Co-funded by the
Erasmus+ Programme
of the European Union

WP4 Training workshops |
October / November 2017

ENSURING THE QUALITY & ASSESSMENT

Eila.Lindfors(a)utu.fi
Jenni.Kankaanpaa(a)utu.fi
Juha.Jaatinen(a)utu.fi

Turun yliopisto
University of Turku

Professor, Dr. Eila Lindfors
Dr. Jenni Kankaanpää
Doctoral candidate Juha Jaatinen

University of Turku
Department of Teacher education

Greetings from Finland!

Turku University,
19 554 students

Rauma Unit, 900 students

Helsinki

Minsk

Turun yliopisto
University of Turku

THE CONTENT

- Assessment in “competence paradigm”
- What to assess / evaluate
  - Methods
- Evaluation process
- Self-assessment
- Peer-assessment
- Discussion and conclusions

Perspective on competence development on society level

Assessing learning outcomes

Perspective on learning

Perspective on teaching

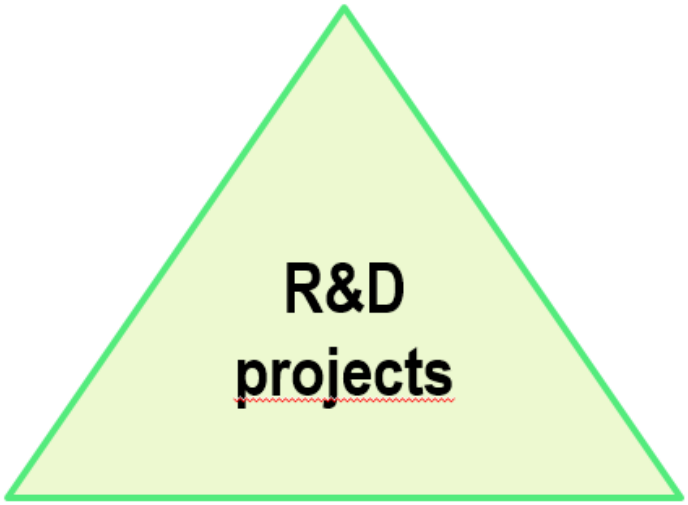
From traditional paradigm to competence paradigm

- An AIM: Student-Centred Learning (SCL), EU 2015
- Authentic learning tasks
  - There is too few student involvement or use of their authentic experiences, when setting out the context and the task of learning (e.g. Cropley & Cropley, 2010).
  - Facilitating learning in authentic learning contexts connected to students' experiences supports creative problem-solving instead of learning specific facts or skills (Lin & Williams, 2015)

