Workshop Reflective Practice; from Student to Systems Engineer

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Abstract

After three years of study you are a Master in Systems Engineering. However, many more years of experience are needed to become a recognized Systems Engineer. In this workshop we discuss what you can do to develop further as Systems Engineer.

Distribution

This article or presentation is written as part of the Gaudí project. The Gaudí project philosophy is to improve by obtaining frequent feedback. Frequent feedback is pursued by an open creation process. This document is published as intermediate or nearly mature version to get feedback. Further distribution is allowed as long as the document remains complete and unchanged.

February 15, 2021
status: preliminary draft
version: 0.3

logo TBD

Colophon

Merete Faanes from Buskerud University College created the educational flow *Reflective Practice*. Reflective Practice is a thread throughout the entire master Systems Engineering to stimulate students to relate *Education* and *Practice*.

These workshops are the result of the cooperation of Merete Faanes and Gerrit Muller

Pre-assignment

Describe how far you envision yourself to be in the development toward an industrial grade systems engineer.

Describe in what direction you want to develop yourself (which does not have to be an industrial grade systems engineer).

Agenda

t welcome, last workshop, introduction this workshop

t+0:10 block 1: Gap analysis

t+1:20 block 2: Exploration of development options

t+2:30 block 3: Personal short and long term plan

t+3:40 plenary discussion

t+3:50 pre-assignment next workshop, close

+ Identify the gaps in knowledge, skills, and experience between where you are now and where you want to be in the future.

> be specific

> give examples

Results on flipover

Product Creation is much more than Engineering

Product Creation = Engineering + Creativity

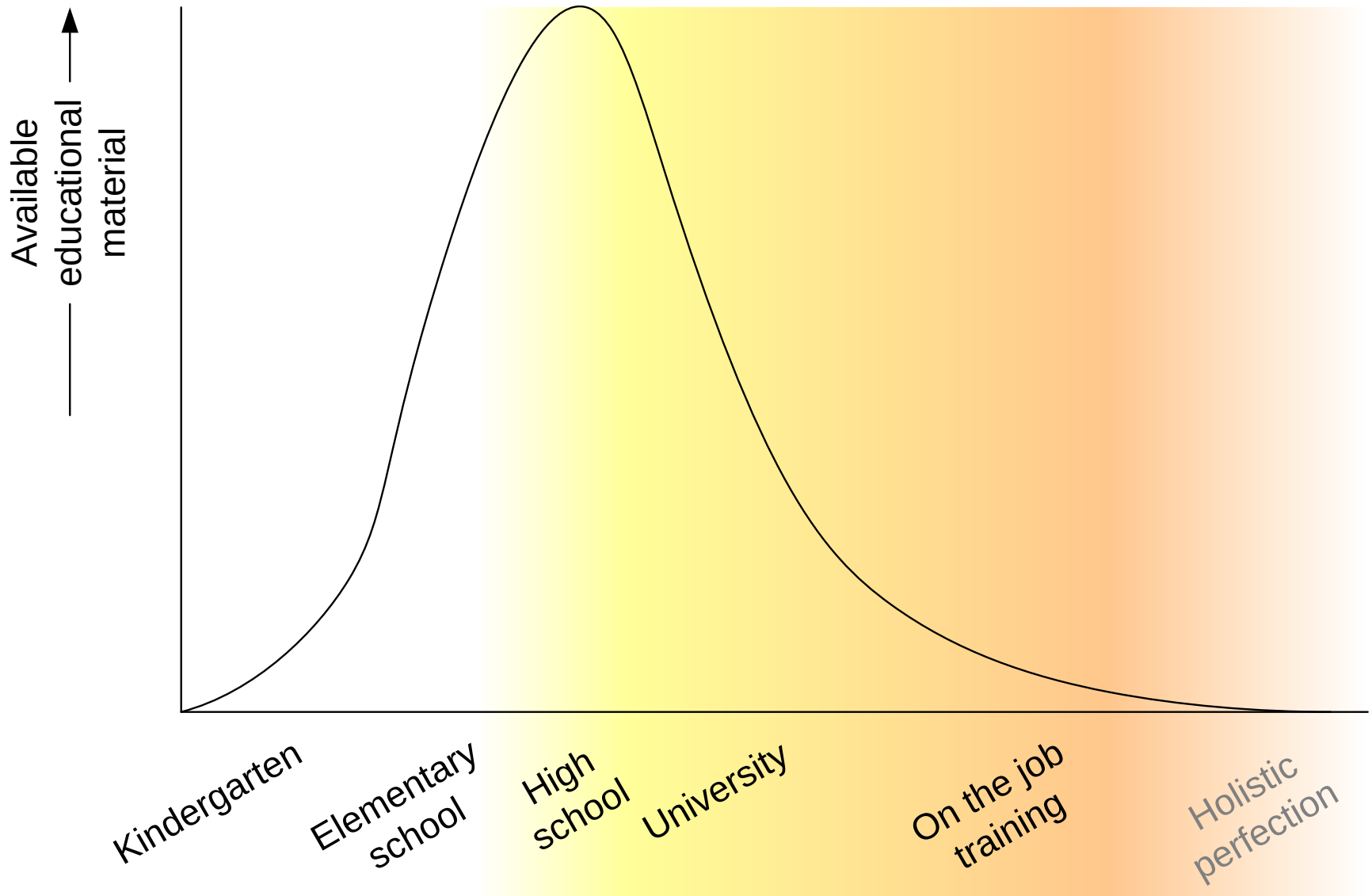
Known:

