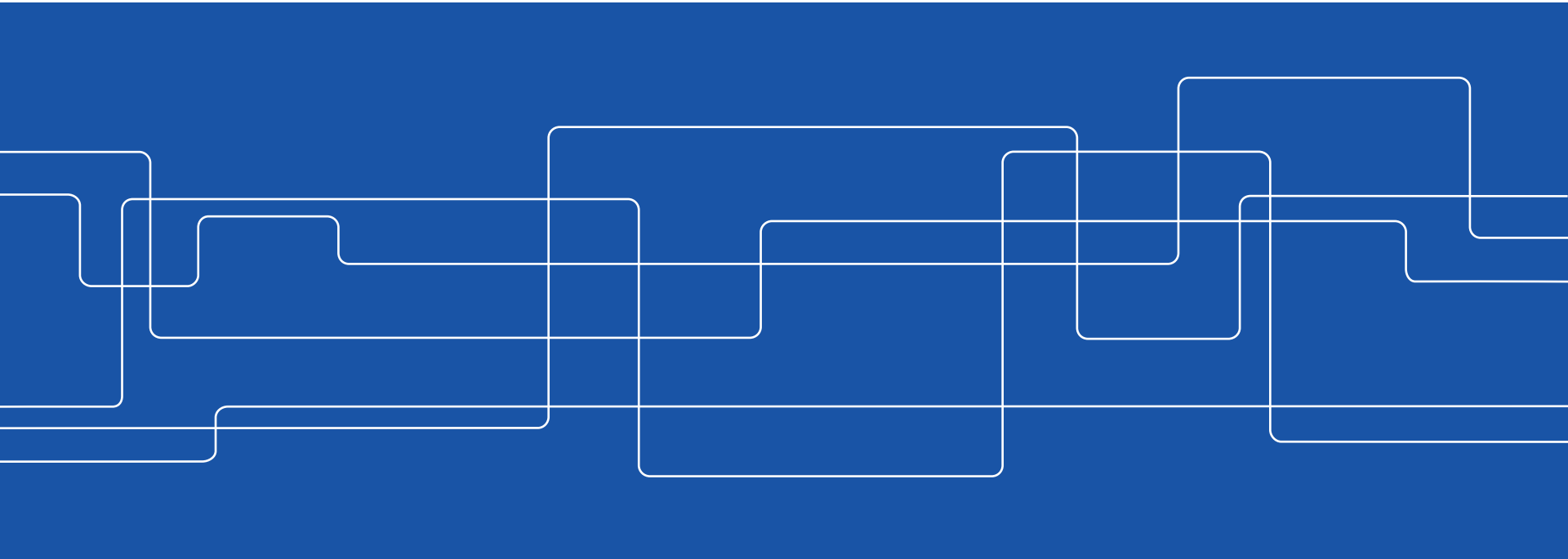




Quality assurance in courses and programs

Joakim Lilliesköld





“Quality can not be inspected
into a product or service;
it must be built into it.”

W. Edwards Deming



How do we try to build quality at EE

Information from a lot of sources:

Surveys: Alumni (including employment), mid of education, gender, employee, etc
Course evaluations/course analysis
Student board report (report their result at GRU råd)
Mentors from Global impact course
Student results from Ladok
Number of applications
Number of degrees

Meetings:

Breakfast with student union (3 times/semester)
GRU-råd (director of studies, admin, program directors, students 4 times/semester)
Board of direction meeting (twice a month)
Strategic advisory group (industry, teachers, students, others from KTH)
Faculty conference(all teachers from the school)
GRU conference (all teachers in the program)
PA meetings (KTH level)

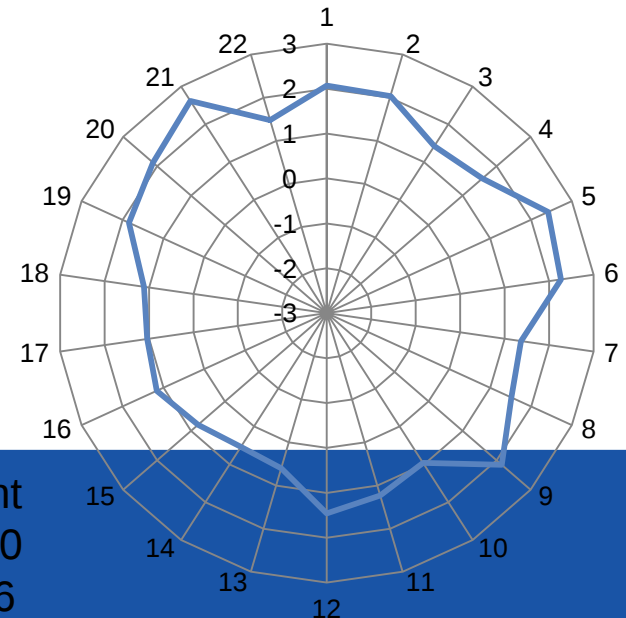


Who gives feedback on the course evaluation?

