- Teacher competence

The KrUUt/CrED Follow-up 2012

Report 1. Development initiatives within the prioritised areas (or any other initiative worth highlighting)

Disciplinary domain: Humanities and Social Sciences

Faculty: Social Sciences

Department:

Project title/developmental activity:

Rewarding teaching excellence

1. What did you do?

Rewarding of teaching excellence has been discussed within the faculty for some time. For carrying out the project we were inspired by the project at the Faculty of Engineering, Lund University.

The quality group of the faculty has been responsible for this project.

2. Why did you choose to do what you did?

See question 1.

3. How did you go about doing your work in concrete terms?

We discussed this project in many different groups during the 2,5 years from the start in the beginning of 2010 till we landed in March 2012.

First of all the quality group had different meetings with people with experience from rewarding of teaching excellence. We also tried to learn from other universities which already had a system for this kind of reward.

When we had gathered enough information we presented the project for study directors and programme directors on a conference and we presented it for the heads of our departments. Finally in June 2011 we could present a more detailed plan with criteria for judging the teaching excellence and the process for applying and evaluating of the applicants. All the time it has been important to stress that this title should be given only to a few really excellent teachers.

The Faculty Board discussed the project and decided to give all departments possibility to give their view on the plan. After gathering the views from the departments there was a new discussion in the Faculty Board in September 2011. However, it was now decided that rewarding of teaching excellence would be introduced within the whole university. While

waiting for the decision to be taken by the Vice Chancellor we took a time-out. In December 2011 the Vice Chancellor decided on the rewarding of Excellent Teachers. Central guidelines were taken and the faculty boards were formally asked to draw their own guidelines.

In March 2012 the Faculty Board of Social Sciences decided on the guidelines drawn up by the quality group. In May 2012 the first announcement was made.

4. What were the main results?

The main result is that the faculty board now, as the first faculty within the university, has passed the guiding principles for rewarding excellent teaching within the faculty.

We are now waiting for applications to be made. Application time expires September 30.

5. Who and roughly how many people have been involved in the activities work in one way or other?

The quality group of the faculty, all the study directors and programme directors, the heads of the departments within the faculty and many others have been involved in this project.

6. Strategy for possible further implementation.

7. Advice to others wishing to do something similar.

Anchoring among the faculty members.

8. Name/s (department and e-mail) of person/s to contact in case there are questions from colleagues wishing to do something similar

Ewa Hjertsén, The Office for Humanities and Social Sciences, ewa.hjertsen@uadm.uu.se

The KrUUt/CrED Follow-up 2012

Report 1. Development initiatives within the prioritised areas (or any other initiative worth highlighting)

Disciplinary domain: Medicine and Pharmacy

Faculty: Pharmacy

Department: Pharmacy

Project title/developmental activity:

Pedagogical development / Examination – Learning in groups

1. **What did you do?** We initiated a course for teachers on how to teach groups.

2. **Why did you choose to do what you did?** We have different group teaching activities within our courses. After most of the teachers had gone through initial pedagogic training we experienced a need to learn more, and get inspiration on how to teach groups using different pedagogic methods.

3. **How did you go about doing your work in concrete terms?** We contacted the division for development of teaching and learning (PU) and asked if they could help. They answered that they could set up a course if a minimum number of teachers would register. So apart from our group of teacher we contacted the other groups within the department, but also a group of teacher from another department which we knew had much group teaching and also an interest for pedagogic development.

4. **What were the main results?** Apart from enhanced competence within the area: development (often small steps) of group teaching activities, and more contact between teachers from different areas when it comes to pedagogic discussions.

5. **Who and roughly how many people have been involved in the activities work in one way or other?** Approx 15 (including participants in the course)

6. **Strategy for possible further implementation.**

7. **Advice to others wishing to do something similar.** Try to find out what needs you have in your close environment for pedagogic development. Choose an area that is relevant, contact PU who was very helpful. Choose dates outside of ordinary teaching (people don't tend to have time otherwise).

