in the position 'professor in Global Nutrition' in February 2016 and immediately got the course responsibility for INTH360 Global nutrition among other courses and teaching obligations. The course had a history of about 10 years where I was pulled in as a PhD-candidate teacher in the early years of the course where my supervisor was a coordinator. Thereafter, the course was taken over by another professor who reshaped it, and due to the University requirements finally set the learning objectives for the course. These were agreed in the PU (Programutvalg) at the Centre for International health and in agreement with the PU in Nutrition. I've now been running the course twice and in this period I've had the responsibility to get it Troped accredited. The latter has been a lengthy process. This process has required rephrasing of the learning objectives.

The course has a mixed student group: It is compulsory for students recruited for a Master in clinical nutrition (predominantly Norwegian students); it is an elective course for Master students in human nutrition (predominantly Norwegian students); and Master students in international health (predominantly internationally recruited) and others. In addition, it is open for students from abroad, particularly on specific exchange programs with UiB. The course is taught in English.

The course is fairly packed with comprehensive learning objectives spanning from particularly undernutrition issues from epidemiological and clinical perspectives, micronutrient deficiencies (hidden hunger), insight into hunger and famine, food systems, assessment methods, nutrition and the largest diseases of the poor.

Nutrition, health, agro and policy perspectives are implicit for each theme. As part of the nutrition and agro-perspective some food knowledge and food experience has been integrated into the course. This has often involved food demonstrations of the commonest foods in LMICs.

The framework of the course is not generous as we have been given 3 weeks in May, often comprising at least 3 public holidays (1st May, 17th May and either ascension day or the 2nd Pentecost day). The exam is traditionally the last course Friday. It is also the last course of the compulsory course year for the Master students. Thereafter they will commence with their individual theses. The reason this course goes over three weeks, rather than over a full term which is common elsewhere at the faculty, is because the Centre for International health has a course schedule which is built up of many intensive short period courses to facilitate travelling for the staff and visiting students. Many of the incoming students travel on project grants and pick elective courses. This is also favourable for the exchange students.

The grading is now decided to be based on three assignments: An individual assignment where the individual get the chance to discuss a given topic; a group assignment which should stimulate a more complex understanding of a given problem; and a short exam which is intended to test some actual knowledge. Examples for exam questions are opportunities and limitations of the use of attained and velocity growth z-scores, basic strategies to improve micronutrient status in populations, or the principles of treatment of Severely Acute Malnutrition (SAM) in children.

After two years of coordinating this course I've unanimously heard complaints from the Norwegian students that the course is 'too packed' in content, assignments and things they have to do. The international students have not complained at all as they expect to get 'value for money and time they spend here' – they have the attitude that they want as much as possible of teaching, material and learning assignments for immediate use in their own research or teaching.

A practical food exercise has always been in the course. Initially this was intended to expand on the student's exposure to particularly common staple foods around the world and one could pull in knowledge on nutrition and health issues which could be associated to a predominant intake of one staple food. A classic example from our teaching has been the in-depth explanation of the relationship between different types of Cassava, peasant agriculture and processing, the nutritional benefits and also potential risks associated with high intake of wrongly processed bitter cassava which may result in a disease called Konzo. Having the food exercise thus expands on the students' theoretical knowledge to a more actual knowledge touching, preparing and eating real cassava. The professor having the course prior to me expanded on this and involved a chef. The students could then get better culture specific meals with the given new staples and common sauces.

The first year I had the course the chef assisted us. The exercise took almost a day and we were creating many meals. This was costly, labour intensive and engaging. All the nutrition students saw many new ingredients including stapels, combination of ingredients and preparation techniques which was completely new to them in this

case representing specific regions from Atlantic Africa. Quite a few expressed a major cultural shock due to cooking challenging their perceived bio-medical view on ‘healthy food.’ For example, seafood, goat meat and cassava leaves were combined in a very rich dish. Excessive use of palm oil, peanut flour, peanut paste and chicken were used. Lots of staples and roots were prepared. Eating the food became particularly challenging for many of the students being preoccupied with prevention of overweight and healthy diets. As we were not having facilities in the office work-place I offered my kitchen for around the 20 students and staff.

The second year I had the course I made a pragmatic effort on integrating theory and practice. The chef from earlier years was unavailable, I could no longer offer my private kitchen as a cooking scene, I wanted to reduce on time spent in the schedule for this exercise, and I wanted to reduce the cost for the institution by asking the student groups to present some global foods and give theoretical information on the food. Thus, I had two completely different food exercises to compare, the one with and the one without a chef. The latter is considered more doable, less time-consuming (6 compared to 12-14 hours on me) and less costly (scattered small costs on students) and is seen as a more sustainable learning alternative in this course than previous exercises.

