

## **Governance und Management von Leistungsdaten in Studium und Lehre: Grundelemente und Desiderate**

**Performance Data Governance and Management in Learning and Teaching:  
Basic Elements and Desiderata**

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**Workshop**

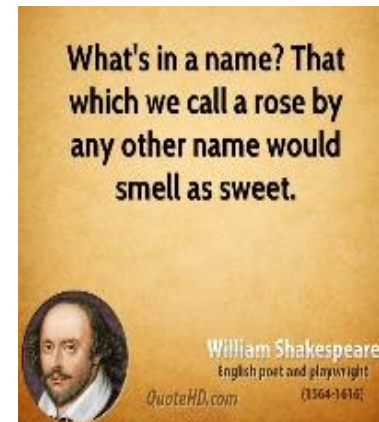
**FACETTEN DER LEISTUNGSMESSUNG AN DEUTSCHEN UNIVERSITÄTEN:  
VERFAHREN, INDIKATORIK, WIRKUNGEN**

German Centre for Higher Education Research and Science Studies,  
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# Overview

- **Strategic partnership & case study**
- **Goals & methodology**
- **Basic Elements of Performance Data Governance & Management (PDGM)**
  - **Stakeholders & usage of performance data – generic –**
  - **(Digital) PDM System – ‘quasi-generic’ –**
  - **PDMG Policy (PDMGP) (& its various supporting documents) – generic –**
  - **Comprehensive PI set – ‘quasi-generic’, comprehensive –**
    - **Ethics of performance data – generic (in the EU) –**
- **Summary**
- **Open questions and limitations of the case study**
- **Benchlearning of PDGM & strategic SWOT analysis**