Turun yliopisto
University of Turku

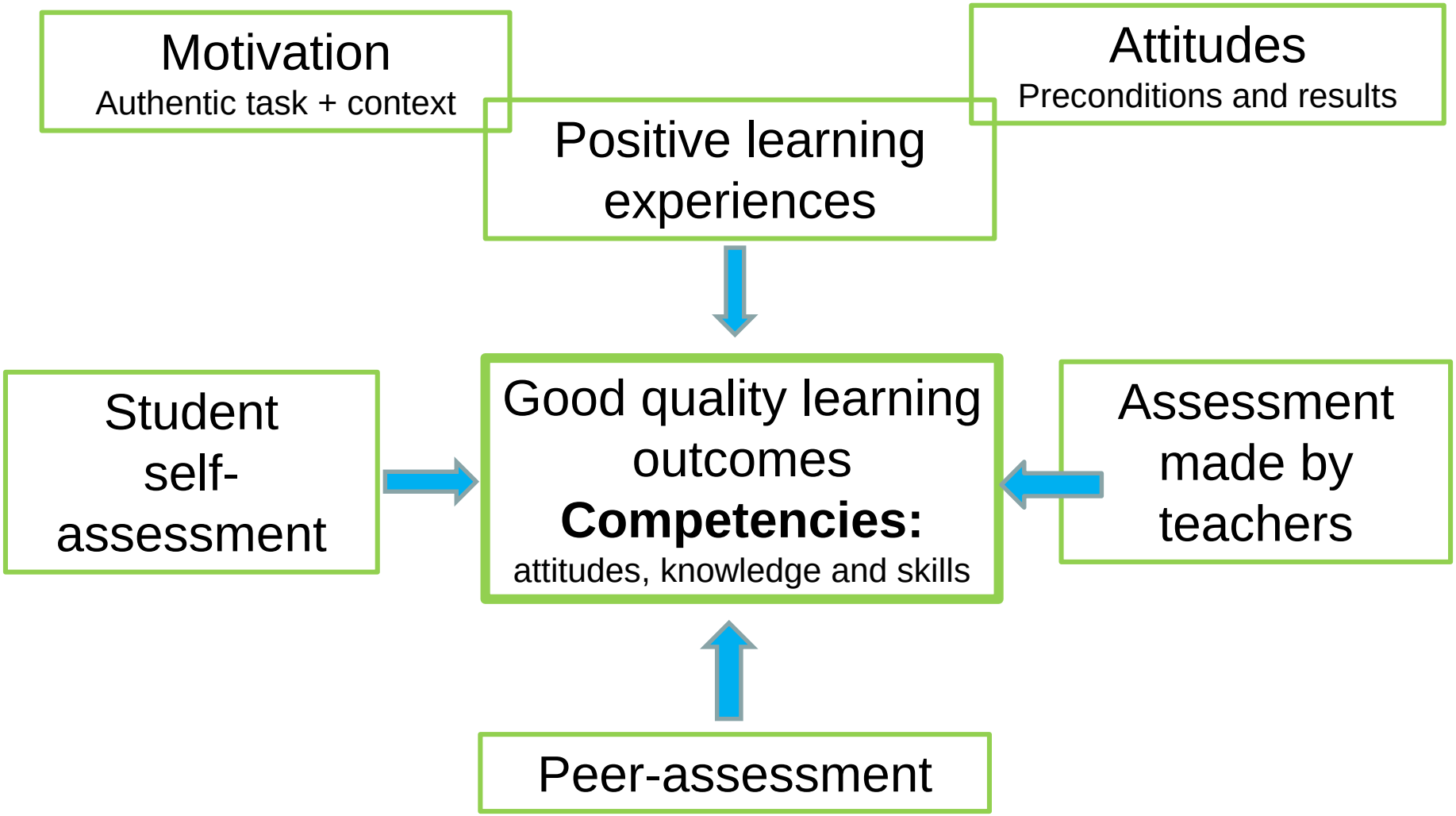
Developing competences in authentic projects
Lindfors, 2015

Theoretical studies



Practical tasks: problem solving development work

Everyday / real life contexts: situated/ authentic/phenomenal learning



Evaluation/assessment of teaching and learning are intertwined.

What to assess / evaluate?

- Students' motivation and commitment
- Students' learning process
- The developed competence / competencies
  - Knowledge
  - Skills
  - Attitudes
- Ability to use the new competence in future contexts (transfer)
- Organisation of the course/unit

Turun yliopisto
University of Turku

Credit allocation - An example

Course: CNC-modelling as a learning environment for competence building 4 ECTs → **Work load is 108 hours**

Face to face studies 24 h

→lectures 6 h

→small groups 14 h

→study visit 2 h

→evaluation seminar 2 h

Students are working in teams of 3-4!

Individual work 83 h

→ literature 20-30 h

→ preparing the digital learning material 25-35 h

→ modelling exercises, basics 6-8 h

→ peer-tutoring 5 h

→ Modelling exercises, advanced 8-18 h

→ Portfolio 3 h

→ Evaluation of learning outcomes 1 h

120 years of Teacher Education in Rauma

Turun yliopisto
University of Turku

How to choose an assesment method?