8. **Name/s (department and e-mail) of person/s to contact in case there are questions from colleagues wishing to do something similar**

   Sofia Kälvemark-Sporrong, Sofia.kalvemark-sporrong@farmaci.uu.se

The KrUUt/CrED Follow-up 2012

Report 1. Development initiatives within the prioritised areas (or any other initiative worth highlighting)

Disciplinary domain: Science and Technology
Faculty: Faculty of Science and Technology

Project title/developmental activity, example 4:
Guidelines and criteria for becoming an "Excellent teacher"

1. What did you do?

Parallel to the scientific career path we have developed a career path for "Excellent teachers" who excel in their teaching approach. A number of criteria have been developed to evaluate the teachers' excellence, which go beyond keeping good lectures and get high scores in course evaluations. In addition to **teaching skills** the criteria are

overall perspective
for example:

- connect the teaching to current social issues
- link the teaching to previous and subsequent courses
- Continuously develop and review the course goals due to the changes in environment and society

scientific and searching attitude
in addition to extensive subject knowledge to examine and evaluate their own teaching and its effects

interaction with colleagues and students
for example:

- map the understanding and expectations in order to design teaching based on the current student population
- use course evaluations in order to develop the courses and your own teaching
- actively participate in collegial discussions and teacher days

Educational leadership
for example:

- In the role of course coordinator, program coordinator or study director influence the courses and programs beyond their own teaching and contribute to colleagues' development through educational leadership

2. Why did you choose to do what you did?

There is a need to increase the value of being a dedicated teacher. Despite the mutualism between teaching and research there may often be a conflict concerning time and commitment between research and teaching, and so far research has been valued higher. To show committed teachers appreciation by giving them the title "Excellent teacher" the faculty, in line with the whole University, signals that high quality teaching is something that is highly valued.
Already in 2003 the faculty of Science and Technology decided to introduce a pedagogical career path, and guidelines and criteria were developed. However, the decision was not finalized into action for several reasons, but a revision of the suggested criteria was started in 2009.
The fact that several other Universities in Sweden have a teaching career path and show increased quality of teaching, contributed to the Vice-Chancellors decision in December 2011 to introduce the title of "Excellent Teacher" at Uppsala University as well. This decision made it easier to gain support for the suggested and revised criteria at the faculty of Science and Technology.

3. How did you go about doing your work in concrete terms?

Much of the work was already done in 2003, but beyond that, a lot of ideas and impressions have come from other universities that already have established an educational career path. Furthermore, it was essential to look at other universities criteria because uniform national standards are important, and also for taking advantage of the other universities' experience.
The proposal has during 2011 been sent out to various leaders in the Science and Technical education boards in order to get comments and revise the proposal. Finally the recruitment committee and departments presented their views on the guidelines and criteria and the faculty board adopted the guidelines in spring 2012.
(http://www.teknat.uu.se/digitalAssets/110/110112_riktlinjer-anstallning-befordran-2012-1.pdf (in Swedish) pp 28-31).

4. **What were the main results?**

The main results were guidelines on how to apply for being appointed as an "Excellent teacher" and descriptions of the criteria to be met. The application procedure will start in autumn 2012.

5. **Who and roughly how many people have been involved in the activities work in one way or other?**

Two persons have had the main responsibility for developing the guidelines and criteria, Dr Maja Elmgren and Dr Ingela Frost, both members of TUR. Comments have been obtained from other members of TUR and members of the Division for development of teaching and learning (PU), and also from people with experience from other universities pedagogical career paths.

6. **Strategy for possible further implementation.**

Encourage teachers within the faculty to apply for the title. A committee has just been appointed and they should be informed thoroughly in how to assess educational qualifications. The guidelines and appointed excellent teachers will motivate and promote quality in our educations.

7. **Advice to others wishing to do something similar.**

   Share and take part of guidelines and criteria from many good examples, this is highly beneficial as well as seeking feedback.

8. **Name/s (department and e-mail) of person/s to contact in case there are questions from colleagues wishing to do something similar**

Maja Elmgren,
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The KrUUt/CrED Follow-up 2012

Report 1. Development initiatives within the prioritised areas (or any other initiative worth highlighting)

Disciplinary domain: Disciplinary Domain of Science and Technology

Faculty: Faculty of Science and Technology

Project title/developmental activity, example 15:
The Conference on Educational Development at the Faculty of Science and Technology – Teknisk-naturvetenskapliga fakultetens universitetspedagogiska konferens, TUK

1. **What did you do?**
   A yearly conference is arranged where staff at the faculty can present and discuss their development projects within teaching and learning in science and technology. The conference, that spans a full day, is centred around a poster exhibition where the teachers present and discuss their past and on-going teaching projects and initiatives (see http://teknat.uu.se/TUK2012). Other activities during the conference are a key note speaker discussing topics such as students' learning, the aim of educational development and career possibilities for teachers; oral presentations of development projects done by teachers; mini workshops and debates.

