

# CS-C2130 / CS-C2140 / CS-E4910

## Software Project 1 / 2 / 3

### EES 5 - What did we learn?

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# Agenda

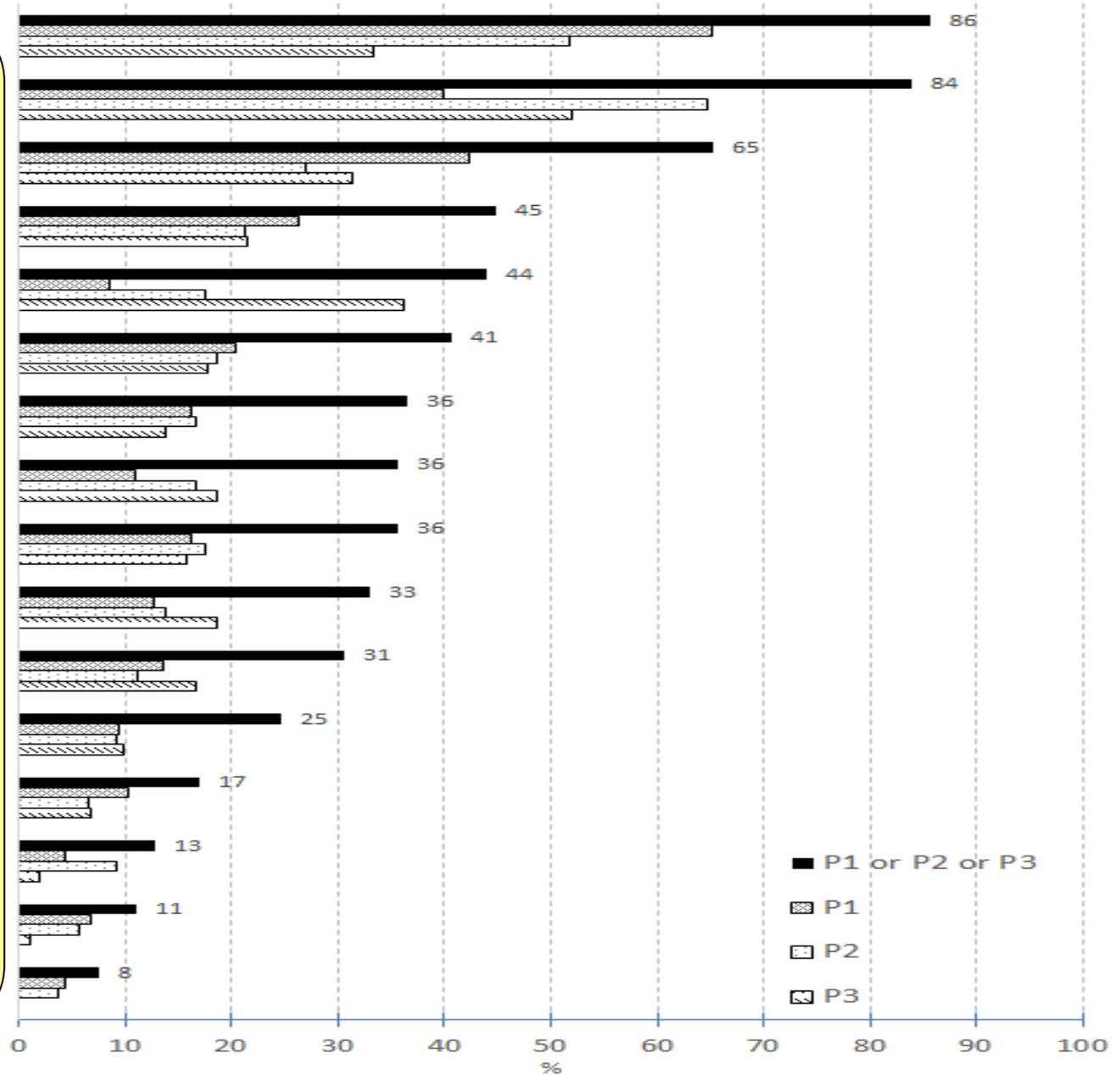
- **1. Course Practicalities (5min)**
  - last Project Reviews, Project Gala 4.5.
- **2. Most common lessons learned based on the learning diaries from previous years (15 min)**
- **3. Brief introduction of the status of the projects (1-2 min per team)**
- **4. Discussion rounds in small groups (4 \* 10-15min)**

