Trends in Students Opinions Concerning "Software Engineering" Course (Novi Sad and Tirana)

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# **History**

- At the Department of Mathematics and Informatics in Novi Sad, the complete course in "Software Engineering" is conducted for "regular" students from 2004, i.e. for 6 years.
- Before that, course was twice conducted for graduate students in shorter version.

### **History**

- At the Polytechnic University in Tirana, the complete course in "Software Engineering" is conducted at master level from 2007, i.e. for 4 years, and for 5 groups of students.
- Each time, after the course completion, the same questionnaire was given to students inquiring about their satisfaction with the course.

# **Survey overview**

- Survey consists of four groups of questions:
  - Content and structure of the course
  - Usage of the media
  - Style of the lecture
  - Benefit of the lecture



### **Survey overview**

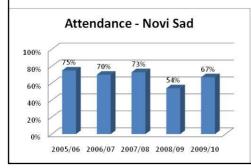
- Different groups of students were interviewed:
  - master students 2<sup>nd</sup> year
  - master students 1<sup>st</sup> year
  - undergraduate students 4<sup>th</sup> year
  - undergraduate students 4<sup>th</sup> year (Bologna students)
  - undergraduate students 3rd year
  - students of mixed informatics/geography direction
- "Unfortunately", students are mixed among years, so deeper analysis is not possible.

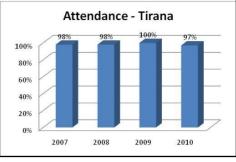
# **Survey results**

Attendance:

"Estimate how much of the lectures you attended"

- In Novi Sad, attendance is NOT obligatory.
- In Tirana, lectures are conducted in a form of crashcourse.

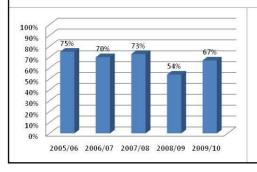






#### In addition

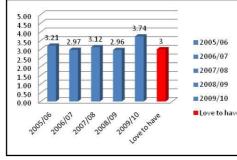
- In Novi Sad, we asked the students how much time they needed to solve assignments and to learn theory.
- Do you see the connection?

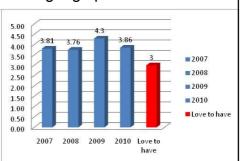




#### Content and structure of the course

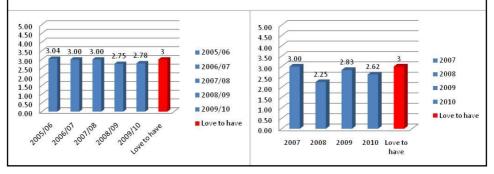
- Rate the amount of knowledge offered in the lectures (5 = too much, 1 = too few)
  - In Novi Sad, except for the last year, very close to "ideal" amount of knowledge
  - In Tirana, a bit "too much". Language problem?





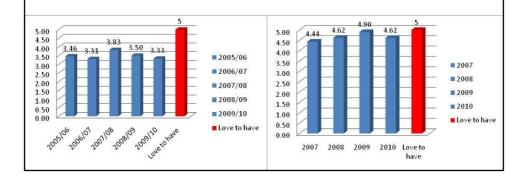
#### **Content and structure of the course**

- Rate the contents of the lecture (5 = too easy, 1 = too difficult)
  - In Novi Sad, we moved from "ideal", down to "too difficult"
  - At both places, an obvious problem with "younger" students.



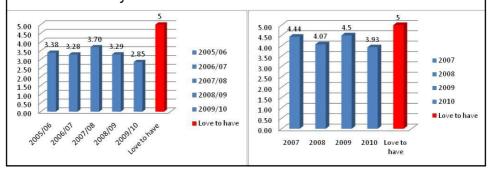
#### Content and structure of the course

- Is the course well-structured?
  (5 = very well, 1 = unstructured)
  - Master students think more of a structure of our course.
  - Much more.