2. **Why did you choose to do what you did?**
   TUK offers possibilities to share experiences concerning development of teaching and learning within the faculty. As such, it serves as a source of inspiration, as a platform for dissemination and as forum for discussion. The quality of the contributions and the conference are generally of a high quality. This is partly due the courses offered by TUR, in which the participants learn to take a scholarly approach to teaching and learning.

3. **How did you go about doing your work in concrete terms?**
   The conference call is distributed to all teachers at the faculty, with a special emphasis to those who have previously attended any of the courses by TUR and/or has got grants for pedagogical development.

4. **What were the main results?**
   The conference has relatively fast (in three years) grown into becoming an integrated part of the life of the faculty. Particularly the exchange of experiences is stressed as important by the participants.

5. **Who and roughly how many people have been involved in the activities work in one way or other?**
   The conference normally has approx. 40 submissions, and 70 – 80 participants. As most submissions have several authors, approx. 100 persons are involved.

6. **Strategy for possible further implementation.**

The conference currently works well. However, we would like to see more participants during the conference, so that the discussions that are initialised spread to wider circles.

7. **Advice to others wishing to do something similar.**
   It is worth doing an effort of this kind. We are happy with doing at the faculty level, as learning of the different subject areas of the faculty is related. Thus, the conference promotes a debate. It is also important to select a relevant key note, as he/she sets the tone for the conference. The physical location of the conference is important.

8. **Name/s (department and e-mail) of person/s to contact in case there are questions from colleagues wishing to do something similar**
   Anders Berglund, Department of Information Technology, Anders.Berglund@it.uu.se

The KrUUt/CrED Follow-up 2012

Report 1. Development initiatives within the prioritised areas (or any other initiative worth highlighting)

Disciplinary domain: Science and Technology

Faculty: Science and Technology

Department: TUR, Council of Educational Development of the Faculty of Science and Technology

Project title/developmental activity, example 5:

Staff Development Course in Engineering Educational Principles and Practice

1. What did you do?

We have developed and conducted a two week course in theory and practice of engineering education. The course focuses on scholarly teaching practice in engineering, provides an overview of recent engineering education research, and through individual projects gives participants an opportunity to put theoretical aspects of the course into practice. The course concludes with presentations of the project work conducted and a discussion of evidence based innovation and evaluation of improvement in learning outcomes based on educational research models. These presentations form an important part of the annual TUK conference in the faculty of science and technology.

2. Why did you choose to do what you did?

Innovation and research informed educational best practice has been highlighted as a contributing factor to student success, and to student perceptions of the relevance of their education at University. The discussion of scholarship of teaching and learning has its basis in the work of Boyer in the 1990's, and a range of other prominent researchers in higher education have also contributed to this discourse, both before and after. We concluded from this research that a key aspect of enhancing innovative teaching and learning strategies in Uppsala was to provide staff with the opportunity to deepen their awareness of related research and its applications in their teaching and learning contexts.

3. How did you go about doing your work in concrete terms?

The initial course was designed and trialled in 2010, subsequent offerings have refined the curriculum and support materials to provide relevant resources for lecturers in all areas of science, technology and engineering. The course consists of a 2 day series of lectures and group discussions which provide participants with an overview of relevant higher education theory on student engagement, student-centric education, and philosophy and objectives of engineering education. The international research literature is discussed in terms of its relevance to the Swedish higher education context, and participants conduct a project to improve their classroom education in some aspect they identify as needing improvement. An evaluation of the outcomes of the project is conducted using

one of the methodologies presented in the course, and these results are presented an discussed in the course cohort.

