Enhancing MIT* student recruitment with action research

Research plan
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* MIT refers to the department of Mathematical Information Technology at the University of Jyväskylä throughout this presentation
About me

- M.Sc. (econ.) 2010
  - Computer science, Digital media etc.

- Project Researcher at MIT
  - Started 2009, various tasks since then
  - Now coordinating our recruitment & marketing, coordinating & reporting on an educational project
  - ...and, of course, working on my postgraduate studies
  - Started on current position on 1.1.2012
My forthcoming research

- Funding till the end of 2013
- Supervisors: prof. Tommi Kärkkäinen, post doc Leena Hiltunen
- Format: collection of papers
- Method: action research
- Currently at the very beginning of the work
  - Collecting data while doing recruitment
  - Beginning the literature review
- In collaboration with Ilkka Pölönen and Antti-Jussi Lakanen
Background

- MIT needs more and better students
  - Amount of applicants is not sufficient
  - Freshmen's skills especially in mathematics are partly insufficient
  - We compete with technical universities
  - We need more women!

- IT, Computer Science & mathematical studies are still considered as nerd/geek among high school students
  - They still think it’s lonely work with pizza, coke and nothing else but coding
  - They have no idea of the variety of possibilities
    - Degree can be multidisciplinary with various minor subjects such as biology, physics, psychology, history, economics and so on
Literature and related research

- Problem is world wide
  (Becarra-Fernandez, Elam & Clemmons 2010, Ali & Shubra 2010 ...)*

- The faculty of Information Technology at JYU has peeked into this problem by a few related master’s theses
  - Siljander, M. 2009. Asenteet ja rekrytointi. IT-alan opiskelijarekrytointi Jyväskylän yliopiston Informaatioteknologian tiedekunnassa
  - Lindell, M. 2010. Miksi naiset jättäytyvät teknologiakoulutuksen ulkopuolelle?

- Data from faculty’s statistics

- J. Utriainen from Faculty of Education is doing a similar research

Research problem

- Is it possible to enhance our student recruitment by means of action research?
  - How can we have more and better applicants for bachelor level studies?
  - What affects high school students’ impressions of IT field?
  - Can we change their impressions and how?
  - How to balance our gender distribution?
    - (i.e. get more women into studies)
Method

» Action research:

![Diagram of Action Research](https://www.det.nsw.edu.au/proflearn/images/actreslg.gif)
Method (2)

- The research consists of 3 cycles, one each year (semester)
  - A report paper given from every cycle

- In each cycle:
  - Planning, identification of current situation
  - Acting: Visit high schools, give presentations, questioning
  - Analyzing: data, the amount of applicants, their backgrounds etc.
  - Reflecting, evaluating: did we achieve improvement, what to do better in the next cycle, how to improve the actions
Inner cycle

- Improve the presentation after every show if needed
  - Observe the audience
  - Review competition answers immediately
  - React to the input (add more pics/video etc.)

Outer cycle - one semester: shows in many high schools
Current cycle

- We evaluated last year’s results
- We improved the presentation
  - Boring ppt slides into a ”hip” Prezi show
  - More video, music, examples
  - Examples on iPhone, iPad etc.
  - Competition
  - Etc.
- By far 21 shows given in 15 different schools/occasions
- Reached ~350 students on 2nd & 3rd year high school
Current Questionnaire

- Before every show
  - Impressions on IT field

- Presentation..

- After show
  - Did we manage to change the impression

- Rough estimation on results this year
  - 70-80% says IT is far more interesting than they thought and the impression now is more positive
Additional research

In addition to the action research I am aiming at writing

- A literature review on research concerning difficulties on student recruitment in IT and computer science world wide
- Analysis of what our freshmen has to tell
  - Why did they choose IT
  - Why did they choose Jyväskylä over other universities
  - Etc.
- Other related issues, such as gender imbalance according to the input I get
Results

- More students for MIT
  - More applicants
  - Better quality
  - More women
- Means to enhance the recruitment
- Method to do the recruitment
..and?

- Any questions?
- If you have ANY ideas on how to improve MIT student recruitment in general or our show - such as multidisciplinary examples of your own research (cool pics etc.), please share these ideas!
- Email auri.kaihlavirta@jyu.fi