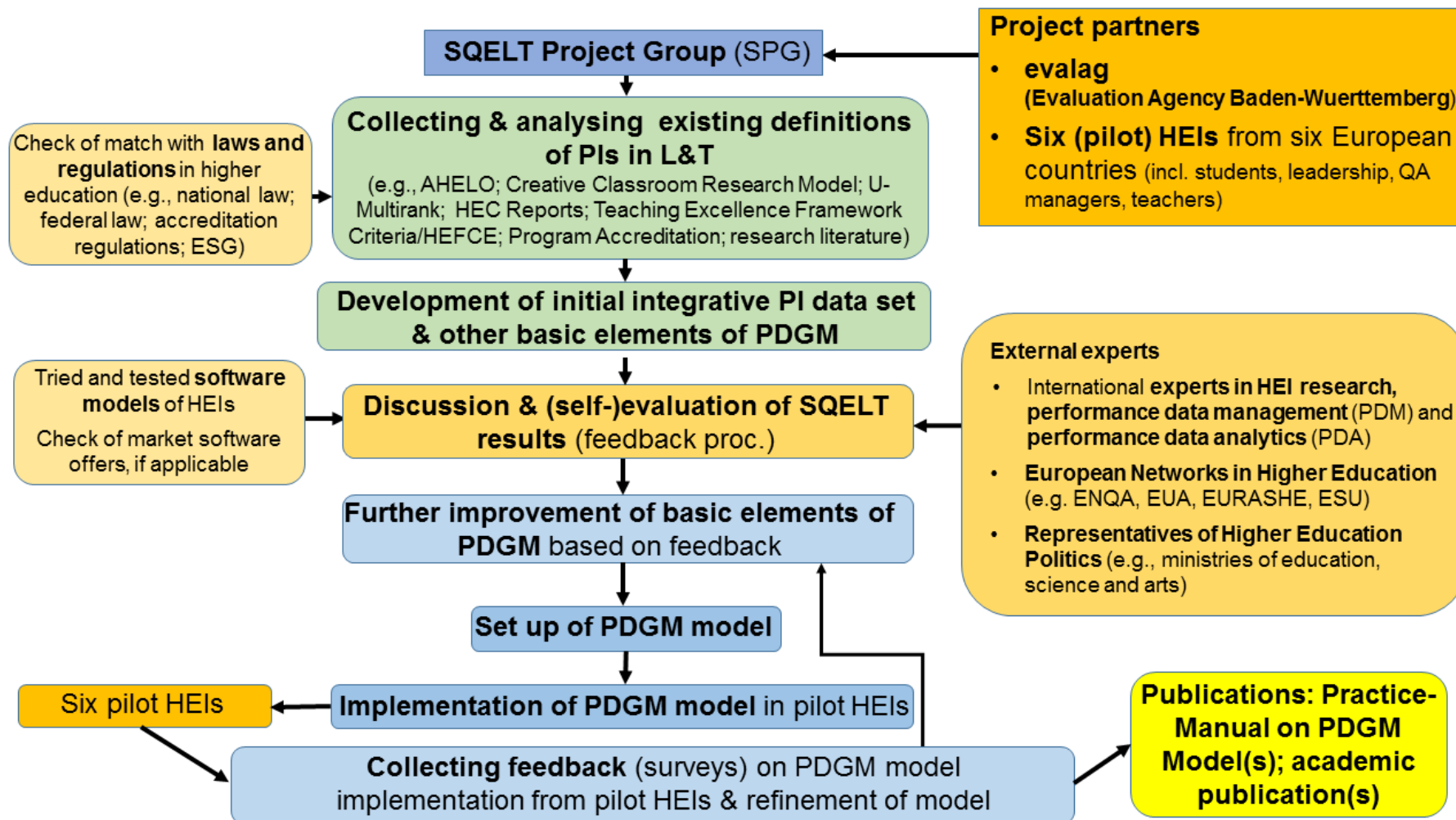


Country	University	Characteristics	No. students
Austria	Danube University Krems	Further education	9,000
Belgium	Ghent University	Comprehensive university	41,000
Italy	University of Milan	Comprehensive university	63,000
Poland	Jagiellonian University Kraków	Comprehensive university	44,000
Portugal	University of Aveiro	Natural, social, engineering, medical sciences; polytechnics profile; Public foundation under private law	15,000
UK	Birmingham City University	Health social, engineering sciences; business and law; art, media and design; Polytechnics roots	24,000
Germany	evalag	HE research, evaluations, accreditations, counseling	n/a
Netherlands	M. Beerkens, Uni Leiden	External expert	—
Norway	B. Stensaker, Uni Oslo	External expert	—
Portugal	C. Sarrico, CIPES	External expert	—



# Goals and Methodology

## Workflow (schematic main steps) of SQELT project (updated)





## Goals and Methodology

- Two main goals: **individual benchlearning** at partner HEIs & **intensive case study** including **generic results** (e.g. SQELT Manual; publications) (e.g. Leiber, 2019b)
- Aims at **comprehensive set of performance indicators** (PIs) **for L&T** and their **PDGM framework**
- Builds on **available scholarly models of PDGM** in L&T, **research literature**, **benchlearning** and **surveys** with respect to PDGM models of **sample HEIs**, and **external experts'** knowledge
- Builds on **various PI models** (e.g. AHELO; Creative Classroom Research Model (Uni Leuven); **U Multirank**; HEC Reports; TEF/HEFCE; Program Accreditation; **NSSE Engagement Indicators**; **QILT** (Australian Quality Indicators for L&T); ...)



# Goals and Methodology

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

**SQELT: Sustainable Quality Enhancement in Learning and Teaching ...**

## Outputs of SQELT project

<b>O20</b> Questionnaire	<b>O1</b> 6 Benchmarking Reports	<b>O3</b> 6 Baseline Reports	<b>O4</b> Comprehensive PI set	<b>O5</b> Comprehensive PI set	<b>O6</b> Comprehensive PI set	<b>O7</b> Evaluation Report	<b>O8</b> PDPM/ Learning Analytics Ethics	<b>O9</b> Comprehensive PI set	<b>O10</b> 6 Endline Reports	<b>O11</b> PDGM Policy / Manual	<b>O12</b> Publications
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“Path-breaking research is, by definition, exploratory” (Gerring, 2004, p. 349).





# Goals and Methodology

## SQELT

### Learning & teaching

L&T in **international** perspective

**Support optimisation of documentation & monitoring** processes of L&T in HEIs (e.g. data integration; standardisation; reporting efficiency) in the service of different purposes such as **reporting, evidence-based decision-making, ...**