According to our rules:

Course analysis shall within one month after the course ended has been shared with the director of first and second cycle studies and head of the school

KTH started using LEQ, a model with a survey and a workshop where teachers together share their results and discuss improvements.



LEQ Footprint
Kurs: EH1010
Period: 4 V16



Sharing analysis on the web

MANAGEMENT OF PROJECTS

EH2720 | 7.5 CREDITS

⚙ My settings



Course overview

News feed

Schedule

General ▲

Kursutveckling ▲

Kursdata & kursanalys

Kurs-PM (historik)

Course plan etc

Course wiki



Examinator och kursansvarig	Obligatorisk inom program (period och år)	CDIO-moment som ingår i kursen	Andra programmoment som ingår i kursen	Form av examination och när den utförs	Antal reg. studenter	Examinationsgrad; av aktiva (totalt) vid första ex-tillfället. Betygsfördelning. Senare ex-grad kan dessutom anges.	Förändringar som införs i årets kurs (exempel fr kursanalys)	Kursanalys (ladda upp dokumentet)
Jan Scheffel	---- ^^ ----	---- ^^ ----	---- ^^ ----	---- ^^ ----	61	82 (77) P:46, F:7 (av de aktiva)	• Alumnistudenter kommer och berättar om arbetslivet som CL-ingenjör • En kort sammanfattning ges nu i slutet av varje föreläsning • Flera hemuppgifter har förnyats • Feedback på minigrupparbetena har utökats; de genomgås nu lite utförligare under 3:e fredagstimmen • Övningslärare åter rekryterade från CL-programmet • Utökning av genomgång av Maple • Sista minigrupparbetet förbättrat	Kursanalys 2015
Jan Scheffel	---- ^^ ----	---- ^^ ----	---- ^^ ----	---- ^^ ----	61	92 (77) P:46, F:2 (av de aktiva)	• Utökning av genomgång av Maple • Sista minigrupparbetet förbättrat	Kursanalys 2014
Jan Scheffel	---- ^^ ----	Skrivande: grundläggande tekniskt skrivande (IMRAD) Muntlig presentation: genomgång, grunder + del av examination Grupparbete: minigrupparbeten varje kursvecka IKT: Intro till Maple, Excel. I KTH Social ska profil skapas och inlägg göras när Hederskodex lästs.	Hederskodex (behandlar bl a plagiat) ska läsas och studenten ska bekräfta att han/hon läst denna. Intro-föreläsning till SU-kursen <i>Lärande som professionellt uppdrag</i>	---- ^^ ----	56	92 (84) P:46, F:6	Dokumentet i "Kursutveckling" tillgängliga på KTH Social för första gången • Hederskodex (ska godkännas av alla) • Maple-övningar nu i halvklass	Kursanalys 2013



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GRU conference (all teachers in the program)

PA meetings (KTH level)



“Without data
you’re just
another person
with an opinion.”