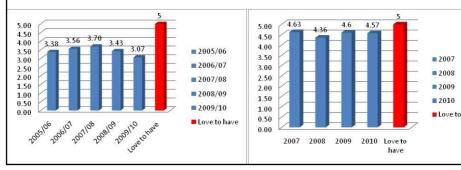
# Usage of the media

- Amount of information on the slides is adequate
  (5 = very well, 1 = not so much)
  - Master students think more of the amount of information presented on slides.
  - Indefinitely more!



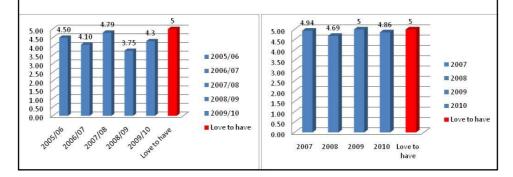
# Usage of the media

- Are the slides well-structured and clearly-arrange
  (5 = very well, 1 = not so much)
  - Even the lowest average grade given to the course by master students is 0.66 higher than the highest grade given by undergraduate students. Any comments?



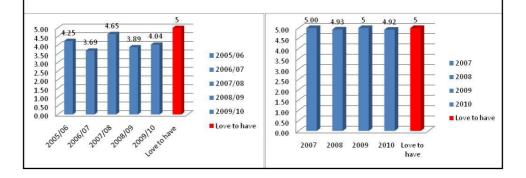
# **Style of the lecture**

- Lecturer familiar with the contents of the lecture
  (5 = very well, 1 = not so much)
  - Lecturers are generally well-graded!
  - Better by more-knowledgeable!



# **Style of the lecture**

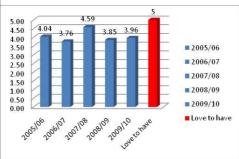
- Do the lectures seem to be well-prepared?
  (5 = very well, 1 = not so much)
  - Again, lecturers are generally well-graded!
  - Faaaaar better by more- knowledgeable!

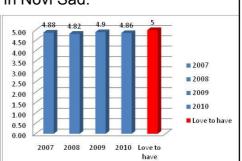




# **Style of the lecture**

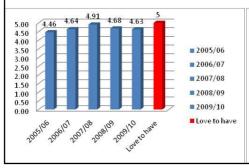
- Is the lecturer engaged?(5 = very well, 1 = not so much)
  - Grades are becoming tiresome!
  - Trends are the same, specially in comparison between questions, but always lower in Novi Sad.

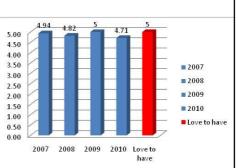




# **Style of the lecture**

- Is the lecturer willing to answer questions?
  (5 = very well, 1 = not so much)
  - Best grades for lecturers at both places.
  - Better in Tirana.

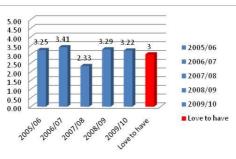


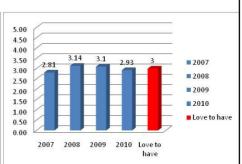




# **Style of the lecture**

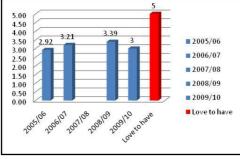
- Is the presentation of the lecture(5 = too fast, 1 = too slow)
  - For once, the difference is not that high.
  - Yet again, Tirana graded lecturers better.

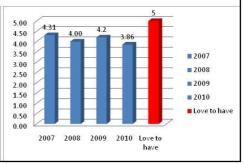




# Style of the lecture

- Presentation style encourages lecture following?
  (5 = very well, 1 = not so much)
  - Here, I'm scared to comment!
  - Prof. Bothe said "... for normal situations at home universities 3 is quite well. It is not so easy to 'encourage' students"

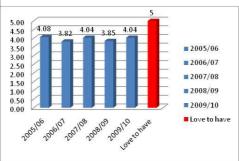


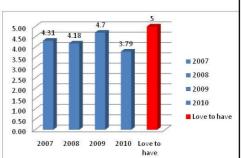




#### Benefit of the lecture

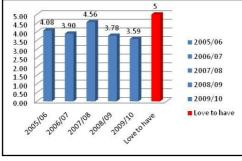
- Did you learn a lot of new things?
  (5 = much, 1 = not so much)
  - And after all of the previous grades they think they learned enough new things.