As the food exercise is one of the most time and labour intensive tasks for both the students and teachers, one must ask if this is justifiable in terms of learning.

The arguments for dropping it would be:

- Saving time for the students and replacing it with some teaching and more reading time
- Saving effort and time for the staff, purchasing food and prepare localities for it
- Saving money for either the institution or the students (buying food)
- There is not the same need anymore for including this in the schedule as the students are more exposed today than when the course started 10 years ago to international foods

Some arguments for keeping it would be:

- Even if someone has knowledge to the commonest staple foods in LMICs, not everybody has that, and we must make sure this course provide that knowledge to all (this is justified from the learning goals)
- Doing something practical and using other structures of the brain than one does through classical reading facilitate ‘deeper’ learning. The students experience go through touching, tasting, smelling. They have to collaborate and plan.
- The exercise facilitate an analytical abilities when one has to prepare the food and they experience time use under convenient circumstances. They will then more easily understand how preparation effort and time might be under difficult circumstances.

As part of the assignment in UP50 I would like to take the opportunity using the concept ‘Scholarship of Teaching’ as presented by Randy Bass 1998-99 (The scholarship of teaching: What’s the problem?) and define some problems in

INTH360, Global Nutrition. I relate to her expression: “I felt an acute pressure to reconstruct my course and teaching methods one element at a time, and to justify, track and evaluate each component of that reconstruction.” Within the framework of this assignment I have picked “one element” for potential reconstruction, and I have then chosen the “food exercise”. Further, I also relate “from seeing my teaching (…or course design…) as a problem (or failure)” to actively assess some elements for “deeper understanding.”

**Problem statement**

The presented course INTH360 has many ambitious learning goals and the framework for the course is not ideal. The problem is that the students complain either that they have too much to do in the course or that they have too little time. Then one immediate response to that could be to withdraw things from the schedule, particularly the ‘food exercise’ which is most time consuming. Alternatively, one could based on an evaluation of the experience design another approach and evaluate (exam) if that facilitates deeper learning and understanding.

The SOT-problem has been research question:

**Research questions:**

A. Should one for the next years continue including food demonstrations of the commonest foods in LMICs according to the 2017 version?
B. Using the Randi Bass description: “How can the food exercise be reconstructed based on prior experience and knowledge”?

**Methods:**

In order to address my research question I gave the ‘food demonstration’ a prominent part of this year’s course evaluation.

The evaluation comprised the themes 1 and 2 below with the corresponding items a and b:

I) If they learnt something new.

a) The group work made me aware of some foods I did already know
b) The group work made me taste some foods for the 1st time

II) Assessment of whether this should be kept in the schedule.

a) We should have had much more practical sessions like that in order to understand food systems
b) We should have been cooking with people using the food in order to really understand even if it takes much more of the reading time

The evaluation was graded in a scale from 1-4, where 1 was “strongly disagree”, 2 “disagree”, 3 “agree” and 4 “strongly agree.”

This was distributed to all the students present (24) with a 100% answer rate.

The second part of these methods has been to discuss this course content with another professors in Nutrition and a participating teacher after each course I have had. Those discussions have not been systematic, but views from close colleagues are influencing the discussion of the findings.

**Results:**

Below is a summary of the student evaluation from 2017:

I) If they learnt something new.

The question “The group work made me aware of some foods I did already know” had an average score of 3,2. This means that the average impression was that the students ’agreed’ that they increased awareness. 4 students responded “2” which is understood as no new exposure. No students responded “1”.

The question, “The group work made me taste some foods for the 1st time” the average value was 3,4. This means that the average impression was that the students ‘agreed’ that they got new experience.

These results were replicated in the mirroring “negatively” phrased question: “Most students now, especially in nutrition, are interested in food and exposed to a lot of food so I did not really learn anything I did not know.” The average here was 1,6 (disagree).

II) Assessment of whether this should be kept in the schedule.

The question: “We should have had much more practical sessions like that in order to understand food systems” the average score is 2,0. This ‘disagree’ to have more of this in the course.

To the question: “We should have been cooking with people using the food in order to really understand even if it takes much more of the reading time” the average was 1,6 ‘strongly disagree’.