4. **What were the main results?**

Participants have identified lasting impact of this course, in terms of ongoing innovation projects in their departments, as well as an increased awareness of how to draw on higher education research in science and engineering education to improve courses and programmes. Participants also identified the value of meeting colleagues with a similar interest in educational issues within the faculty. We also observe increasing collaboration between participants in these courses across departmental boundaries, for instance projects involving staff from chemistry and computing or physics.

5. **Who and roughly how many people have been involved in the activities work in one way or other?**

Arnold Pears and Kjell Pernestål were responsible for developing the model and Arnold Pears prepared the majority of the materials and has been responsible for the conduct of the course. Since 2010 twelve staff have participated and eight have completed the course project and received a course diploma. Other participants due to time constraints have not completed the project part of the course.

6. **Strategy for possible further implementation.**

The course is a regular part of the educational development programme of TUR in the faculty of science and technology and is offered yearly.

7. **Advice to others wishing to do something similar.**

It is important to identify people who can provide an insight into the current state of the art of educational research in your disciplinary area. The project component is an important part of the approach and gives participants an incentive to put the course theory into practice.

8. **Name/s (department and e-mail) of person/s to contact in case there are questions from colleagues wishing to do something similar**

Dr Arnold Pears, Associate Professor of Computing Education Research

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The KrUUt/CrED Follow-up 2012

Report 1. Development initiatives within the prioritised areas (or any other initiative worth highlighting)

Disciplinary domain: Science and Technology
Faculty: Science and Technology
Department: TUR, Council of Educational Development of the Faculty of Science and Technology

Project title/developmental activity, example 6: Course – Scholarly teaching in science and technology

UPPSALA
UNIVERSITET

Council for Educational Development at the Faculty for Science and Technology

invites you to the course

Scholarly Teaching in Science and Technology

The faculty for science and technology offer a free extension course in scholarly teaching in science and technology. This is an English version of *Ämnesdidaktisk kurs*. The course is aimed at anyone with pedagogical education and/or solid experience of education.

The course is founded on subject education research. Research results and contact with educational researchers are integral parts of the course.

The course starts with an initial day introducing key concepts and relating them to the participants' backgrounds. The following days are aimed at deepening these concepts and work with them more practically. The course content will partially be adapted to participant interests.

The course is finished through an individual project, connected to participant subject and educational practice. The project should exemplify skills in accordance with the course goals.

COURSE GOALS

After concluded course, the participant should be able to:

- argue for and practice scholarly teaching and development founded on relevant subject education research.
- plan, analyze and reflect upon teaching and education in the own subject in relation to research results and tested practice.
- discuss and evaluate higher education and educational development using subject education concepts, models and research results.
- find, evaluate and use different scholarly resources, such as journals and web sites, in their teaching practice.

Course facts

Course days: 21 august, 11 - 13 september och 23 october 2012.
The course will conclude with presentations 6 december.

The course is free of charge.

The number of participants is limited to 18.

Registration: At latest 15 june to Lena.Forsell@uadm.uu.se

Course coordinator: Staffan Andersson

This is a version of Ämnesdidaktisk kurs, which will be held in English.
The next course in Swedish is planned for 2013.

COURSE CONTENT

The course combines theoretical elements, discussions and practical exercises. This overview presents some of the questions that will be treated during the course and the six overlapping themes of the content. Details in the content will be adjusted based on the backgrounds of the participants.

Introduction to scholarly teaching and subject education research

- What is scholarly teaching?
- How can we use subject education research results?
- How do one relate to teaching and learning in a scholarly fashion?

Teaching and learning in a context

- Which ideas are there about learning, knowledge and communication in your subject?
- Which goals do students have for their education? How can those goals affect learning?
- How can we learn more about our students goals and expectations?
- How do concepts such as identity and discourse relate to teaching and learning?

Student learning

- What is known about student learning in our subjects?
- How can we learn more about student learning?
- Which are the important threshold concepts in our subjects? How can we help students understand them?
- What is the role of students previous models and understanding of our subjects?
- How can student understanding of key concepts be explored?

Design of teaching

- How can one design education to facilitate deep learning and holistic perspectives?
- What is known about different forms of teaching and how they affect learning?
- What are the goals of laboratory work, excursions and other practical exercises? How do we achieve those goals?
- How can we improve the communicative skills of our students?