- Facts
- Notations
- Methods
- Tools
- Patterns

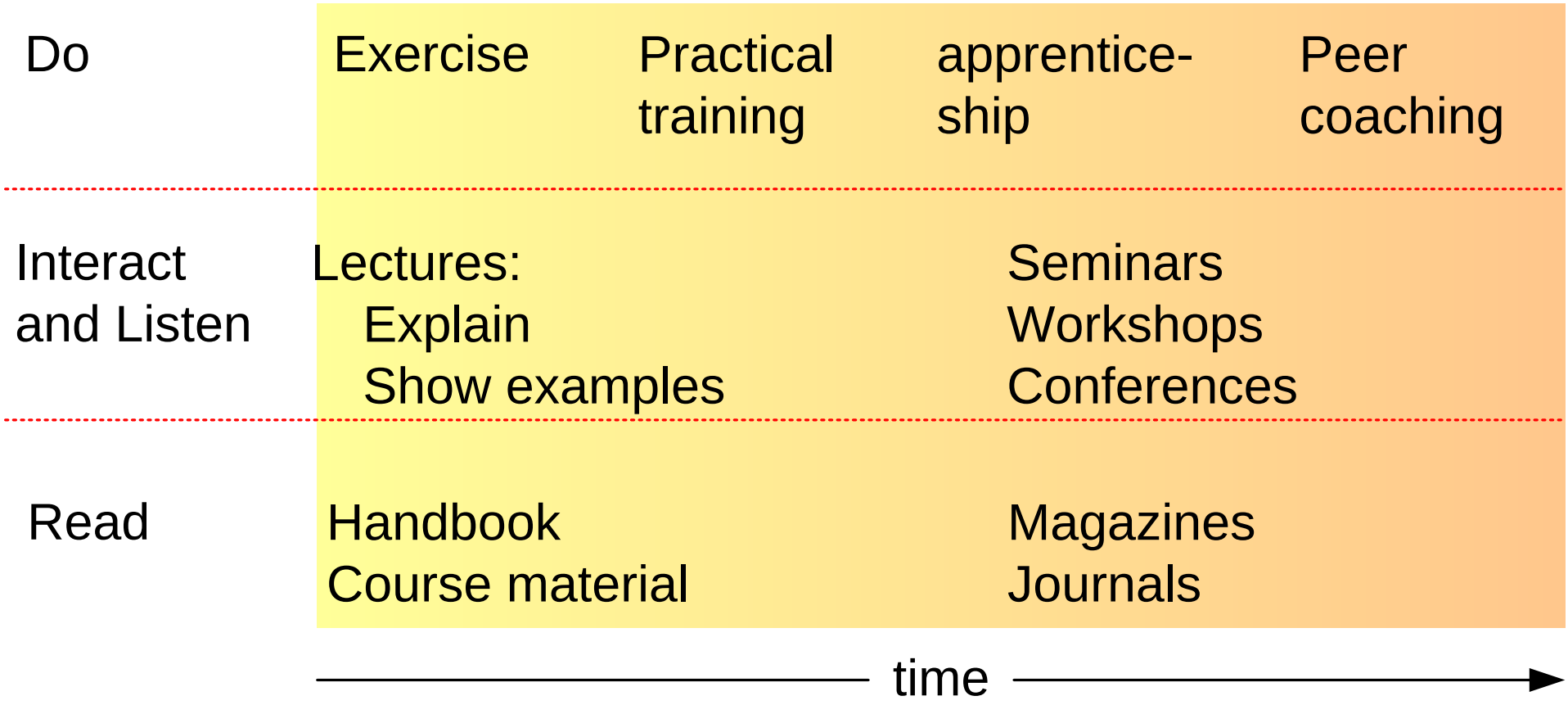
- Intuition
- Observation
- Trial and error
- Lateral thinking
- Collection of references

