

Report on joint Education Day, Friday August, 26, 20116

Introduction

Our education day took place in “De Burcht”, a lovely location in the Henrik Polaklaan, near the Amsterdam Zoo. Four plenary speakers introduced different themes to be further discussed in smaller groups:

1. Joint programs, where are we going (Prof. dr. Guus Schreiber – VU, director of the Department of Informatics)
2. Educational requirements for our new building (Dr. Andy Pimentel – UvA ,Director of the Graduate School of Informatics))
3. Education innovation – how about gamification (Dr. Tibor Bosse – VU, Assistant professor)
4. Vison on education (Dr. Thilo Kielmann – VU. Education Director)

After each plenary talk, the attendees discussed different issues in small groups. Each group reported back the main outcomes during a plenary session.

The day was closed by Prof. dr. Marcel Worring who will succeed Prof. Dr Jan Bergstra as director of the Informatics Institute of the UvA.

This report presents the highlights of the day.



Program Education Day

10.00 – 10.15: Doors open & Coffee

10.15 – 10.20: Jacobijn Sandberg, welcome and program overview

10.20 – 10.45: Official opening, Guus Schreiber: Joint education programs – looking into the future

10.45 – 11.25: Parallel sessions – meet your colleagues: programme-specific

11.25 – 11.50: Groups reporting

11.50 – 12.10: Andy Pimentel: NU-building

12.10 – 12.50: Parallel sessions: requirements gathering educational facilities NU-building

12.50 – 13.15: Plenary feedback session requirements

13.15 – 14.00: Lunch

14.00 – 14.25: Tibor Bosse: Education Innovation

14.25 – 15.05 : Parallel sessions: Education Innovation – exchange of experiences – implications for building requirements

15.05 – 15.30: Plenary feedback Education Innovation

15.30 – 15.45: break

15.45 – 16.10: Thilo Kielmann: Vision on education

16.10 – 16.50: Parallel sessions: Discussion of vision

16.50 – 17.15: Plenary feedback vision statements

17.15: Closing Marcel Worring

18.00: Buffet Diner

Appendix: Parallel sessions

Session 1: On specific programs

Bachelor CS/AI

1. Mathematics is fundamental for the AI/CS curriculum.
2. To BSC programs Computer Science, one in Dutch and one in English, is a sensible strategy.

Bachelor IMM/IK/LI

1. IMM (VU) /IK (UvA) should be profiled into Business IT and Web and Media to attract the right kind of students.
2. With the name Lifestyle Informatics we attract just the right type and a sufficient number of students.

Information Studies / Sciences

1. The UvA and VU programs should be profiled so that they are complementary.

Master Computer Science / Computational Science / SE / SNE

1. One year programs are more effective than two year programs.
2. All master programs should follow the intensive education setting of SNE and SE.

Session 2: On requirements for our new building

Discuss your requirements for the educational infrastructure of our new building. You may think of lecture room organization, ICT-facilities dedicated to education, study spots, meeting places where students and staff may mingle.

Your assignment is to make a distinction between:

1. Must have requirements (without those no proper education can take place)
2. Should have requirements: strongly desired - without these the educational process can take place but fulfillment of could have requirements greatly enhances the quality of the educational process.
3. Could have (nice to have) - requirements to further enhance the educational process

Present at least three requirements for each of these categories (must have, should have and could have) and report these back during the plenary session.

Session 3: On Education Innovation

1. In our new building a bring Your Own Device (BYOD) policy is implemented for all programs
2. All lectures will be videotaped and made available online.
3. As there is no correlation between lecture attendance and course grades we will skip lecturing altogether

Session 4: On Vision on Education

1. Toon Abcouwer (chair): "Assessment of student knowledge and skill acquisition".
2. Martijn Stegeman (chair): "Blended Learning".
3. Guus Schreiber (chair): "Teaching courses for a really big and diverse group of students".
4. Sanne Abeln (chair): "Tailor-made education for each student".
5. Jacobijn Sandberg (chair): "Trade-off between domain-specific knowledge and skills and general academic skills".

