

Teaching Portfolio

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The following is an account of my pedagogical responsibilities in the past and a summary of my personal view on teaching and supervision in higher education. This document contains an overview of my teaching experience including pedagogical training that I have attended followed by a description of pedagogical methods and ideas that I try to apply in my daily work.

Teaching Experience

Undergraduate and graduate courses: My teaching experience started in 1999 at the Department of Linguistics at Uppsala University. Since then I have been involved in various courses within the language technology program at that department giving lectures as well as supervising lab sessions and assignments. Between 2005 and 2008 I have been teaching courses at the Department of Information Science and Humanities Computing at the University of Groningen in the Netherlands involving students with different backgrounds (computer science, artificial intelligence, information science / language technology). Since 2009 I have teaching duties again at Uppsala University at the Department of Linguistics and Philology giving two undergraduate courses (machine translation and information retrieval) and being part of the master's program in language technology that will start in autumn 2010. Throughout the years I have actively been involved in course development and I was responsible for course administration and examination in many cases. For a detailed list of teaching duties I refer to the appendix of this portfolio.

Supervision: Besides teaching I have also experience with supervision. Previously I advised two students writing their master's theses, one in Uppsala and one in Groningen. Currently I supervise three students from the language technology program at Uppsala University who work on their master's projects. I am also co-supervisor of two PhD students, one at the University of Groningen and another one at the University of Leuven.

Co-ordination: Finally, I also worked as the course coordinator of the language technology program at Uppsala University in spring 2004. Furthermore, I was responsible for organizing the scientific reading group at the Department of Information Science and Humanities Computing at the University of Groningen from 2006–2007 and I organize similar meetings now at Uppsala University.

Pedagogical training: In spring 2010 I attended the pedagogical training course at Uppsala University. This course is intended to help university employees with duties

in teaching and supervision and corresponds to about five weeks of full-time employment (7.5 ECTS). The course combines various lectures, exercises and seminars which are designed to develop pedagogical skills and to present teaching techniques that can be of practical use in higher education. The course includes discussions about typical problems and dilemmas encountered by teachers and students providing ideas on how to solve them. Participants on this course typically have various kinds of academic background which helps to broaden the view on teaching styles and pedagogical reflections. The course also contains some practical sessions, for example, two short video exercises with detailed feedback to improve and develop individual presentation styles.

Teaching Philosophy

Initial Motivation: The main task in higher education is to stimulate students to actively participate in a given course. Students have to develop their own interest for the subject in order to get excited about the particular topic. Supporting this process as a teacher is by far not the easiest task in academia. The greatest danger is to lose potential interest due to the lack of initial motivation. Therefore, it is important to clarify the goals of a particular course from the beginning in such a way that every student clearly understands the reasons for studying this subject. Attending courses should not exclusively be motivated by the possibility of obtaining grades and degrees but by the chance of developing extraordinary personal skills.

Running Examples: Initial stimulation is the key for a successful course. Waking the interest of the students from the beginning easily leads to active participation throughout the entire course. One possible way to achieve this is to describe the global problem based on concrete examples during the course introduction. For this, it is important to use well-chosen examples that can easily be understood without detailed background knowledge but that can be referred to again later in the course. Running examples can work as a perfect tool to connect various parts within a complex process and the topics covered by a course. It makes it easier to relate new details to previously presented ones and makes it possible to discuss different views and solutions of the given problem statement. Furthermore, it may be a good idea to get the students involved in the search for practical solutions of the given case in order to increase their motivation.

Taking, for example, a course in machine translation: It can be useful to concentrate on a specific domain throughout the course – let us say the translation of movie subtitles, for instance. Initially, motivating sample sentences can be presented from that domain which can be used again for explaining particular problems and solutions in later sessions. I have been doing this in one of my courses also defining exercises in the practical sessions using subtitles as the domain of interest. Key concepts like data collection, alignment, translation & language modeling and also rule-based approaches can be explained using the same data set. Movie subtitles here represent a particularly interesting domain that usually motivates students more than, for instance, software manuals. A large variation of specific (and very challenging) problems can be identified in subtitles and various aspects of automatic translation can be discussed using this task as the running example.

Efficient administration: Another key issue is course administration. Every successful course has to be supported by efficient administration. Valuable lecture time should not be wasted for clarifications and corrections of, for example, the course schedule, tasks and assignments. Therefore, it is important that the responsible teacher carefully checks course details long in advance and that he or she communicates with the department administration and other teachers involved in the same course to clarify any possible confusion. For students it is important to know all dates and locations from the start and what they are expected to deliver. In order to achieve a maximum of clarity it is not only necessary to provide course goals and administrative information at the beginning of each course but also to provide this kind of information in a proper form. The key is to be brief and concise. Confusing details should be omitted. A course overview with all important dates and deadlines should fit on one clearly structured page or website. Individual assignments should follow this style. All information should have a simple structure without unnecessary complicated link hierarchies. There is nothing more frustrating than a data resource that links information via many intermediate steps, possible loops and dead ends. This is also true for printed material.

