



## ERASMUS+ Project

*SUSTAINABLE QUALITY ENHANCEMENT IN HIGHER EDUCATION LEARNING AND TEACHING.*

*Integrative Core Dataset and Performance Data Analytics (Acronym: **SQELT**)*

Key Action: Cooperation for innovation and the exchange of good practices / Action Type: Strategic Partnerships for higher education



## **SQELT MULTIPLIER EVENT**

***Performance Indicators of Higher Education Learning and Teaching in Context: Strategy, Quality Management, Learning and Teaching Theories and Policy***

**Time and Place:**

**20 October 2020 – University of Milan (UNIMI) – 9.30-11.00 (online event)**

**Tuesday, October 20, 2020 (Zoom link will be shared with the participants one day in advance)**

- 9:30-9h45 h    Welcome to the participants  
**Roberto Cerbino**, Associate Professor (coordinator of the UNIMI team)  
**Giovanni Barbato**, Research associate in Public Management
- 19:45-10:15 h    Introduction to the SQELT project  
Key Performance Indicators for L&T: what UNIMI can learn from SQELT
- 10:15-10:45 h    Performance data governance and management in higher education learning and teaching: the Italian case  
*Open discussion on the subject*
- 10:45-11:00 h    Conclusions and final remarks

The European Commission support for this Workshop does not constitute an endorsement of the contents which reflects the views only of the organisers and authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



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

<https://www.evalag.de/sqelt>



UNIVERSITÀ DEGLI STUDI  
DI MILANO

# SQELT Euro-Region Workshop

**Performance Indicators of Higher Education Learning and  
Teaching in Context: Strategy, Quality Management, Learning and  
Teaching Theories and Policy**

Virtual meeting - 20/10/2020  
(9:30-11:00)

**Contacts:**

[giovanni.barbato@unimi.it](mailto:giovanni.barbato@unimi.it)

[roberto.cerbino@unimi.it](mailto:roberto.cerbino@unimi.it)

# AGENDA

- 9:30 – 9:45. Welcome to the participants
- 9:45 – 10.00. Introduction to the SQELT project (**Prof. Roberto Cerbino**)
- 10:00 – 10:15. Key Performance Indicators for L&T: the SQELT approach and what UNIMI can learn from SQELT (**Dr. Giovanni Barbato**)
- 10:15 – 10:45. *Open discussion*: Performance data governance and management in HE learning and teaching (L&T): the Italian case
- 10:45 – 11:00. Welcome to the participants

# The SQELT PROJECT

- **SQELT = SUSTAINABLE QUALITY ENHANCEMENT IN HIGHER EDUCATION LEARNING AND TEACHING.** Integrative Core Dataset and Performance Data Analytics
- **Erasmus + project** involving 10 partners from 9 EU countries:
  - Danube University of Krems (Austria),
  - Ghent University (Belgium),
  - Evaluation Agency Baden-Wuerttemberg – EVALAG (Germany),
  - University of Milan (Italy),
  - Leiden University (Netherlands),
  - Oslo University (Norway),
  - The Centre for Research in Higher Education Policies and Aveiro University (Portugal),
  - Birmingham City University (England).
- **Goal:** to develop a comprehensive set of PIs to assess L&T quality and support learning analytics practices;
- **Methodology:** bench-learning exercise among six SQELT university partners and development of 11 intellectual outputs;
- <https://www.evalag.de/forschung/sqelt/the-project/>