Session 1 – Guus Schreiber and follow up



Guus explained the history of our collaboration in education, followed by a status overview:

- Joint master programs
 - Computer Science & Computational Science (Joint degree)
 - Information Studies (UvA) & Information Sciences (VU)
 - Artificial Intelligence (UvA) and Socially Aware AI (VU, planned)
- Other master programs
 - UvA: System & Network Engineering, Software Engineering
 - VU: Bio Informatics (with UvA System Biology), Parallel & Distributed CS
- Bachelor (report VC3)
 - Curriculum committee for Information Studies (UvA), Information, Multimedia and Management (VU), Lifestyle Informatics (VU)
 - No short term changes foreseen for Computer Science (UvA, VU) and AI (UvA)

Thereafter he stated our shared ambitions to create representative, up-to-date curricula, to reach an acceptable match between staff expertise and curricula content, to be attractive for both Dutch and international students. To accommodate the increasing number of students and the breadth of our field, the establishment of a UvA-VU Bachelor College and a UvA-VU Graduate School of Information Sciences is seen as a desirable step.

Following Guus presentation, all attendees moved into smaller groups to discuss particular programs. Four groups were thus formed, two at the bachelor level and two at the master level:

1. Bachelor CS/AI
2. Bachelor IK/IMM/LI
3. Master Information Studies/Information Sciences
4. Master Computer Science/ Computational Science / Systems and Network Engineering / Software Engineering

The members of each group appointed one spokesman to report back to the entire group during a plenary session. From the reports it became clear that lively – at some stages – heated discussions

were held based on the challenging statements provided beforehand or on input from the group members themselves.

The group discussing the **bachelors IK/IMM/LI** debated whether the name Lifestyle Informatics had the right connotation to attract the students the program would like to attract as Lifestyle is often associated with glossy magazines, the good life, leisure and luxury. Nevertheless the group also agreed that such connotations might change over time and that frequent changing of program names would be a bad thing altogether.

The group discussing bachelors of **Computer Science and AI** mainly discussed the first statement provided:

Mathematics is fundamental for the Bachelor Computer Science/AI.

The group completely agreed with this statement. It was remarked that for Information sciences (think of information theory) the same holds. A comparison of the Computer Science bachelor programs revealed that the UvA program has more mathematics than the VU program. The VU is incorporating more mathematics, for example a course on Linear Algebra which the group applauds.

Master **CS/ Computational Science/ SNE/SE**: the immersiveness of the programs of SNE/SE (The pressure cooker approach), was NOT seen as an exclusive feature of these programs. The two-year programs are just as immersive, although the didactic approach differs. In conclusion, the group acknowledged that both type of programs (1 and 2 year programs) serve different type of audiences and can therefore fruitfully co-exist.

The group discussing the bachelors **IK/IMM/LI** debated whether the name Lifestyle Informatics had the right connotation to attract the students the program would like to attract as Lifestyle is often associated with glossy magazines, the good life, leisure and luxury. Nevertheless the group also agreed that such connotations might change over time and that frequent changing of program names would be a bad thing altogether.

The **Information Studies and Information Sciences** group first welcomed Frank Nack as the new director of the UvA program and next discussed the commonalities and differences between the UvA and VU programs. As a shared view they expressed their wish for closer cooperation in the future. This discussion will be continued in the near future.

Session 2 Andy Pimentel The new building and follow up

Andy presented the highlights of the design of the new building. The ground floor as a commercial and public area (with shops, grand café, cinema) and the basic layout of the floors reserved for education and staff. After Andy's presentation we discussed in small groups the "educational" requirements for the new building.



From the reporting session, it appeared that there was quite some consensus about the requirements for the new building:

- Create less traditional lecture rooms than are currently planned
- Create more flexible to be used rooms, for project work, discussion, presentation, etc.
- Open building, allowing students and staff to easily interact
- Provide for a fixed home, room/space for each program: for the bachelor this could be on one of the education floors, for the master preferably near the (research) staff.
- Create study places for master students near the staff
- Make room for dedicated labs: robot lab, entertainment lab, games lab SNE lab, but also create a lab where students can make things (e.g. 3-D printing)
- Support a "bring your own device policy": good, strong Wifi, sufficient amount of lockers, sufficient amount of charge points.
- Flexible, easy to move furniture to quickly create different class settings
- More than one presentation area to allow innovative educational set-ups which make use of two screens
- White boards
- Make sure that the building is identified with the Amsterdam Department of Informatics
- Rethink the commercial nature of the ground floor – involve students more in running and exploiting "horeca" facilities.