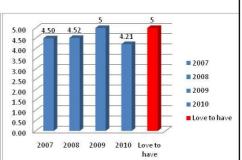




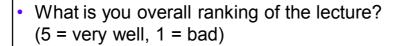
#### **Benefit of the lecture**

- Do you think the contents of the lecture is useful
  (5 = completely, 1 = not so much)
  - More useful for master students of computer science, than for undergraduate students?
  - Some of them studying combination geographyinformatics? Sure!

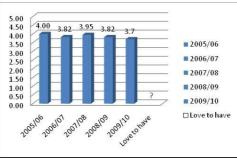


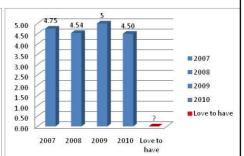


#### **Benefit of the lecture**









# **Conclusion**

- BACK TO SCHOOL
- So we're better graded in Tirana.
- Sometimes much better, sometimes just better.
- Professors are different, but Zoran Budimac is one of the best graded professors in Novi Sad in general, for all of his courses.
- Why then?

#### **Conclusion**

- Most probable reason is the great difference between students:
  - In Tirana:
    - Students are older master students;
    - Students all belonged to the same group computer science students.
    - And perhaps we were guest lecturers, and they were polite.
  - In Novi Sad:
    - Course was obligatory while attendance was not;
    - Part of the students belongs to geography-informatics direction;
    - And, who knows if that matters, but students were interviewed after they received their grades.

#### **Conclusion**

- The fact that supports the previous claim are grades for common things – structure and contents of slides is graded better by master students.
- Tirana students attended almost all of the lectures, each year. Novi Sad students didn't. Still, they felt that they should grade even those things they haven't participated in!
  - Grades in Novi Sad go down, as the attendance percentage goes down ...
  - Time needed for learning and for solving assignment goes up, as the attendance percentage goes down ...

#### In numbers:

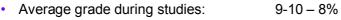


- Grades in Novi Sad are lower. Is that with a reason?
- Maybe it is, but we'll never know!
- "No one" was there to listen and check!
- Attendance was:

Wednesdays 10% (late evening, no other classes that day)

Fridays 40% (at noon, after several other classes)

# Interestingly, Novi Sad students have a very high opinion about themselves:



8-9 – 32% 7-8 – 60% 6-7 – 0%

• Grade student expects for SE: 10 – 17%

9 – 63% 8 – 20% 7 – 0% 6 – 0%

Average 8.97



#### **Conclusions**

- Can we correlate some data?
  - Lower attendance → lower lecturers' grades
  - Lower attendance lower students' grades
  - Lower students' grades
    lower lecturers' grades
  - Lower attendance more time to study
  - Lower attendance lower lecturers' grades
    lower students' grades more time to study
    generally, students with less knowledge

#### So if we take a closer look into lecturers:

- · Over the years, they tend to:
  - forget the material,
  - become less prepared,
  - less engaged,
  - and too fast ...
- ... yet:
  - are still willing to answer questions.
- · But, they inspire more and more!





#### While for the course, students tend to say that:

- Over the years, **course** sometimes:
  - delivered less knowledge, and
  - content became worse.
- Slides:
  - don't have enough info,
  - and are not so organized anymore.
- Assignments:
  - became more difficult, but
  - more motivating.
- In general, students:
  - learned less,
  - and much less useful things.
- Naturally, final grade for the course, drops down, too