- What you want to assess – **a purpose** of an assessment?
  - Equally varied, sensitive, and appropriate methods to get credible and useful results
  - What are course/unit's goals and objectives
  - The choice of assessment method is in relation to the teaching method chosen
  - Diagnostic, formative and summative evaluation

- **Quantitative or qualitative** assessment
  - The type of information you need and is useful? → E. g. language test or a reflective portfolio

120 years of Teacher Education in Rauma

Turun yliopisto
University of Turku

Written exam

- After (summative) or in the mid (formative) a course
- Remembering and recalling things, mastering large entities, expressing knowledge in writing
- Impractical method concerning learning
- Positive sides: easy to organize (or not); for large student numbers
- Options: pair or group exam, oral exam
- Open book exam - closer to an authentic information use situation of an expert

Essay

- At the end of a course
- A written assignment reflecting a certain topic and based on theory and research. Students utilise reference material and bring forth their own considerations and opinions, with arguments.
- Evaluating how students manage the content or how they understand the subject entity and relations between things.
- Evaluating the ”touch” to knowledge: superficial or profound, stating, explaining or argumenting
- Writing skills

Oral presentation

- At the end or in the middle of a course
- Students are asked to give an oral presentation on a particular topic for a specified length of time and could also be asked to prepare associated handout(s).
- Evaluating how students structure knowledge
- Presentation skills

Assignments during a course

- Continuous assessment (formative)
  - interphase assignments and instant reports of exercises, concise writing exercises during a course
  - summaries, reports
  - problem solving tasks
- Evaluating how students have understood e.g. important concepts
- Information for teacher to orient teaching if necessary

Concept map / mind map

- During / at the end of a course
- Students map out their understanding of a particular concept or topic.
- Evaluating how the student has understood a certain entity and how the students see interrelations between things or how they apply theoretical knowledge to practical situations.
- Provides feedback to teacher on students' understanding.

Poster exhibition

- Students make posters of a certain topic, problem or project
- Exhibition at the end of the course / posters built during the course
- Often a groupwork
- E.g. evaluating understanding of concepts, structuring of knowledge

Guided learning diaries

- Students write diaries from beginning to the end of a course.
- Guided writing process, focus in analytical and reflecting touch.
- Learning diaries make learning process visible; e.g. change of conceptions during a course.
- Evaluating understanding, mastering of entities and the ability for critical and analytical thinking.
- A tool for self-assessment but also for external assessment; one may evaluate how well and thoroughly the diary was written.

Portfolio

- From the beginning to the end of a course
- Students gather study assignments in a portfolio
- Providing evidence for their achievement of learning outcomes; makes learning process visible
- Commonly incorporates a reflective commentary → a great tool for self-assessment
- Subjective and student-centred assessment