Goals, examination and goal fulfilment

- What are the goals in the official regulations and how do they relate to educational practice?
- What are the differences between the goals for our programmes?
- How do we measure goal fulfilment? How can different types of skills and knowledge be measured?
- How can we work with constructive alignment between goals, teaching and examination?
- How can teaching and educational design be evaluated?

Projekt och utveckling

- How do one find subject education research results and knowledge?
- Which are the useful sources in different areas?
- How can subject education results be used to motivate and support pedagogical development?

More information

If you have any questions regarding the course, its content or other practical issues, please contact Staffan Andersson, staffan.andersson@physics.uu.se, phone: 471 3520

The KrUUt/CrED Follow-up 2012

Report 1. Development initiatives within the prioritised areas (or any other initiative worth highlighting)

Disciplinary domain: Science and Technology

Faculty: Faculty of Science and Technology

Department: Dept. of Information Technology

Project title/developmental activity, example 9:

Gender-Aware Course Reform in Scientific Computing

1. **What did you do?** We did a top-to-bottom redesign of the courses in Scientific Computing (3 courses), where the emphasis was on making the courses more attractive for women students. The underlying idea was that women students' pay particular attention to sense-making, and that courses well-aligned with course goals contribute to sense-making. As a result the emphasis in the re-design was on constructive alignment and sense-making. I principle, the whole course structure is now turned upside-down, where the students begin every module in the courses with laboratory work. The aim here is to work with real applications, and to raise question that can be discussed and solved during the rest of the module. The course is structured in a research model fashion, i.e. the students perform a cycle of planning, action, observation and reflection in each module in a course.

2. **Why did you choose to do what you did?** We had problems with students that didn't understand what the topic was about after finishing the course. They could deal with details, but seemed to lack understanding in what it is all about, the overall meaning and underlying motivation for the topic. The result was poor learning outcome and frustrated teachers. We also had problem with too few women in our area. When we looked at this it seemed both problems had the same solution.

3. **How did you go about doing your work in concrete terms?** The project got funding first by the faculty (a pre-study) and later by NSHU (national level). The latter was a serious amount of money, approximately 1.8 million SEK during a three-year period. We formed a group of teachers (3-4) and two students, and applied an action research model (with cycles of planning, action, observation, reflection) in both our work as well as in the structure of the courses (see above). Also, we had a reference group with members from the faculty and from TUR.

4. **What were the main results?** The first thing that changed was the course evaluations. Comments that questioned the meaning and motivation practically disappeared, and was replaced with comments about how well different parts of the course was connected. Also, although students in general were positive to the changes, female students are significantly more positive. An interesting result is also that statistics from exams taken by first year engineering students in four different subjects show that, in contrast to the pattern in the other subjects, the percentage of women getting the top grade in the redesigned courses in Scientific Computing is on par with the percentage of women getting the lower grades.

The teachers view also changed. The frustration when teaching these courses is now practically gone.
The project has been presented on several conferences, both within the university but also on a national level. A final report is now sent in for publication in a journal.

5. **Who and roughly how many people have been involved in the activities work in one way or other?** People that have been involved are Elisabeth Larsson, Lina von Sydow, Michael Thuné, Stefan Pålsson, Jarmo Rantakokko. Two students were also active throughout the project.

6. **Strategy for possible further implementation.** We have continued to develop these courses, i.e. grading criterias and and "point-less" exams (funded by the faculty). Also, the ideas have partly been implemented in other courses.

7. **Advice to others wishing to do something similar.**
Work in project group with teachers positive to changes.
Brainstorming.
Clear goals for the project

8. **Name/s (department and e-mail) of person/s to contact in case there are questions from colleagues wishing to do something similar**
See project web page: http://www.it.uu.se/edu/project/GenBer/ .
Contact persons are Stefan Pålsson, Stefan.palsson@it.uu.se and Lina von Sydow, lina@it.uu.se

The KrUUt/CrED Follow-up 2012

Report 1. Development initiatives within the prioritised areas (or any other initiative worth highlighting)

Disciplinary domain: Disciplinary Domain of Science and Technology

Faculty: Faculty of Science and Technology

Project title/developmental activity, example 12:

