100 DAYS OF REFLECTION
Journal Club
21-09-'21

Integrating reflection into engineering education

ASEE Annual Conference & Expo
Tunn, Sattler, Yasumara, Borgford-Parnell, Atman

Reflection is an Intentional & Dialectical thinking process with the following key elements:
1) features of an experience (experience = an engagement with the world)
2) Lenses (=knowledge used to interpret the features)
3) Assign meaning (understanding by using lens to interpreted features)
4) Guide future action (steps taken as result of meaning)

WHAT MAKES AN ENGINEER A REFLECTIVE ENGINEER?

WHAT QUESTIONs SHOULD WE (ENGINEERS) ASK OURSELVES?
... We now wonder why some questions were not addressed earlier...

WHAT DOES IT BRING
- Better understanding of who you are
- Better product and services
- More Focus in Learning
- Understanding your connection to the world
- Different perspectives can help student understand
- Looking from a distance at what you are doing gives an extra perspective

WHY?
- Changing role of universities
- Industry is more and more expecting the university to 'deliver' all-round engineers.
- Life long Learning
- Students are changing
- Ethical dilemma's (profit versus ...)

METHODS & APPROACHES
- 360 Feedback
- STARR Reflecting
- Personal Development Plan
- Personal Plan of Action
- Ikigai
- Portfolio (3 point view, no good/wrong)
- Good role model behavior
- Studycards (example thomasmore.be)
- Asking questions
  - What do you think are the learning goals
  - What is your part in the solution
  - What brings the solution to the world
  - .......
- Growth Mindset
- Bildung
- Academic learning
- Self regulated learning

REFERENCES SHARED IN THE JOURNAL CLUB
- (Leer studenten) studeren met succes Excel Thomasmore.be
- Which Professional skills do student learn in engineering team based projects (Roland Tormey (SEFI)
- How does your personality bias your epistemology (David Takacs)

QUOTES & THOUGHTS
- Without reflection no learning
- Reflection is not only rational
- It is about making focused choices
- Be aware of one's development
- What you know determines what you see
- Reflection can start from emotion
- Understanding your connection to the world
- Reflection should become a habit
- Reflection prepares for growth/ development.
- People are not fixed
- Subjective versus objective
- Reflection <-> Vulnerable
- Reflection should be part of educational practices -> integrated not separated
- What if emotions run high
- How does how you are, shape what you know about the world
- We must not play it personally, but we need to play
- Does it spark your joy? Kondo
- As a lecturer you want to apply reflection consciously
- Guide students in the why...

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