Student self-assessment as a part of the learning process

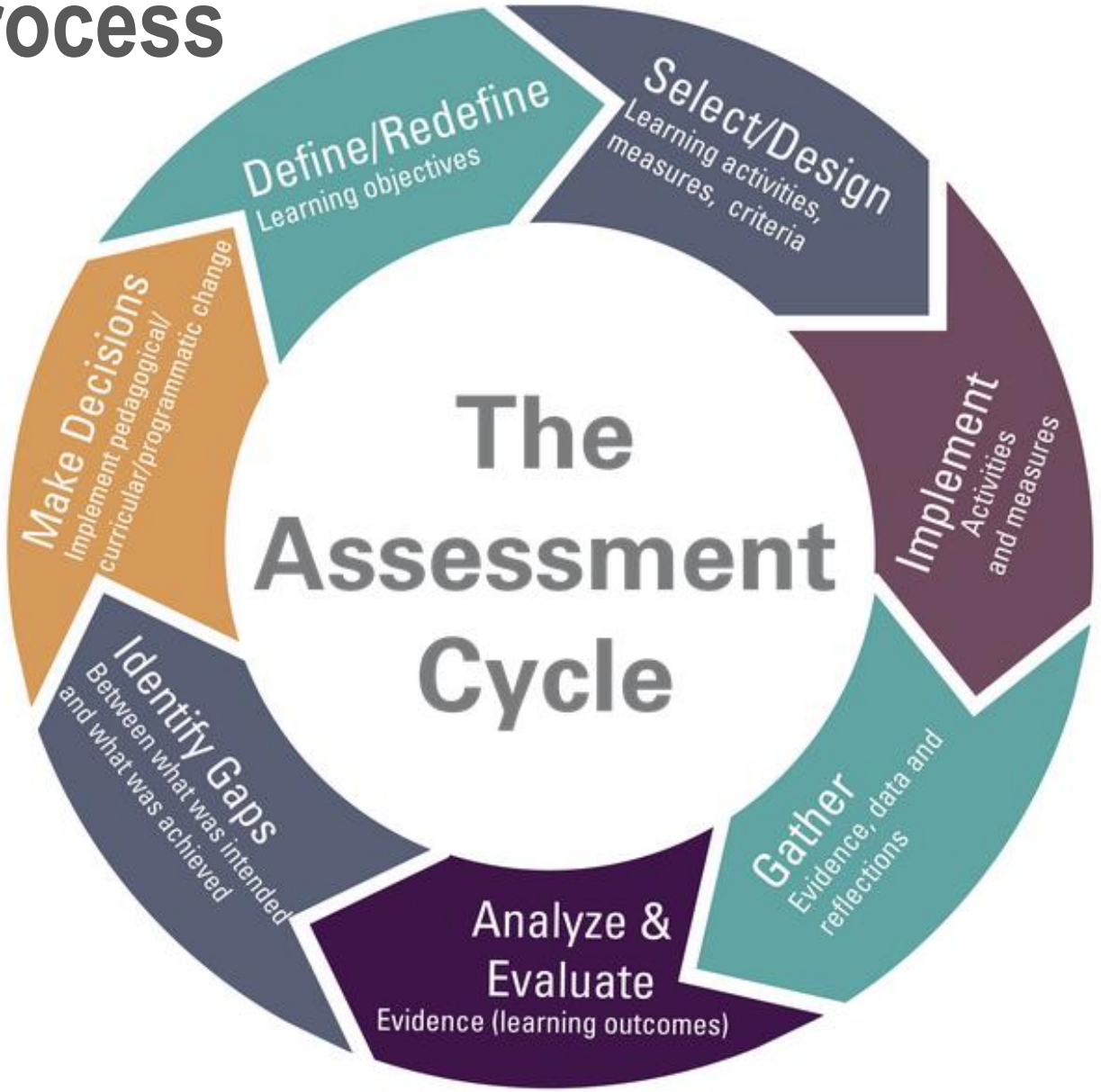
- Enhances students' realistic understanding of themselves as learners (Yliruka 2015).
  - student self-assessment / self-evaluation
  - student self-regulation and self-monitoring.
- Looking at your own progress, development and learning to determine what has improved and what areas still need improvement.
  - → Understand and recognize both learning intentions, targets and success criteria.
  - → Use the criteria to judge what I/WE have learnt and recognize what is still needed to learn.
  - → Reflect on the learning process to ascertain how I/WE learn best.

Peer-assessment

- Assessment of a learner's work by a fellow learner with reference to the intended learning outcomes.
- Same effects than self-assessment
  - → peers need to reflect on their own learning process while assessing study mates' performance
  - → just broader view
- Activating students as instructional resources for one another

Evaluation process

Assessment is an iterative process, that is intended to provide useful feedback about what and how well students are learning.



http://www.northwestern.edu/searle/assessment-of-student-learning/assessment-process/index.html#!

Define Learning Objectives:

- Define/redefine learning objectives
- EXAMPLES:

After the course students will be able to:

- construct clear, well-supported, and sustained arguments based on the collection, interpretation, and analysis of experimental data
- form a hypothesis and evaluate it to justify a course of action
- compose a written scientific report that contains well-supported argument
- work collaboratively in a group setting
- display leadership by keeping the team on task, while listening carefully to the ideas of others