Variation in Teaching: Another principle I would like to discuss is the necessity of variation in teaching. Initial motivation can easily fade away if no new stimulating event is happening. Interesting courses are often a mixture of different parts: lectures, tutorials, lab sessions / assignments, and seminars. Involving different teachers can also be refreshing but requires careful coordination. The danger of combining several types of training and instruction is always to lose the connection between the different parts and the relation to the overall course goals. Coming back to the discussion on “running examples”, it is clearly an advantage if assignments, lectures, and tutorials can be related to each other on the basis of common examples or problem statements. “Hands-on” sessions solving practical problems that have theoretically been discussed in previous lectures are often very much appreciated. It is also good practice to mix individual assignments and project work. This supports the skills to solve problems independently but also the ability to work together in a team. Furthermore, requiring presentations of results to other students within the course is another way to increase motivation. Here, it is important to leave enough time for feedback from fellow students and teachers. There should always be room for intellectual discussions, even controversial ideas. Feedback and discussions between course members (students and teachers) should always be encouraged not only in seminars but also, for example, in lectures.

Take-home messages: Finally I would like to mention the importance of summarizing topics during the course. Complex theories are easier to comprehend if sub-problems are summarized at various points. In the best of all worlds each lecture and seminar would end with a concise overview of the lessons learned. Important keywords and take-home messages make it easy to remember the topics discussed and to grasp the relation to the global picture. Repeating them in subsequent lectures will support the connection between different sessions.

Ideas for the Future

My goal for teaching tasks in the future is to make use of stimulating strategies to encourage students to actively take part in the course. For example, I plan to use “friendly competition” as a motivating force in practical assignments. Defining a goal and setting a baseline that can be beaten can unfold enormous amounts of energy as I know from my experience with shared tasks in the scientific world. A lot of creativity can be developed when success can be measured and the teacher’s highscore can be broken. Coming back to the example of movie subtitle translation, a simple baseline can easily be set up and students can compete against its performance in their practical assignments or course projects. On higher levels it might be even more stimulating to involve student teams in “real-world” tasks with the possibility of being part of scientific publications.

Relation of student assignments to research projects and, for example, open-source software development would be another way to create additional motivation. However, this clearly depends on the nature of the course and the level of the students. Nevertheless, examples from on-going research can always be very stimulating even on lower levels in basic courses. This may motivate students to go further in their education and to reach out for higher goals.

Appendix A: Teaching duties in the past

UG = undergraduate (bachelor)

G = graduate (master level)

Uppsala 2009-now

Natural Language Processing	G	2010	2 lectures
Machine Translation	UG	2009, 2010	complete course
Information Retrieval	UG	2009, 2010	main parts

Groningen 2005-2008

Machine Learning	G	2005-2008	complete course
Corpus Linguistics	UG	2005	complete course

Uppsala 1998-2004

Machine Translation (GSLT)	G	2003	1 lecture
Corpus Linguistics	UG	2004	complete course
Advanced course in MT	UG	2004	1 lecture, project work
Computational Lexicography	UG	2001, 2002, 2003	in part (lectures & labs)
MT and Language Checking	UG	2003	1 lecture, 1 lab
Statistical Algorithms in NLP	UG	2002, 2003	in part (lectures & labs)
Statistical Algorithms in NLP	UG	2000	complete course
Mathematical Linguistics	UG	2001	guest lecture + examination
Document Management	UG	1999, 2000, 2001	complete course

Appendix B: Supervision

PhD students

- Gideon Kotzè, PhD student, 2008 – 2009, Department of Information Sciences, University of Groningen, “Parse and Corpus Based Machine Translation”
- Peter Nabende, PhD student, 2007 – 2009, Department of Information Sciences, University of Groningen, “Recognition and Translation of Transliterated Names”
- Tom Vanallemeersch, PhD student, 2008 – present, University of Leuven (co-supervisor), “A linguistically motivated approach to automated alignment of parallel texts”

Master’s level

- Anton Eriksson & Tora Myhrman, “Intra-sentence segmentation as a pre-processing step in rule-based machine translation” (on-going)
- Sonja Petrović Lundberg, “Statistical machine translation for Esperanto with linguistic features” (on-going)
- Zahurul Islam, “English to Bangla Statistical Machine Translation”, Master’s thesis at the University of Groningen (2008-2009)
- Sara Hallbergsson, Master’s thesis in the Language Technology Programme at Uppsala University (2005)

Appendix C: References & Recent Course Evaluations