# Analysis of learning diaries

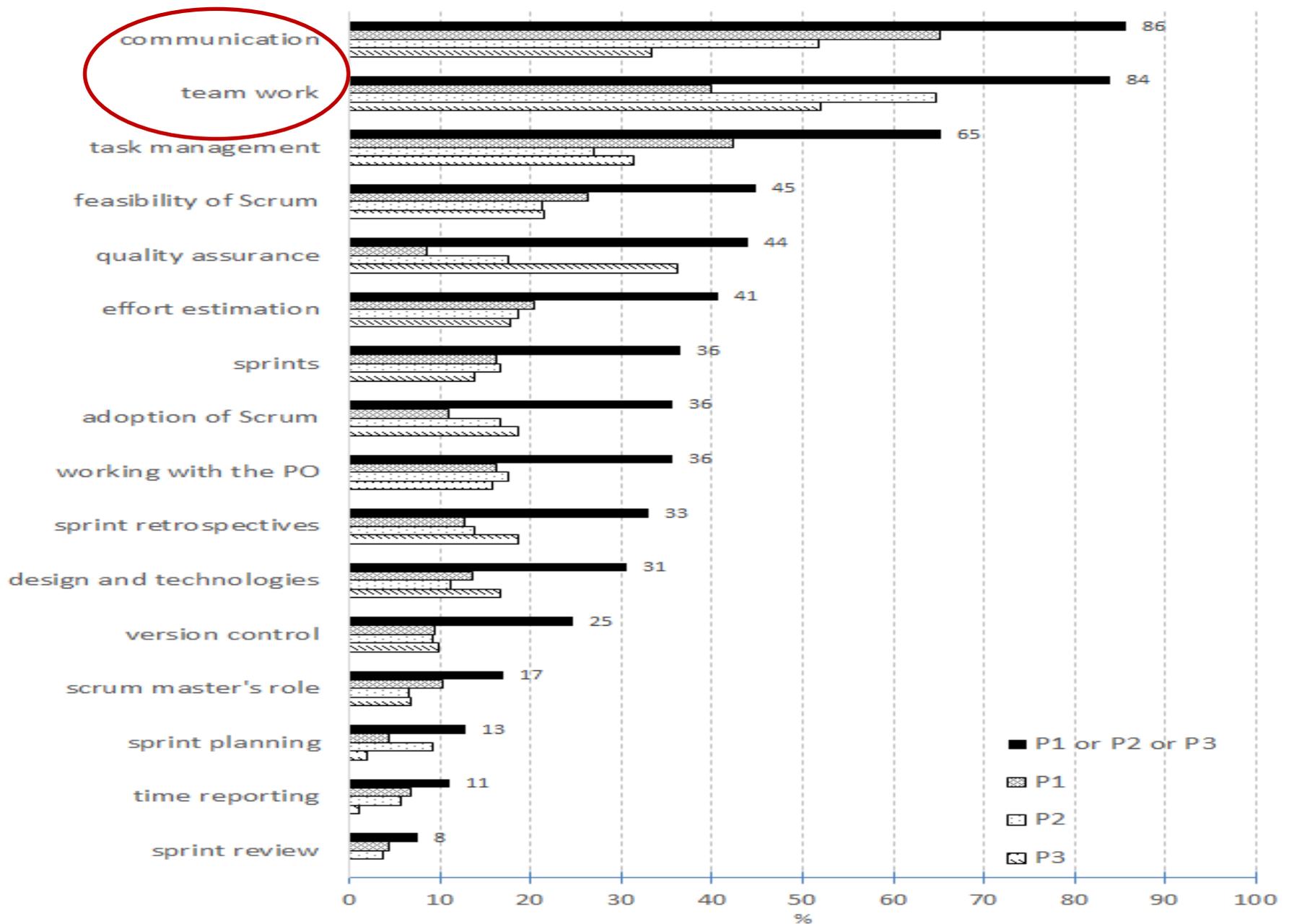
- 328 diary entries from 118 students
  - diaries from a previous year
  - written just before each project review (P1, P2, P3)
- Content of each entry
  - at least three **most educational observations** related to **Scrum or other work methods**
- Analysis method
  - identifying the topics (and their subtopics) discussed in the entries
    - an educational observation could be related to more than one topic
  - summarizing the observations for each subtopic
  - calculating the frequencies of the topics

Percentages of students who mentioned the topics

Try to guess the most common topics.