Pedagogical leadership – support and development

1. What did you do?

Educational leaders can be more effective in their role with appropriate support. The Council for Educational Development at the Faculty of Science and Technology (in Swedish: Teknisk-naturvetenskapliga fakultetens universitetspedagogiska råd, TUR), organise many activities specially designed for educational leaders.
A network is created with regular meetings for sharing experiences and discussing current themes. Some examples of things discussed are:

- Working descriptions for educational leaders, as a support to ensure that these strengthened the mandate for educational leadership and not just administrative duties.
- Educational action plans at departmental level, with consideration of self-assessment.
- Individual educational discussions and development plans for teachers as a way to reach all and increase the competence and scholarly practice.
- Introduction of new teachers, and the role for educational leaders at different levels to introduce them to a community of practice.
- Developmental projects and ideas on encouraging teachers to apply for support, to investigate the results and to spread the outcome at conferences.
- The system for rewarding excellent teachers and how that can be used to create a culture for excellent learning.

TUR has individual meetings with educational leaders on different levels. At departmental level the discussions have been based on the local educational action plans. Problems have been discussed and new ideas formed. A form for individual development plans were offered, which was later modified and used. Suggestions for participation from TUR at local seminars or short courses have come up. Examples of best practice have been spread between the departments.
Leaders responsible for educational programs are also given support, especially concerning their program analysis.
Educational leaders at faculty level and TUR members have regular meetings, to discuss educational development and strategies.

2. Why did you choose to do what you did?

Educational leaders are key persons for the enhancement of teaching and learning. To improve their ability to take responsibility for development of educational programmes, courses and colleagues, these actions were taken, in addition to the call for working instructions. The initiatives were meant to clarify and strengthen their role and to provide strategies and tools for leadership.

3. How did you go about doing your work in concrete terms?

We send emails with suggested individual meetings and invitations to network gatherings. We are open for dialogue and we try to comply with various demands. Important is to read local action plans, follow closely what happens through discussions at our own departments and educational programmes, as well as participation in educational boards.

4. **What were the main results?**

Educational leaders express that the dialogue with each other and with members of TUR is of importance for their leadership. Nowadays very few, if any, look upon the task as educational leader as solely administrative. Many of the things discussed in various meetings have later been accomplished. Educational leaders are less isolated in their departments, and more supportive towards each other.

5. **Who and roughly how many people have been involved in the activities work in one way or other?**

Almost all of the educational leaders at the faculty have taken part in some of the activities described above. Many of them are very frequent participants. All in all we have met more than fifty leaders.

6. **Strategy for possible further implementation.**

Comparing with the evolvement of scholarship of teaching and learning, we could improve the discussion of scholarship of leadership. Continue to find new areas of interest.

7. **Advice to others wishing to do something similar.**

Take part and discuss. Help the leaders to evolve a reflexive practice. Find out what the important issues are. Ask for which kind of support the leaders need to fulfil their visions. Be a complement to activities organised by the Division for Development of Teaching and Learning, using the insights in the local conditions.

8. **Name/s (department and e-mail) of person/s to contact in case there are questions from colleagues wishing to do something similar**

Maja Elmgren, Department of Chemistry – Ångström, maja.elmgren@kemi.uu.se

The KrUUt/CrED Follow-up 2012

Report 1. Development initiatives within the prioritised areas (or any other initiative worth highlighting)

Disciplinary domain: Science and Technology

Faculty: Science and Technology

Department: TUR, Council of Educational Development of the Faculty of Science and Technology

Project title/developmental activity, example 13:

Advanced didactical methods course

http://www.teknat.uu.se/digitalAssets/114/114399_inbjudanavanceradekursen2012.pdf

1. What did you do?

An advanced course for teachers in the faculty with focus on how to plan and perform educational research is given by TUR.

2. Why did you choose to do what you did?

To support and guide teachers to do educational research. Didactical and qualitative methods are presented and contextualized.

3. How did you go about doing your work in concrete terms?

The course is arranged with four gatherings and project work pursued in between. Interactions among participants are encouraged for support and guidance.

4. What were the main results?

Didactical research activities have increased and in particular the quality in methodology and approach has improved. Many projects from the course are presented at the yearly conference TUK.

5. Name/s (department and e-mail) of person/s to contact in case there are questions from colleagues wishing to do something similar

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