Of qualitative input the suggestion to move the exercise to the beginning of the course came up with the argument that then students would not be stressed by other written assignments they had to do.

Further, some students suggested that the teachers should provide them with recipes so the students did not have to come up with any suggestion. In addition, one student suggested that the teachers should do all the practical preparation.

**Discussion**

The impression from the evaluation was that the students actually increased awareness and exposure, but did not want to expand on this way of learning. This confirmed my impression as a course coordinator, even if they got new exposure and experience, they don’t want it that much in their course period. The exercise is not well integrated into the course and the students, even if they are given new insight, do not appreciate it fully.

The discrepancy between the reported ‘learning’ – getting to know something new (which was also reflected on the exam); versus the feeling of time pressure in the course and that this was ‘wasted time’ which should not been given higher priority can be understood in different ways.

- Lack of alignment: Even if the students learnt something, they did not experience that they needed that for their exam. It had a participatory requirement and was time consuming, but the invested time was neither reflected in grading or very clear learning outcomes they saw they needed for their exam. This could have been the case even if lots of integration aspects (Noyd, CEE white paper 08-01) were incorporated in the peer- and teacher feedback of the theoretical and practical presentations, particularly in 2017.
- Imprecise or under-communicated learning goals: The students got to do an assignment, but at the time of the task it was not clear to the students why they had to do it. Thus, it seemed like just another ‘have to do’ task out of context, which was not the intention from the teachers.
- Timing: Traditionally the exercise has been at the end of the course – like a ‘celebration’ of the course-ending. Due to many different reasons, it was now moved to the second last week of the course. This is maybe a period where the students are at the peak of their theoretical engagement. One suggestion could be to make sure it comes towards the end. Another suggestion which came from the students was to put it really early in the course when students are in an explorative phase and more open towards diversity and less stressed.

Participation and interaction aspects are brought forward and place learning into contexts in a late pedagogical discourse (Wittek and Brandmoe in Ed. Strømsø, Lycke, Lauvås 2016, Når læring er det viktigste, Ch 2). Thus one could find tensions in the pedagogical principle of ‘alignment’ bringing precise definitions of learning goals and corresponding assessment methods in some kind of tension to a broader, holistic approach to engagement, involvement and maybe even enjoyment of other cultures and conditions for living.

One way to reduce that tension could be to use Noyd’s primer on writing effective learning –centred course goals for the exercise, for example:

- Foundation knowledge: Know the major staple foods used in LMICs and their nutritional content, particularly their protein content and major micro-nutritional values. Understand basic elements of potential toxic effects of certain foods and barriers to nutritional absorption.
- Application: Use the nutritional knowledge and calculate amount of staple food needed for a child in growth, a woman in reproductive age and a man doing manual work. Imagine and judge work amount in hours and efforts for providing meals to average size families in particular contexts.
- Integration: Identify similarities between certain staple foods and food cultures.

- Human dimension: Understand others in terms of dietary practices, conditions, cultures and environments. Be able to work in research teams studying dietary practices, conditions, cultures and environments.
- Caring: Get excited about understanding dietary conditions in areas of high stunting prevalence. Value the complexity of implementation of nutritional programmes.
- ‘Learning how to learn’: A larger course aim and maybe not that particular for this course task.

According to Noyd’s there is a need to share and communicate the goals with the students. That has not been done at a systematic level for all the course items. The course has had the shape according to Fink as a “list of topics.” Gradually, I will decompose and restructure the topics as I mentioned in the introduction citing Randi Bass. One such start could be the use of Noyd’s structure as indicated above on the food exercise and communicate that to the students. I will put this exercise in the beginning or end of the course schedule.

By doing so I see an integration for the students’ and teachers’ need for alignment and the wish to teach and learn in a holistic culture context bound environment. My colleague has suggested practical tasks for the application going from a ‘a student/self-centred approach’ to a ‘clinical approach.’ One example could be calculating and presenting adequate diets in terms of calories and iron using clinical examples, (one child, one woman of reproductive age and one man with specific physical tasks) using the most common staples and vegetables. This could be aligned directly to testable exam questions, where we tease out knowledge important for populations on 90% caloric intake of the commonest staple foods (yam, cassava, insette, rice, maize). Personally I would be eager to this new approach based on my prior experience described above.

## Conclusion

The conclusion of this SOTL exercise is that instead of being discouraged to integrate a practical student task, I have realised a way to better define and communicate the task to the students. I am optimistic this will benefit the course from 2018 and onwards.