

RESPONSES TO THE STATEMENT

- Focus is on content.
- We are in need for a core team of lecturers really putting time and effort in it to make it work.
- What about what students find important? They seem to be looking for the shortest/easiest way to meet the BSA requirements.
- In the third year students start to see the links.
- We are not all equipped to transfer these reflection skills
- How can we show that reflection helps students to have more impact with their disciplinary knowledge.
- In Multidisciplinary working/ studying reflection is very much practiced.
- There is not much structure in teaching Reflectivity throughout the programme.
- we can force student more in taking different roles and perspectives. Not only the ones that they are most confident with
- We want students to learn to be reflective, but we don't need it to be in a rubric.
- Giving words to reflection is a separate skill
- When are student reflective 'enough' and how do we know?
- We can work more on awareness in ethical choices in relation to technical developments.
- There is resistance among students on this subject.
- There is a possibility to integrate it more (together with other transferable skills) within projects.
- There also needs to be awareness on the differences in underlying thoughts, vocabularies and goals when you work together with other disciplines.
- We can use more best practices on how to do it, what to do & how to make it work.

CHALLENGES

What about the consumer attitude of students. Sit back, and think as little as possible
It is not that easy to connect what is happening in the world to the direct students experience. It feels 'far-fetched'. Lecturers might find it hard to do this in a good and appealing way.

What role should we take as university in the personal development of students? What if teaching reflecting means less time for 'disciplinary content'. What if students don't want to?

How to do it right? How to transfer reflection to learning goals

Feedback of students: In the feedback from students they are really negative when a lecturer for instance doesn't provide direct answers, but only answers to stimulate the process of solving... There are often no ready-made answers in the real live.

WHAT?

When talking about reflection we look at reflection in different areas.
-> The me; who am I, what is important, what are my ambitions/goals, how do I deal with things, what is my responsibility to society
-> The content; What do I already know, how does this content relates to other courses, ...
-> The process; What am I doing, how do I get where I want to be, what should I change in the process etc.
-> The Team/ others/ society ; what other perspectives are there, how does what I do relates to others, how can we supplement each other?

Not agree: #10
Agree: #3
Other: #5

Statement:
In our programme students learn to reflect sufficiently

Reflection in Engineering Education

100 DAYS OF REFLECTION
Programme Directors
08-10-'21

TIPS FOR FURTHER EXPLORATION

- Have a look at HBO. Reflection in education seems to be more active there.
- readings: Schon. Reflection in action
- critique epistemology >> the question we ask differ compared to history, maybe we have to start new questions (and make new assumptions).
- Are we asking our students to do something that we are not doing as lecturers & practitioners in the field....
- Reluctant / unable / unaware? Where are we at?
- Exploring the needs
- What do students think about it?

EXAMPLES SHARED

- Asking students questions like: What is the relevance of your chosen discipline? What is your part in it?
- Make students aware that discomfort, not knowing and struggling is inherent to learning
- Throw students into the deep end (with swimming straps)-> that will make them flounder and they will learn very fast.
- Bring relevance and responsibility to the table
- Let students discuss with each other the relevance of things.
- Bring problems/challenges closer to the students' perception.
- Reflection happens in the interaction between students and on campus. Support that.
- Using portfolios
- Working with electives
- A lot of reflection happens during the graduation projects. (And it takes a lot of time from a lecturer to give the necessary feedback)
- Bring in a societal question and then ask students to tell you what the course can contribute to it.
- Reflection happens when student have to make choices
- Reflection happens when there are open ended assignments
- Use guest lectures
- Assignment about what kind of engineer students want to become

WHY?

- 1) In talking to the industry we hear back:
 - Students coming from TU Delft have good disciplinary knowledge.
 - They could be more equipped for groupwork, interdisciplinary skills and working from/with different perspectives.
- 2) When we look at student wellbeing, Self-reflection plays a big part in that. It helps to know one's true values, ambitions and possibilities.
- 3) What role should we take as university in the personal development of students?