Education ⟷ Experience

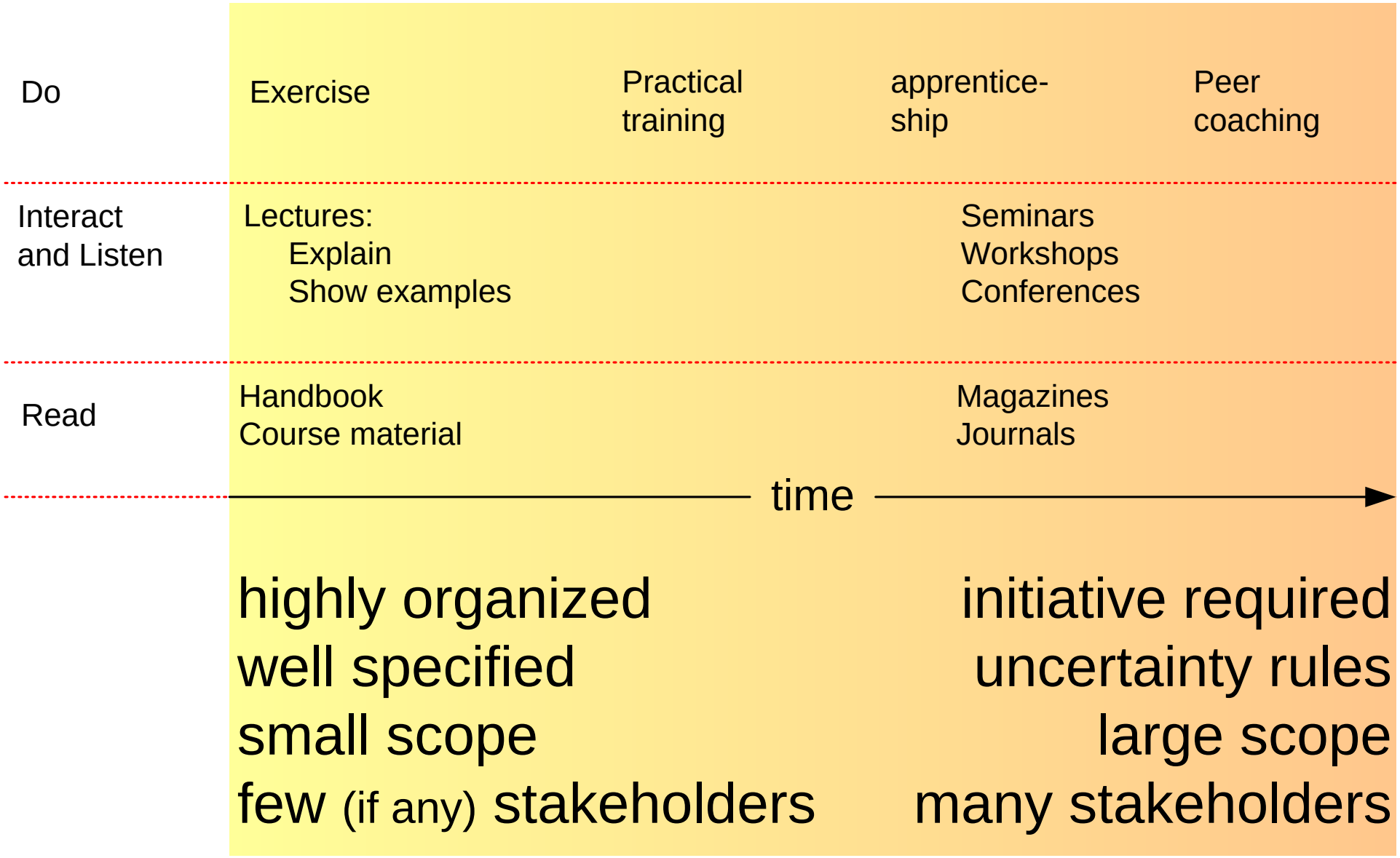
Educational Material per education stage



Changing Education model in time



Increasing Initiative required



Professional Societies and Networks

International: INCOSE (International Council on Systems Engineering) www.incose.org

Norwegian: NORSEC (Incose Norway), TEKNA, NITO

Kongsberg:

- KSEE (Kongsberg Systems Engineering Event) ksee.no
- SESG (Systems Engineering Study Group) www.gaudisite.nl/SESG.html
- USN-MSE alumni

Block 2

+ Identify the possible ways to get and develop the missing knowledge, skills, or experience

> be specific

> give examples

Results on flipover

Block 3

+ Make a short term plan for your working and learning activities in the period April-October

+ Make a long term plan for your personal development in the next 5 to 10 years

> be specific

> give examples

Results on flipover

Post-assignment

Update your description how far you envision yourself to be in the development toward an industrial grade systems engineer.

Update your description in what direction you want to develop yourself (which does not have to be an industrial grade systems engineer).

Describe potential options for development.

Consolidate the short and the long term plan.

Add a reflection on the complete workshop from pre-assignment to post-assignment.

4 A4s maximum

Pre-assignment next Workshop

Write the first page of your paper: the introduction.

Include figures where this is functional.

Be aware that the readers of your paper share an interest in systems engineering and probably will not work in your domain or know your company and system.

Replacing assignment; only after permission of the teacher

- do the pre-assignment and submit this to the teacher (as all other students)
- go through the workshop questions yourself
- discuss the questions and your answers with a local colleague
- write a (max) 2-page document with your answers including examples and rationale behind the answers
- send this 2-page document by mail to another student and ask for comments
- update the 2 page document
- do the post-assignment, include what the feedback of the other student changed in your thinking
- send 2 page document and post-assignment to the teacher