Select and design criteria, measures, activities and assignments

- Define and concretize the assessment criteria
  - Criteria should clearly relate to the learning outcomes
    → The objectives of the course unit
  - Activities/measures/assignments to do such as:
    - gauge grasp of knowledge, concepts, and skills
    - demonstrate critical thinking, problem-solving, and decision-making
    - encourage choice, creativity, and reflection
    - promote interpersonal skills (peer, group, and teamwork)
    - support personal development/identity exploration
    - encourage practical skills

Implement: Create and Use Assessments

- Diagnostic
- Formative
- Summative

AN EXAMPLE I

Everyday technology in phenomenal learning context, 4 ECTS

- A questionnaire: Student teachers' attitudes to technology (automation, eletctronics, PATT)
- Lectures + works shops
- AN ESSAY: how well the theoretical knowledge is grasped.
- Practical technology workshops at local schools designed and tutored by a team of student teachers
- Reflective group portfolio ← self-reflection
- Evaluation seminar: sharing and reflecting experiences gained and comtetences developed → future steps

120 years of Teacher Education in Rauma

Turun yliopisto
University of Turku

EXAMPLE II: Didactics and curriculum planning in CDT Education 5 ECTS Credits =135 hours

22 hours face to face (Lectures + workshops) + independent work 113 hours

- Written group exam after lectures – virtual one

  → Formative/summative assessment of theoretical knowledge

- Digital learning material: A pedagogical video clip

  → peer & teacher assessment- reflective discussion in a workshop

- A curriculum for one grade in co-operation school (general education) to develop teaching along the national norms on the basis of current challenges

  1. Audit of the learning environments ← challenges
  2. Development of a curriculum

  → Evaluation seminar + written report on the results of 'audit' and development criteria for the curriculum, self-assesment

  → Students' oral presentations and reports –summative assessment on competence development made by teachers

ingenio CSIC-UPV
Instituto de gestión de la innovación y del conocimiento

Analyze learning outcomes

- To what extent students have achieved the stated learning objectives?
  - To what degree did students learn what was intended?
    - improvement across drafts?
    - improved performance over time?
    - pre-post conceptual or knowledge checks?
    - mastery of skills?
    - achievement of core competencies?
    - ability to perform specific tasks?
  - The scale ?

Identify and evaluate strengths, weaknesses and gaps

- **Consider various perspectives:** teachers, students, peers, tutors.
  - What worked well?
  - What methods, activities, strategies, materials, etc., could have been improved?
  - What parts of the course or instruction should I retain?
  - What parts should I rethink or replace?
  - Feedback for students?
- **Validity**
  - Did a method assess what it claims and did it lead to valid inferences usable in decision making.
    - Higher order thinking skills versus memory test
- **Reliability**
  - The capacity of an assessment method to perform in a consistent and stable way

Turun yliopisto
University of Turku

Make decisions for the future!

- What should be changed in the next iteration of the course or program?
  - objectives of the course
  - learning outcomes
  - assessment measures
  - teaching strategy
  - Learning media and environment
  - course elements / activities