Session 3 Tibor Bosse on Education Innovation

Tibor presented a form of gamification to involve students more in course attendance and course work. To this end, he implemented a specific reward system, virtual tokens that could be used by students to extend deadlines, or to upgrade their final grade. His first experiences with this approach were positive, the student course evaluation improved, and the students appear to be inclined to take a more “deep learning” approach than a “surface one”. A warning is in its place however; the bachelor level is more suited to such an approach than the master level (master students find this childish).



The different groups discussed the implementation of an overall “bring your own device” policy, the overall availability of videotaped lectures, and the added value of lectures.

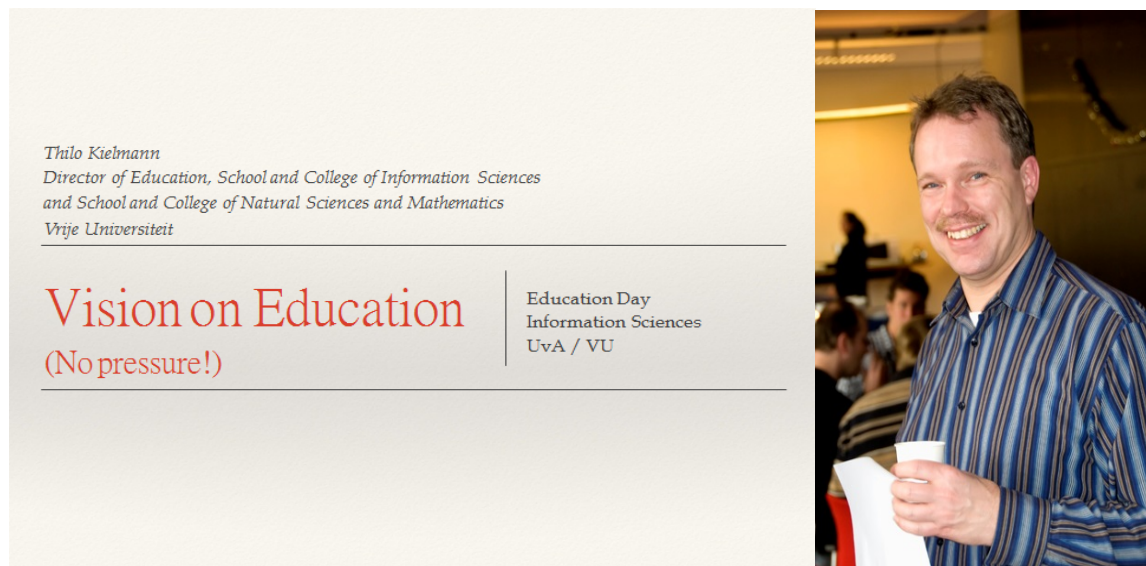
Bring your own device met with general enthusiasm, provided there be enough support for students. One group remarked that it would be advisable to create a financial support fund for students who really lack the means to buy a laptop. Some of the budget freed by not having fixed computer rooms anymore, could be used to this end.

The building should offer sufficient options to video-tape lectures, even provide for a video studio, but the groups also mentioned that not every lecture (especially highly-interactive ones) are suitable for video broadcasting.

The groups agreed that traditional lectures still have their value, albeit not necessarily as a means of knowledge transfer. Lectures were more seen as ways to motivate and inspire students and to address and explain complex relations. The real learning takes place in more interactive sessions in smaller groups and even for large audiences, lecturers interweave lecture parts with small interactive exercises. The design of the new building has to take this shift from traditional lecturing to interactive forms, into account, by intermixing lecture space and flexible working spaces.

Session 4 Thilo Kielmann, vision on education

Thilo opened his talk with the next slide:



The audience especially liked the no pressure part. He introduced himself as “the Englishmen in New York” (Sting) as he is recently appointed in his new director of education role and has to cope with many new things, especially all sort of strange abbreviations, he did not meet before. On a more serious note he explained his ambition to provide the best possible education, fed by cutting-edge research. The remainder of his contribution addressed three main themes: improving exams, (re)innovating our courses and design of curricula. These themes nicely matched ongoing discussions during the day on blended learning, course innovation, and new educational avenues to explore.