- W. Edwards Deming,
Data Scientist



DD1316 SF1625 EI1110 SF1624 IE1205 SF1626 EP1200 EH1010 EH1110 Total

1			0					0
2			0					0
3			0					0
4			0					0
5			0					0
6			0					0
7			0					0
8	1		0					1
9		0	1					1
10	2		0					2
11	1	0	1					2
12	2		1					3
13	1		1					5
14		7.5	0	0				7.5
15		0	1				7.5	11.5
16	1	7.5	4					12.5
17	2		1	0	0		7.5	13.5
18		0	2	0	0	1.5	7.5	14
19	5	0	2	0	2		7.5	16.5
20	2	0	1	0	6		7.5	16.5
21	5	7.5	4	0	2			18.5
22		7.5	1	7.5				19
23	2		4					22.5
24		7.5	4	0	0	6	7.5	28
25	6	7.5	1	0	6	1.5	7.5	29.5
26	5		9		0	6	7.5	30.5
27	6	7.5	2	0	2	3	7.5	31
28	3	7.5	5	0	4	3	7.5	33
29	6	0	5	7.5	6		7.5	35
30	6	7.5	1		6	6	7.5	37
31	6		9		6	6	7.5	37.5
32	5	7.5	2	7.5	6	0	7.5	38.5
33	6	7.5	3	7.5	2	0	7.5	39.5
34	6	7.5	5	7.5	2	6	7.5	44.5
35	5	7.5	5	7.5	6	3	7.5	44.5
36	6	7.5	9	0	6	6	7.5	45
37	6	7.5	5	7.5	6	3	7.5	45.5
38	2	7.5	9	7.5	6		7.5	45.5
39	4	7.5	2	7.5	6	7.5	7.5	46.5
40	6	7.5	5	7.5	6		7.5	48.5
41	6		9	7.5	6	7.5	7.5	49.5
42	5	7.5	9	7.5	6	0	7.5	51.5
43	5	7.5	9	7.5	6	6	7.5	51.5
44	2	7.5	9	7.5	6	7.5	7.5	56
45	6	7.5	9	7.5	6	7.5	7.5	57
46	6	7.5	5	7.5	6	0	7.5	59
47	5	7.5	9	7.5	6	7.5	7.5	59
48	5	7.5	9	7.5	6	7.5	7.5	59
49	6	7.5	9	7.5	6	7.5	7.5	60
50	6	7.5	9	7.5	6	7.5	7.5	60
51	6	7.5	9	7.5	6	7.5	7.5	60
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56	6	7.5	9	7.5	6	7.5	7.5	60
57	6	7.5	9	7.5	6	7.5	7.5	60
58	6	7.5	9	7.5	6	7.5	7.5	60
59	6	7.5	9	7.5	6	7.5	7.5	60
60	6	7.5	9	7.5	6	7.5	7.5	60
61	6	7.5	9	7.5	6	7.5	7.5	60
62	6	7.5	9	7.5	6	7.5	7.5	60
63	6	7.5	9	7.5	6	7.5	7.5	60
64	6	7.5	9	7.5	6	7.5	7.5	60
65	6	7.5	9	7.5	6	7.5	7.5	60
66	6	7.5	9	7.5	6	7.5	7.5	60
67	6	7.5	9	7.5	6	7.5	7.5	60
68	6	7.5	9	7.5	6	7.5	7.5	60
69	6	7.5	9	7.5	6	7.5	7.5	60
70	6	7.5	9	7.5	6	7.5	7.5	60
71	6	7.5	9	7.5	6	7.5	7.5	60
72	6	7.5	9	7.5	6	7.5	7.5	60
73	6	7.5	9	7.5	6	7.5	7.5	60
74	6	7.5	9	7.5	6	7.5	7.5	60
75	6	7.5	9	7.5	6	7.5	7.5	60
76	6	7.5	9	7.5	6	7.5	7.5	60
77	6	7.5	9	7.5	6	7.5	7.5	60
78	6	7.5	9	7.5	6	7.5	7.5	67.5
79		7.5	5	7.5	6	7.5	7.5	60+

