Using Reflections in a Program Integrating Course

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ABSTRACT

A program integrating course runs over several years, shows the main thread of the program, and its purpose is to enable students to become more professional in handling their studies, at the same time as the course has a positive effect on the mentors, other courses and the program itself. This is achieved through regular reflection seminars where students meet in small cross-grade groups with a professor as a mentor.

Categories and Subject Descriptors

K.3.2 [**Computers and Education**]: Computer and Information Science Education—*Computer science education*

General Terms

Human Factors

Keywords

program integration, reflection, motivation

1. THE INTEGRATING COURSE

The *Program Integrating Course* runs during the three first years of the five year Computer Science and Engineering program at KTH. The course uses reflections as the main educational instrument. The students learn why the compulsory courses are compulsory in the program and how these relate to each other, how they should select courses and specialization to become well-prepared for their future employment, and how to study to gain the most from the program. The program integrating course each year simply consists of four one-hour seminars in groups of about a dozen students, a third each of first, second and third year students, together with a professor as a mentor. Since the program is quite large there are 39 parallel groups and 13 professors as mentors.

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Each seminar has a theme (e.g. plagiarism and responsibility, studying abroad, procrastination, quality in education), some links to texts to read or videos to look at, and some questions to think about. The students write a 600 word reflection on the theme and also on their current courses and studies. Finally they should read each others' reflections and discuss them at the seminar.

2. EXPERIENCES

We have found this model extremely fruitful. The students learn very much from each other in the discussions. The course has been useful in the following ways.

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

3. REFLECTIONS

Asking computer science students to write reflections is a delicate task [1]. The design and administration of the course is very important, because otherwise the students might think of the course as bothersome and fuzzy. Much effort has been made to motivate the existence of the course and the use of reflections as the main working tool.

In order to inspire the students to improve their reflection abilities, we ask the second and third year students to reflect at the third and fourth levels in the framework defined by Hatton and Smith [2]. Our impression is that the first-year students really are learning how to improve their reflections by reading the reflections by the second and third year students. We will try to validate this in a research project the coming year.

4. REFERENCES

[1] O. Barzilay, O. Hazzan, and A. Yehudi. Evaluation of a software engineering course by reflections. In *ITiCSE '09*, pages 273–277. ACM, 2009.

[2] N. Hatton and D. Smith. Reflection in teacher education: towards definition and implementation. *Teaching and Teacher Education*, 11(1):33–49, 1995.