The presentation by Thilo was followed by the last small group sessions of the day during which the attendees could join different theme sessions: Assessment, Blended Learning, Large and diverse groups, Tailor-made education, and Domain-specific knowledge and skills versus generic academic skills.

Assessment (led by Toon Abcouwer): The discussion focused on the question how to design the assessment process in a situation where we provide research-based education in which the source of teaching materials is broader than just the teacher or the researcher. In modern teaching situations, especially in a Life Long Learning setting, all participants in the learning process (also students and practitioners) bring in knowledge to any specific field that is studied. Whether or not this knowledge may be included in the educational process is a new and intriguing question. And related to that the issue of quality assurance and assessment arise automatically.

Blended Learning: the session on blended learning initiated by Martijn Stegeman revealed that there is no clear-cut definition of the term. According to the group Computer Science Education is a natural niche for forms of blended learning as it traditionally combines strong theoretical underpinning with practical application, which blended learning also supports. The current focus on

blended learning may be seen as a renewed interest in processes of teaching and learning, and the quality thereof, which is an opportunity that we can seize as our new department shapes-up.

Large and diverse groups: The group discussed teaching a course with a diverse (and usually large) student population. An example is the course taught by Mark: Data Mining Techniques (VU). At the VU there are various courses with a (very) diverse student population; the diversity may be in curriculum (hence possibly both different background and different goals), experience, and talent. One reason for having such courses is capacity: sometimes groups from different curricula are joined for a particular course. This is not necessarily good (but not necessarily bad either). Another reason for having such courses is multi-disciplinarity. This may be the case especially for master courses (computational science, bio-informatics) and is intentional or at least part of the characteristics.

How to deal with this diversity? Some remarks.

- * For Bachelor courses it may help to organize the working groups according to curriculum (computer science students together, information sciences students together, etcetera), and in addition have a teaching assistant also from that curriculum.

- * For Master courses it is helpful to do expectation management, and try to clearly indicate the entrance requirements, possibly also pointing to material that may be used to catch up.

For such courses it may be good to have a teaching period more than 8 (or even 4) weeks, because the “catching up” and getting to understand approaches from other disciplines takes time.

- * For some courses it may be possible to have two different exit requirements, by having a shared theoretical and written exam part, and two different practical parts. (This happens for Concurrency and Multithreading at the VU.)

We note that in most cases this is not possible.

- * In addition to the previous point, it is possible to have assignments at different levels, or to have additional assignments, even if more work by the students does not lead to another exit qualification or a higher grade. This is purely to satisfy the internal motivation of some students.

Tailor-made education: At 2-year Master programmes like Computational Science and Bioinformatics, students with different backgrounds are asked to follow different courses or get for instance different assignments within one course. This way students are at the start of the program brought to the same core level. In a 1-year program like Information Studies or Information Sciences, the approach is rather to mix different students in group assignments with an interdisciplinary character, so that students can complement each other, and can learn from each other.

Domain-specific knowledge and skills versus general academic skills: the participants agreed that general academic skills, like critical thinking and reflection are kernel to academic education and therefore should be addressed from the first day on – not as separate courses but embedded throughout the curriculum.

Closing session: Marcel Worrying



Marcel who succeeds Jan Bergstra as director of the UvA Informatics Institute closed the session by looking back at the day and forward to his new job. He was happy to see so many people from both universities mingle as if there were no two universities at all. He stressed the importance of education and our efforts to create a climate in which we can work together in a fruitful way. He stills sees some gap between research and education as shown by the profile of the attendees, but we are confident that under his reign more staff will contribute to education in more ways and at all levels. We wish Marcel a good start!

And herewith did the formal program of our day end. But it was not over yet. We had drinks and then a buffet dinner thus we had ample chance to continue our discussions.

We would like to thank all who made this day come to a success: all speakers, all reporters, all of you who were there and contributed to the small group sessions, the persons behind the scene, in particular Annemarie Diekema for arranging the Burcht and the initial registration, Babette Sluijter, and Lisa van Pappelendam for welcoming all participants, handing out badges and program overviews, and both management teams for their financial support.

Amsterdam, September, 7, 2016

Jacobijn Sandberg

Wan Fokkink

Otto Schrofer