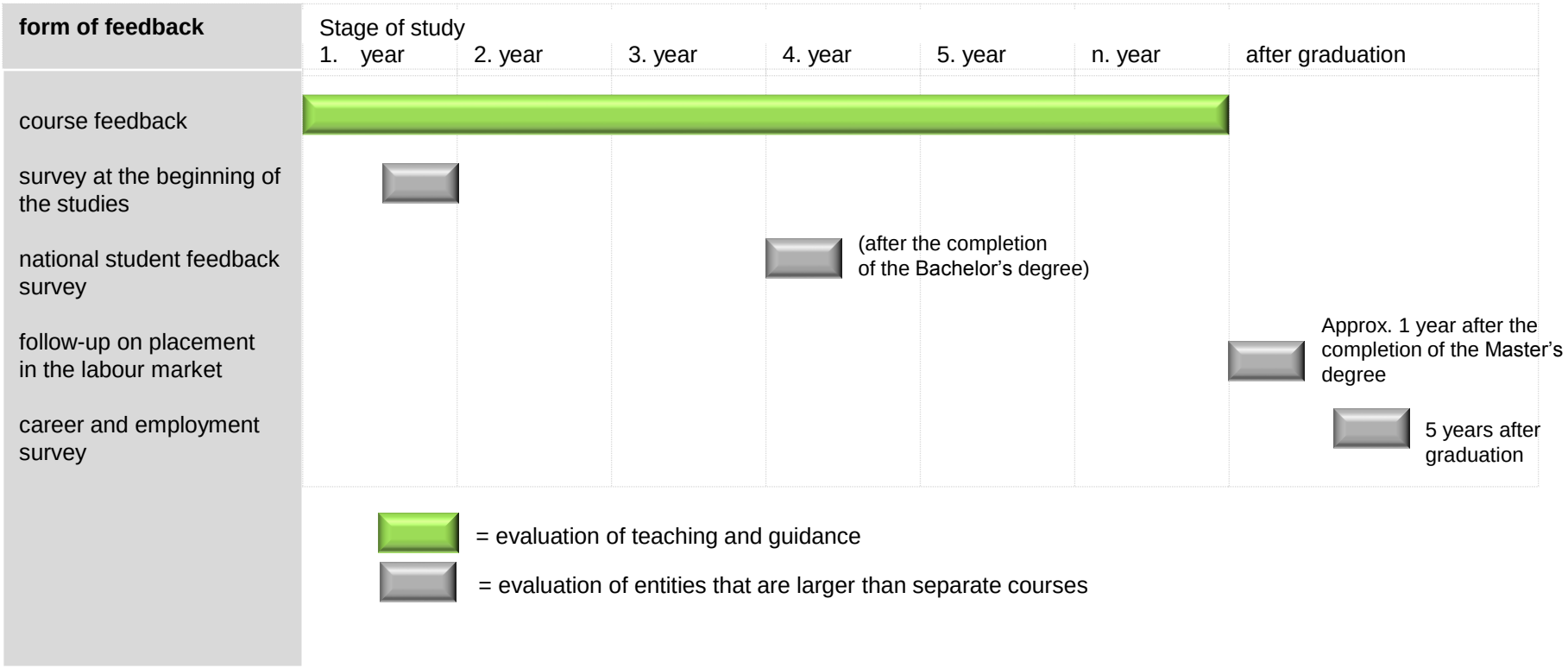
Assessment and evaluation results can be used…

- As a certificate that the student has the basic level competence and can be awarded the credits
- In determining the quality of students' learning outcomes
- As a reference for feedback
  - Giving feedback to students is essential in developmental evaluation
  - Also: getting feedback FROM students!
- As a tool in developing the course curriculum/syllabus

