Using Reflections in a Program Integrating Course

Viggo Kann, KTH Royal Institute of Technology, Stockholm, Sweden, viggo@kth.se

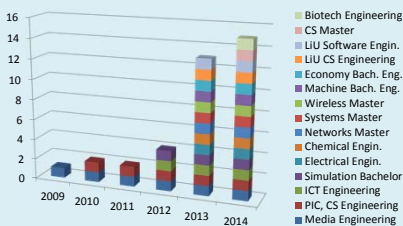## What is a Program Integrating Course (PIC)?

- Runs over several years (3 in our case)
- Shows the main thread of the program
- Enables students to become more professional in handling their studies
- Consists of reflection seminars, 4 times a year, in small cross-grade groups with a professor as a mentor.

10 functions of PIC

1. academic introduction
2. increased understanding of the program
3. connections between teachers and students
4. exchange of experiences of students from different years
5. training in written and oral communication and reflection
6. covering subjects that other courses are not covering
7. information about elective courses and studies abroad
8. follow-up of academic results
9. education of the professors involved
10. quality enhancing evaluation of the program

How PIC has spread

Inspiration came from a similar course given at the Media Technology program at KTH. Now PIC has spread to 15 programs at KTH and Linköping University, see below.

Legend:
- Biotech Engineering
- CS Master
- LiU Software Engin.
- LiU CS Engineering
- Economy Bach. Eng.
- Machine Bach. Eng.
- Wireless Master
- Systems Master
- Networks Master
- Chemical Engin.
- Electrical Engin.
- Simulation Bachelor
- ICT Engineering
- PIC, CS Engineering
- Media Engineering

Current project: Study the effects of PIC

During 2014 we will study the following effects:

- progression of the writing ability
- progression of the reflecting ability
- retention and student completion rate
- interest in studying abroad
- improvement of students' study techniques
- students' knowledge of the main thread and structure of the program
- mentors' insight into the students' experience of their studies

Reflection seminars

A reflection seminar on study techniques. The rest of the seminars (4 each year) are in cross-grade groups of about 14 students.

Popularity of the topics of the seminars

	Seminar topic
46%	Study motivation and study techniques
19%	Quality in education
29%	Studying and working abroad
13%	Generic competences
15%	Student influence
65%	Procrastination
19%	Life-long learning
35%	Master programs
21%	Learning outcomes, criteria and assessment
31%	Plagiarism and responsibility
23%	The professional life as a CS engineer

Result of the evaluation question: Which two (three for the third year) topics do you think, as a whole, were most fruitful?

PIC shows how the courses of the program are connected
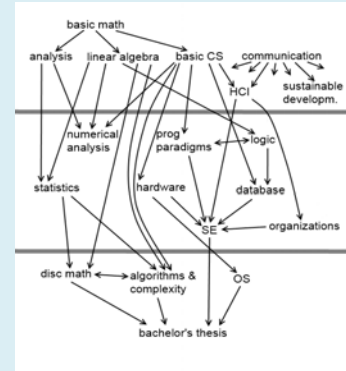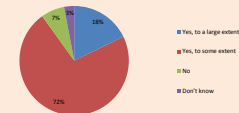

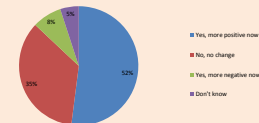## Evaluations with 100% participation

Since one of the learning outcomes of the course is about the ability to evaluate the education, we have mandatory evaluations each year.

Here are some examples of questions from the evaluations 2013 and 2014:

Have the reflection seminars been fruitful?

- Yes, to a large extent (18%)
- Yes, to some extent (72%)
- No (7%)
- Don't know

Did you change opinion about PIC during the course?

- Yes, more positive now (52%)
- No, no change (35%)
- Yes, more negative now (8%)
- Don't know (5%)

Improving the reflections

Before each seminar all students have to write a text reflecting both on the topic of the seminar and their recent studies. The reflection documents are read by everyone in the group before the seminar. In order to encourage the students to improve their reflections we are using the four levels of reflection defined by Hatton and Smith (1995), both in the given questions and in the mentor's assessment of the reflection documents. We urge the students in the second and third year to reflect on level 3 and 4.

Level	Example of question at the procrastination seminar
1. Descriptive writing, no reflection	Do you procrastinate? How? When?
2. Descriptive reflection	Why do you procrastinate?
3. Dialogic reflection, considering alternatives	Choose, from the list of 50 anti procrastination tips, one that you should promise to try for 60 days. Motivate your choice and suggest methods ensuring that you keep your promise.
4. Critical reflection from a broader perspective	Reflect about how your and others' procrastination could effect you and/or others, for example while studying in groups or in project work.

N. Hatton and D. Smith, "Reflection in teacher education: Towards definition and implementation", *Teaching & Teacher Education*, vol. 11:1, p. 33-49, 1995.