Course evaluation report BIO300A Akademic writing 2020

Learning outcomes:

After taking this course the students should be able to:
1. write all parts (IMRaD) of a master thesis
2. write a theme into a scientific context, with critical use of core scientific literature
3. present a research project in collaboration with others and in relevant formats
4. present results and data and write them into a text
5. write clear academic texts with flow and style

Course design:

The course was designed as a team-based learning inspired course with a variant of portfolio assessment. The main assignment is to write an IMRAD-paper where Methods and Results (including two descriptive figures) sections were a group project and Introduction and Discussion were individual assignments. The groups first had to decide on a theme, question and find some data to answer the question. In mid-October the students submitted a draft version, which were peer-reviewed by two other students, and commented by TA's and the teacher. The main results from the group work was presented orally at the Poster day at BIO. In addition, the students worked through smaller assignments in MittUiB, one for each module.

Each activity was scored with points according to the following plan:

	Type	Draft due	Final due	Assignment	Points	Hours expected
Find question & data	Group	Early Sept				7,5
Write an introduction	Individual	Mid October	Peer review Early Dec	Final	150	30
Material and methods, figures & results	Group	Mid October	Peer review Early Dec	Final	150	30
Discussion, title & abstract	Individual	None	Early Dec	Final	75	15
Presentation	Group	None	Early Dec	Presentations	40	5
Peer review	Individual		End October	Peer review	45	7,5
Other bits and pieces	Learning activities in the modules				140	35
				Total	600	130

The course were fully online according to the following timeline:

			Week 34 Course overview Module 1 Welcome Form groups, discuss plans & expectations	Week 35. Module 2 Practical info & IT. Module 3. Library use.
August				
September	Week 36 & 37 Module 4 Work on group project Find data for paper. Groups submit plan.	Week 38 Module 5 Graphs, visualization & results	Week 39 Module 6 Materials and Methods	Week 40 Module 7 Writing Introductions. Use of references.
October	Week 41 Module 8 & 9. Writing a discussion. Academic writing.	Week 42 Module 10. Peer review - how science is made	Week 43 (no class) Submit draft paper	Week 44 (no class)
November	Week 45 Module 11. How to succeed with your master Submit peer review.	Week 46 Comments & feedback on draft report from teachers	Week 47 Module 12. Posters and oral presentations	Week 48 (no class)
December	Week 49 Presentations		Week 51 Submit final version of full report + discussion	JANUARY: Comments and grades back. JANUARY: Final grades set

Some thoughts on the course outcomes from the main teacher:

The course design was quite experimental: it included many assignments – one in each of the modules, a peer-review activity where the quality of the feedback was assessed and scored, and we used the rubric and gradebook functionality in MittUiB for the assessment. In addition, all meetings with students and all learning activities were digital. Since the course

was redesigned and digitalized most of the learning activities and modules were developed as the course were progressing, with quite some pressure on TA's and teachers. The total amount of formative feedback and assessment (with ca 90 students) also placed a heavy workload on TA's and teachers, particularly during the time the draft version was submitted, and for the final assessment of the IMRAD papers.

Practically all students submitted a draft version of the paper, partly because this was a ticket to participate in the peer-review and get the points associated with this, and partly to get feedback on their papers to improve their final version. With two peer-reviews and detailed in-text comments from TA's and a general summary from the course responsible the students had massive feedback on their work already in October/early November.

Some key challenges and revisions for 2021:

1) We tried to give students a true research experience – where they had to ask a scientific question and do some data-analysis, or plotting, to develop a storyline and write an intro and a discussion around this. Asking good questions and making them researchable or turn them into hypotheses that can be tested with a graph is not a simple assignment. Students and groups struggled to find questions and relevant datasets for their projects. **Action**: A closer follow-up in the early phase may alleviate their difficulties, and avoid they take on to challenging questions.

2) The requirement that the graphs were made in R combined with the need for R as a data handling early on in the course created some problems for the students. The training in use of R falls under the BIO300B part, but the R-training there happened later in the semester. **Action**: Align this activity more with BIO300B, ideally overlap the data handling and plotting part with BIO300B. Bring the data part forward in time, and start with an introduction part as peer-review element? And a MM+Results submission & peer-review later? Merge the two courses?

3) The number of assignments was very high – which seemed to generate some stress among the students. Our intention was just to create a reason to work through each module, and many of the assignments the rubrics were essentially pass/fail with low bars to pass. **Action**: Reduce the number of small assignments and perhaps instead use some quizzes they have to get through to progress forward in the course? Remove the gradebook and continuous application of scores.

4) The large number of low stake assessment points is a problem when we need to have two sensors on all of these, or if students complain about the grades. **Action**: Base assessment on the final report and poster. The peer-review is an important learning activity in this course, and we will keep it even if it is challenging under the requirement of two sensors or in case with complaints, because this means sending two other student papers along to the sensor, and possibly many more for calibration purposes. We may also change the course to pass/fail grading, which creates room for iteration, revisions and formative feedback until a certain level is reached – while saving the load of two sensors involved.

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