HT15

44 moved up
35 was not
moved up

Method by
Anders Västberg
ICT



Strenghts

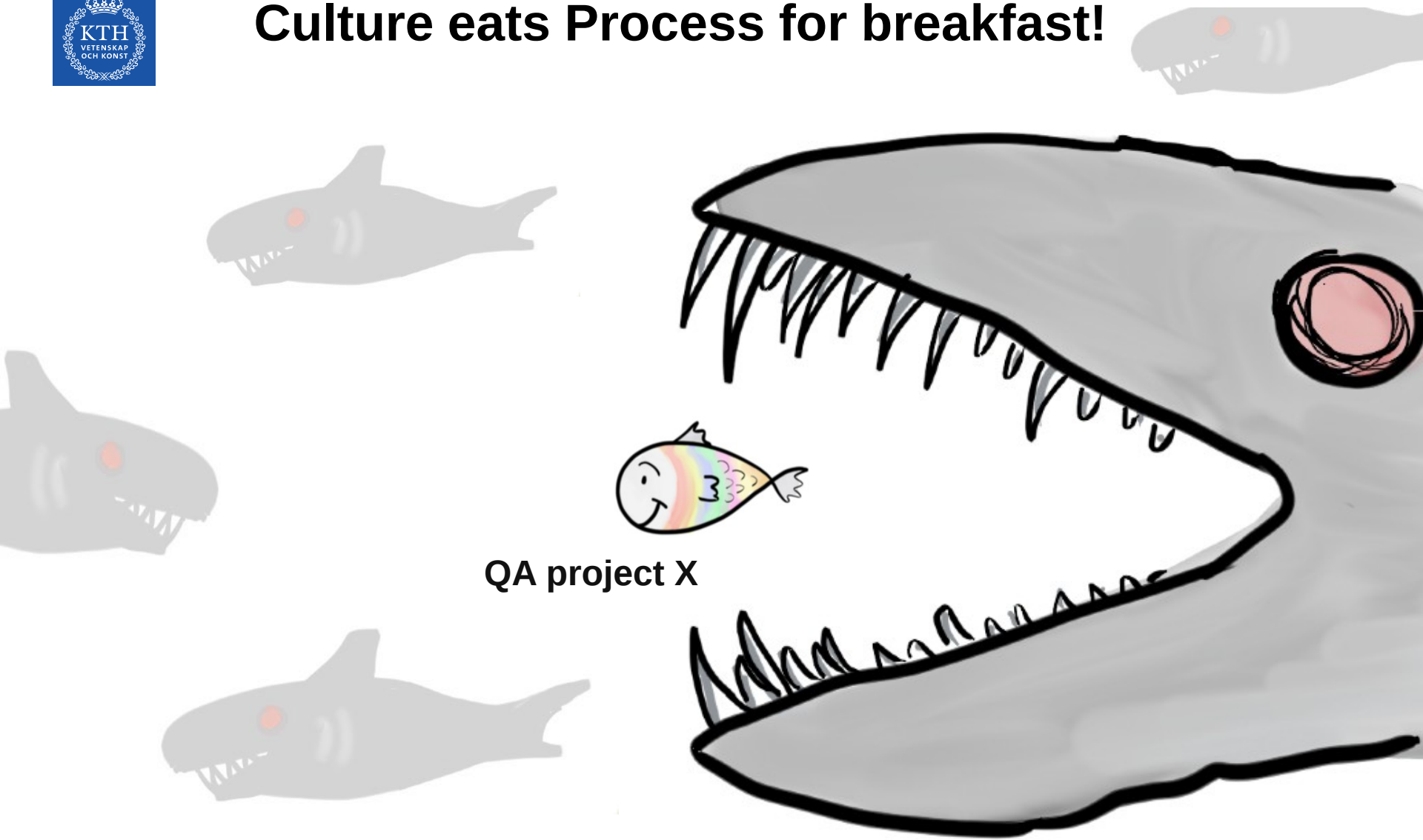
GRU is always on the agenda

A lot of discussion and feedback (that can be used to lift the level of all courses – but we always have many sources to a problem)

Strong PA:s, thus we can often change problems already for the students affected by them

Strong culture

Culture eats Process for breakfast!



QA project X



Problem

Documentation of the development process is poor, documentation of result is hard to find, it is in all minutes from the meetings or PowerPoint, but there is no summary.

Feedback to the sources should be improved

We are lacking the authority of a program committee

We could probably be more strategic

All schools have their own approach (but I do not think that is a problem)



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Obviously we are not alone, KTH is looking at implementing program development plans



A lot of experience

- KTHs experience from UKÄ and EAE = extensive analysis that required a lot of effort, but what was the outcome?
- Experience from Chalmers pilot evaluation of their Programme Review Framework shows a need to differentiate between program level and university level:
“The programme level review needs to have a limited scope to ensure that it does not get distracted by artefacts of a wider issue and try to provide recommendations to treat symptoms rather than root cause.” (Malmqvist et al, 2015).

Challenge: How can we build a QA process that does not drain the organisations energy



University level

Who owns and engage in the question on university level?

What is university level?

Also, do not build from scratch, must build a system that use what is already in place, and maybe some systems must adapt

- Environment system (Sustainability questions)
- Gender equality system
- etc.



Program analysis process (some questions we need to ask)

- How much time can a program director spend on the program analysis?
2–3 days?
- What data and which documents must be available if it only should take 2–3 days to do a analysis.
- The program analysis must be short: 1–2 pages plus appendix!
- Is there a system for feedback?
 - From other PA:s and from KTH

Improvement engine





Program analysis, GA:s suggested template

1. Short description of program status (summary of data)
2. What has happened since last year
3. Backlog – list identified problems and improvements possibilities
4. Which prioritized improvements should be in focus this year (1–3 with a plan)

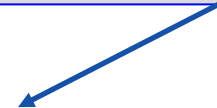
Appendix:

- Data with trends (taken from VIS)
- Program development plan (PA:s work document): describing the program in relation to defined quality criteria regarding content, progression and CDIO - approach, connected masters program, trends in the field, etc.

Integrated Program Description (IPD)

1. program purpose
2. program goals
3. program idea
4. program plan
5. program design matrix

Malmqvist, Östlund & Edström,
*Integrated Program Descriptions – A
Tool for Communicating Goals and
Design of CDIO Programs*, 2006.



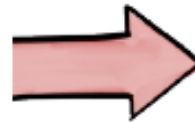
The most important thing
is not your process
The most important thing
is **your process to improve
your process**



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Failure Recovery is more important than Failure Avoidance

Failure Avoidance



Failure Recovery