## Percentages of students who mentioned the topics



# Communication

- Among the most educational observations for 86% of the students
- Subtopics
  - Face-to-face work sessions
  - Daily (weekly) Scrum
  - Communication practices
  - Challenges of communication
  - Importance of communication

# Communication - Face-to-face work sessions

- Improves and helps communication
- Most effective channel for sharing information

*The first and probably biggest realization for me was how important it is for the team to have meetings regularly to actually keep each other up to date on what is happening. One can try to argue that it should work with all the channels we have to communicate nowadays but it seems that face-to-face is the most effective.*

# Communication – Daily (weekly) Scrums

- *Project status communication*
  - beneficial for knowing what other team members have done and will do, and if they have had some problems.
- *Practices and challenges of arranging dailies*
  - frequency of dailies (twice per week seemed to be best)
  - having a daily during the team's development day or on an otherwise fixed weekday was considered a good practice
  - difficulties of getting everyone to participate in the dailies

# Communication – Communication practices

- Communication tools
  - Slack, Telegram, Flowdock, Skype, Google Hangouts, e-mail
  - good communication requires agreeing on some practices for tools usage
- Meetings practices
  - preparing an agenda and ensuring that it is followed during the meeting is necessary for an efficient meeting
- Documentation
  - not used much for communication
    - especially if not up-to-date

# Communication – Challenges in communication

- Improvement in communication only later in the project
  - Reasons that initiated improvements were, e.g., interconnected tasks, increased courage to speak openly, identification of the inadequate communication in retros
- Communication takes time and slows down decision making compared to working alone

*I was also surprised how “slow” the development in a larger team is, since before the project I had mostly just done my own projects that don’t have all the communication overhead of team projects. Of course one person alone couldn’t do a project of this scale in this time either.*

# Communication – Importance of communication

- Knowing what other developers are working with
  - e.g., due to task dependencies, reacting to problems quickly, and focusing on correct tasks
- Team cohesion
- Transparency
- Hearing everyone's opinions in decisions
- Better work results

*Better communication seemed to be the best solution for all the problems identified in retros.*

# Team work

- Among the most educational observations for 84% of the students
- Subtopics
  - Motivation and commitment
  - Team spirit
  - Competencies
  - Responsibility areas
  - Pair work
  - Team structure
  - ...

# Team work - Motivation and commitment

- Some team members lacked motivation or commitment
  - not investing the required amount of effort into the project
  - just passive, not willing to take responsibility or learn new things

*In my opinion **the worst performers are those who are not willing to learn.** Certain members of the group feel like they don't have enough know-how to contribute and do nothing about it.*

*Then there are those who **think they are skilled enough, but actually are not, and are not willing to learn anything new.** ...*

*Certain team members on the other hand are not or don't claim to be experienced but are willing to explore new areas. They have proved to contribute much more to the whole.*

# Team work - Motivation and commitment

- Demotivators

- too busy with other assignments
- too ambitious goals such as unrealistic sprint goals or too difficult a task for a certain individual
- lack of a project manager in Scrum - there is nobody who tells what everyone should do
- motivation decreased towards the end of the project, e.g., due to general project fatigue

# Team work - Motivation and commitment

- Motivators
    - working regularly physically together
      - work gets done
    - successes
      - marking tasks as ready and seeing progress in the project
      - getting positive feedback from own work
    - paying attention to the level of commitment
    - reporting and tracking spent effort, and making concrete work effort plans
    - coach made the team wake up
    - being able to do something that is interesting to oneself
    - having a clear common goal and high ambition level for the whole team
    - intensive phase at the end of the project
- 



# Team work – Team spirit

- Importance of good team spirit for the project
- Getting to know each other improves team spirit
  - socializing with teammates, e.g., arranging a kick-off party, eating together after work sessions, or having fun together in some way outside the work hours

# Team work – Other subtopics

- Competencies
  - Large competence differences
- Responsibility areas
  - specialization and its positive and negative effects
- Pair work
  - Good practice, with concrete benefits of its use
    - Solving problems faster
    - Better decisions
- Team structure
  - Large team, use of subteams