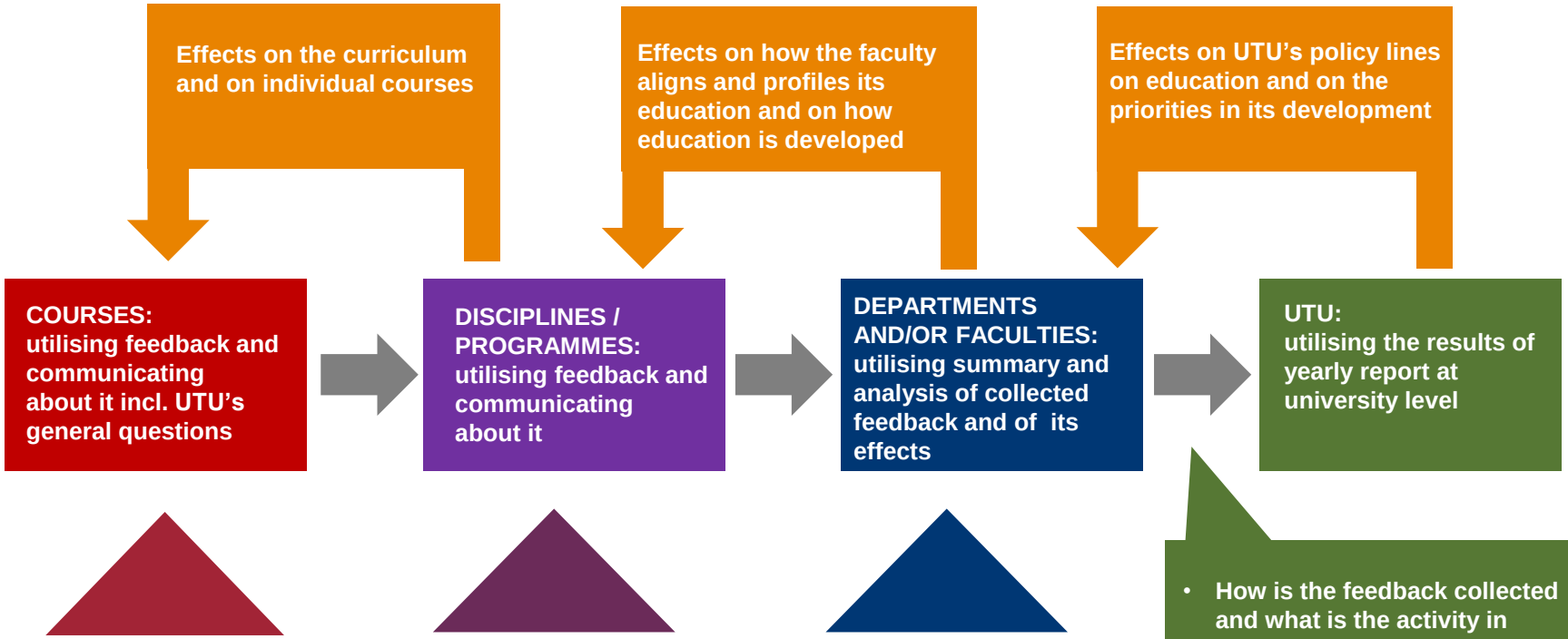
Turun yliopisto
University of Turku

Turun yliopisto
University of Turku

COLLECTING STUDENT FEEDBACK AT THE UNIVERSITY OF TURKU



Turun yliopisto
University of Turku



Course feedback in various forms, e.g.

- feedback form
- feedback discussion
- self-evaluation (students, teachers)
- peer evaluation (teachers, fields of study)
- distribution of grades

Feedback on courses + feedback on larger entities

- survey at the beginning of the studies (1st year)
- national student feedback survey (Bachelor's degree stage)
- follow-up on placement in the labour market (Master's degree stage)
- career and employment survey (approximately 5 years after graduation)

- **How is the feedback collected and what is the activity in utilising it?**
- **General description on the contents of the feedback**
- **What effects has the feedback had?**

Some impressions - Finnish nature!

Kiitos!
Thank you!
Spasibo!

Fostering Competencies

Co-funded by the Erasmus+ Programme of the European Union

References

- Birenbaum et al. (2006). A learning integrated assessment system. Educational Research Review 1, 61—67.
- Cropley, D., & Cropley, A. (2010). Recognizing and fostering creativity in technological design education. *International Journal of Technology and Design Education*, *20*(3), 345–358. http://dx.doi.org/10.1007/s10798-009-9089-5
- EU 2015. ECTS Users' Guide. Luxembourg: Publications Office of the European Union, 2015. ec.europa.eu/education/tools/ects_en.htm
- Lin, K.-Y. & Williams, J. (2015). Two-stage hands-on technology activity to develop preservice teachers' competency in applying science and mathematics concepts. *International Journal of Technology and Design Education*. DOI 10.1007/s10798-015-9340-1.
- Lindfors, E. (2015). Master degree as a promotor of craft, design and technology education in basic education. In M. Chatoney (Ed.) Plurality and Complimentary of Approaches in Design and Technology Education. PATT29 Conference. Proceedings, 250-255.
- Yliruka, L. (2015). Itsearviointi reflektiivisenä rakenteena Kuvastin-menetelmän toimivuus, käyttöönotto ja kehittäminen. Valtiotieteellinen tiedekunta. Helsinki: Helsingin yliopisto.

120 years of Teacher Education in Rauma

Turun yliopisto
University of Turku