# The SQELT approach on the evaluation of L&T

- PIs → ‘*concepts that represent qualitative and quantitative information and data, which indicate functional qualities (‘performance’) of institutional, organisational or individual performance providers*’ (Leiber 2019);
- L&T is an extremely complex process that needs to be addressed through an holistic and comprehensive approach:
  - 1) Not only quantitative outputs and inputs but also qualitative outcomes, processes and competences that might result from other evaluation instruments (e.g. surveys, peer observation, online informative platforms) (Tam 2001)
  - 2) Not only pure quantitative metrics should be considered since some more ‘qualitative’ aspects are crucial too : e.g. student experience, curriculum development, teachers’ attitudes
  - 3) Shift from teaching to learning: puts at the centre the effectiveness of students’ learning processes (ESG, 2015)
  - 4) Different dimensions of L&T has to be considered jointly:
    - *L&T Environment*
    - *Teaching competences and processes*
    - *Learning competences and processes*
    - *Learning Outcomes and Learning gain*

# The SQELT list: L&T Environment

**N.B.** Examples from an intermediate list

Sub-domain	Indicator
Student interactions	Number & duration of student interactions with student admission system
	Number & duration of student interactions with student information system
	Number & duration of student interactions with students (e.g. via the HEI's learning management system - LMS)
Attraction of master & doctorate students	Number of master students who graduated at another institution
	Number of doctorate students who graduated at another institution
Learning resources	Learning diversity offered with respect to course structures to do justice to different learner types & learning processes
Student interactions	Student interactions with academic advisors (TBDBE)
	Student interactions with faculty (e.g. communication, work) outside of class & coursework (TBDBE)
Further education & lifelong learning	Compatibility of studies & work (e.g. flexible models for adapting study times to working hours) (TBDBE)
	Recognition of non-academic achievements (TBDBE)
Stakeholder participation in L&T quality development & evaluation	Student participation in curriculum development
	Employer participation in curriculum development

# The SQELT list: Teaching competences/processes

**N.B.** Examples  
from an  
intermediate list

Sub-domain	Indicator
Quality of teaching staff	Number of teaching staff who participated in formal pedagogical training
	Number of teaching staff who were awarded for their outstanding engagement in teaching based on a merit system
	Number of refereed publications during a certain period of time [TBD] per full time equivalent members of teaching staff
	Number of papers presented at academic conferences during a certain period of time [TBD] per full time equivalent members of teaching staff
Quality teaching & teaching staff engagement	Teaching staff subject-matter competences (TBDBE)
	Teaching staff methodological competences (TBDBE)
	Teaching staff encouraging students' autonomous thinking & acting (TBDBE)
	Fostering sustainability values (social, ecological, economical) (TBDBE)
	Teaching staff feedback to students (e.g. on work in progress, test, completed assignments) (TBDBE)
	Quality procedures of teaching staff recruitment (e.g. responsibilities; recruitment & selection process) for lecturers & associate professors
	Quality procedures of teaching staff recruitment (e.g. responsibilities; recruitment & selection process) for full professors
	Teaching staff peer review or participating observation of courses

# The SQELT list: Learning competences/processes

Sub-domain	Indicator
Quality learning & student engagement	Number & duration of student interactions with course activities (e.g. solution of exercises, watching videos, listening to lecture, participation in working groups, etc.) (e.g. via the HEI's LMS)
	Number & duration of student interactions with course contents (e.g. via the HEI's LMS)
	Number of repetitive visits to learning contents (e.g. during online learning)
	Student workload (TBDBE)
	Activity learning offers (e.g. problem-based learning; research-based learning; internships) (TBDBE)
	Provision of training in study skills & self-regulated learning techniques (TBDBE)
	Quality flexible learning (flexibility in the requirements, time & location of study, teaching, assessment & certification) (TBDBE)
	Quality mobile learning (learning across multiple contexts, through social & content interactions, using personal electronic devices) (TBDBE)
Student interactions with learning content	Reports generated from Learning Analytics tools such as BlackBoard, Moodle, Desire2Learn (e.g. individual user tracking, course based)
	Social network analysis generated from Learning Analytics tools such as SNAPP (Social Networks Adapting Pedagogical Practice) (e.g. visualization of student relationships established through participation in LMS discussions)
	Individual & group monitoring generated from Learning Analytics tools such as GLASS (Gradient's Learning Analytics System) (e.g. visualization of student & group online event activity)
	Discourse analysis generated from Learning Analytics tools such as COHERE (e.g. visualization of social & conceptual networks & connections)
	Student self-reports on their dispositions, values & attitudes towards learning, i.e. collection of learner data & pedagogical descriptors (e.g. students' ability in deactivating negative learning emotions, students' learning strategies)

**N.B.** Examples from an intermediate list



# The SQELT list: Learning outcomes/gain

**N.B.** Examples from an intermediate list

Sub-domain	Indicator
Assessment of learning outcomes	Percentage of credits given in service-learning activities (e.g. students in community service activities & social work), in relation to total number of credits
Contact with work environment	Number of Bachelor degree theses made in cooperation with industry/external organisations
	Number of Master degree theses made in cooperation with industry/external organisations
Employability	Number of Bachelor/Master/PhD graduates who within a period of time [TBD] after graduation are unemployed
	Number of Bachelor/Master/PhD graduates who found their first job (after graduation) in the region where the HEI is located
	Number of Bachelor/Master/PhD graduates who within a period of time [TBD] after graduation are enrolled in further study
	Possibility of inclusion of work experience & elements related to work practice (TBDBE)
	Employer satisfaction with graduates (TBDBE)
Constructive alignment of programs/ courses	Design & adjustment of teaching & assessments/examinations to defined intended learning outcomes (TBDBE)
Study experience satisfaction	Freshman/undergraduate/graduate/postgraduate satisfaction with study experience (TBDBE)
	Alumni satisfaction with study experience/student life cycle (TBDBE)
Learning gain	Student learning gain in subject-matter competences (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases)
	Student learning gain in methodological competences (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases)
	Student learning gain in learning strategies (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases)
	Student learning gain in social competences (e.g. team, communication & leadership competences; empathy; ability to cooperate; ability to solve conflicts) (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases)
	Student learning gain in self-competences (e.g. self-determination; capability of decision & learning; flexibility of action; ability to reflect; sovereignty) (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases)
	Student dashboards & monitoring generated from Learning Analytics tools such as Student Activity Meter (e.g. visualization of student activity for promotion of self-regulated learning processes)
	Learning content interaction generated from Learning Analytics tools such as LOCO-Analyst (e.g. providing insight into individual & group interactions with the learning content)
Assessment quality	Student evaluation of assessments/examinations (peer grading)
Prediction of student success	Predictive models for student performance
	Predictive models for student attrition

# UNIMI/Italian approach to L&T

→ Two main sources data/indicators on L&T activities/processes in Italy and UNIMI

## a) 29 Performance Indicators (PIs) about L&T

- Introduced with ministerial decree n. 987/2016;
- The same set of PIs for each university: → required and fixed by legislation (through ANVUR)
- 4 areas: Teaching, research, third mission, financial sustainability.

## b) Student survey

- Introduced with law n. 370 (1999) as mandatory;



High standardization, low autonomy and involvement of universities

# UNIMI/Italian approach to L&T

## **GENERAL FEATURES**

- Described as ‘*sentinel*’ indicators: highlight the presence of a problem, not the cause. They want to monitor the process/provision of teaching activities (not the quality);
- PIs on L&T are measured at the level of both the whole university and the single programme;
- They can be benchmarked against the mean value of the geographic area and other programmes from the same subject area.

## **PURPOSES OF THE PIs**

- Alignment between the internal self-assessment of universities and the external evaluation from ANVUR (required by national legislation)
- Identify critical problems of teaching, especially if used together (a single indicator might tell not so much...)
- Improvement of teaching activities ? It depends

# UNIMI/Italian approach to L&T

UNIMI's 29 Performance indicators (PIs) concentrated on 8 dimensions of the L&T process:

- **Regularity of students' careers (in-itinere and ex-post): 11 PIs**
- **University capacity to attract students: 2 PIs**
- **University capacity to attract international students : 1 PI**
- **Sustainability of the teaching activity: 1 PI**
- **Efficacy of the teaching activity : 3 PIs**
- **Features and quality of the academic staff: 7 PIs**
- **Outgoing students mobility: 2 PIs**
- **Satisfaction and employability of graduates: 2 PIs**

# What about the students survey??

Questions on L&T ENVIRONMENT: n. **2**, on the preliminary knowledge of students and the learning resources;

Questions on TEACHING PROCESSES: n. **11**, among which 9 on general education skills of teachers and 2 on the clarity of course requirement and organization

Questions on LEARNING PROCESSES: n. **5** on the student workload and students' participation to the lessons.

Questions on LEARNING OUTCOMES AND THEIR ASSESSMENT: n. **3** on the evaluation of assessment forms and on alumni satisfaction.

# What UNIMI can learn from SQELT? (1)

## Let's cross SQELT typology of L&T indicators with UNIMI's approach....

- **PIs on L&T ENVIRONMENT:** n. **10**, among which 3 on the students composition, 7 on teaching resources and academic staff composition (stud-teach ratio, staff qualifications);
- **PIs on TEACHING PROCESSES:** n. **1** on the quality of the academic staff;
- **PIs on LEARNING PROCESSES:** n. **0**;
- **PIs on LEARNING OUTCOMES:** n. **16**, in particular, 11 on the student success rates, 3 on the employability, 2 about student satisfaction

## Main gaps identified in.....

- **PIs on L&T ENVIRONMENT:** no PIs on the quality of incoming students; financial management and stakeholders participation.
- **PIs on TEACHING PROCESSES:** no PIs from the perspective of teachers (e.g. teacher assessment of teacher workload)
- **PIs on LEARNING PROCESSES:** no PIs in general: difficult distinction between learning and teaching processes...
- **PIs on LEARNING OUTCOMES:** no PIs on the achievement and assessment of learning outcomes

# What UNIMI can learn from SQELT (2)

## LIMITS & GAPS

- PIs focused on L&T Environment and Learning outcomes without covering teaching and learning processes;
- PIs on Learning outcomes are very repetitive: concentrated mainly on students success rates, e.g →no PIs/questions on the linkages between learning outcomes and assessment forms;
- Learning processes and Teaching processes measured only by student survey (with all its already mentioned limits), not covering all the relevant performance dimensions yet (i.e. students assessment of teaching quality, students assessment of learning experience quality);
- There is no teachers viewpoint in the measurement of the teaching activity. ANVUR is still working on this point, UNIMI has instead started to map teaching practices of its own academics;
- There are no discipline-specific PIs;
- Fragmentation of core data and level of analysis on teaching and learning: PIs + students and graduates survey / measure of teaching and learning at different levels (surveys at the module level; PIs at programme and university level) →problem of coordination of the data on learning and teaching.

# OPEN DISCUSSION

**1) Which are the main issues you can mention in relation to L&T quality evaluation?** (think about your own experience and institution)

- Pertinence and accuracy of L&T indicators
- Commitment and support of the institutional leadership towards L&T
- Spread of L&T culture throughout the organization
- Autonomy vs ANVUR's role

**2) Strategies to improve the current L&T evaluation system**

- Is a matter of academics/administrative culture?
- Investing in technical competences?
- Deeper involvement of teachers?
- Rebalancing teaching with research?
- Networking and sharing best-practices experiences?

**3) Which opportunities SQELT can offer to you?**





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

<https://www.evalag.de/sqelt>

# THANKS FOR YOUR ATTENTION AND ATTENDANCE!

**For further questions or comments:**

- Dott. Giovanni Barbato: [giovanni.barbato@unimi.it](mailto:giovanni.barbato@unimi.it) (DEMM)
- Prof. Roberto Cerbino: [roberto.cerbino@unimi.it](mailto:roberto.cerbino@unimi.it) (BIOMETRA)