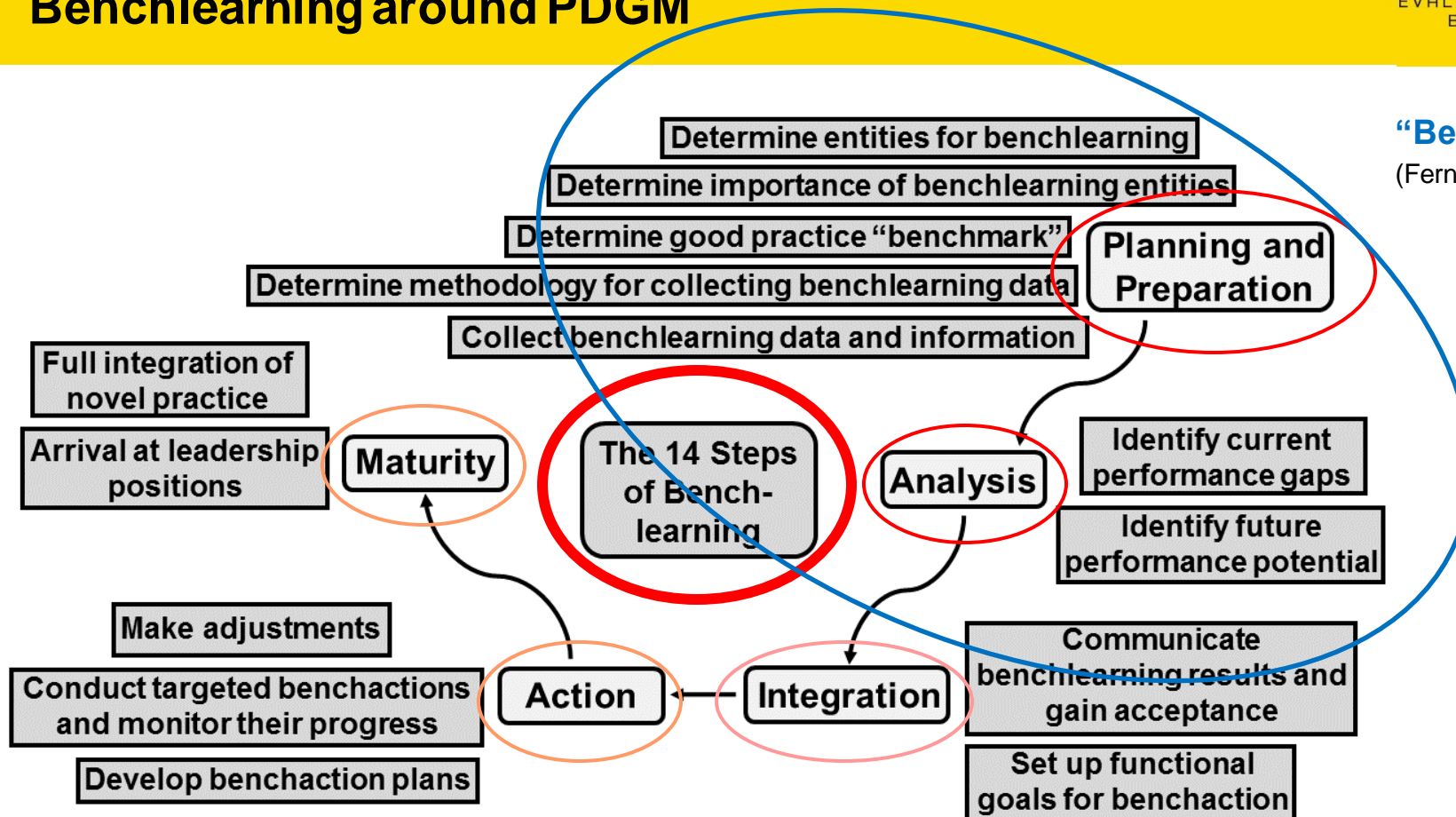
Contribution to '**Research on Indicators of Teaching [& Learning] Quality**' recently recommended to the European Parliament (Wächter et al., 2015) (**benchlearning, ratings, rankings, ...**)

**Practice Manual**, toolbox character ... “opensource”, dynamic developmental with possibility of user feedback

Academic **publication(s)** ...

# Goals and Methodology: Benchlearning around PDGM

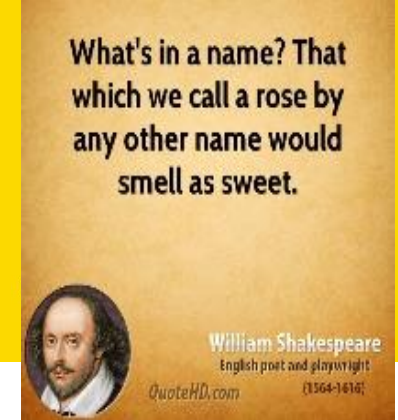
**“Best practice is a myth”**  
(Fernie and Thorpe, 2007, p. 328)



Benchlearning is a way of monitoring and assessing the strategies and performance of an organization against comparable, good-practice competitors; it includes an ongoing performance improvement strategy and change management process.



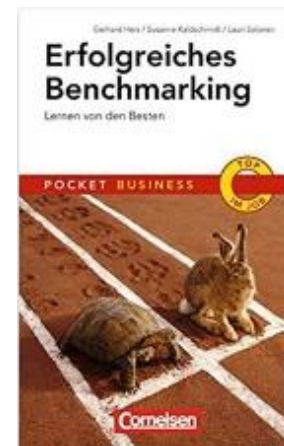
## Goals and Methodology: Areas of Benchlearning around PDGM



Dimensions of benchlearning object (pragmatic selection)

- Performance data governance & management policy (**PDGMP**)
- **Stakeholder participation (SP)**
- **Performance indicators (PIs)**, simple and non-simple
- **Learning Analytics**
- **IT resources and software solutions**
- **Human and financial resources**
- **Ethics** of PDGM

→ **SWOTs of PDGM & their Strategy Matrices**  
– important for **Strategic Partnership & Benchlearning & Joint Development of PDGM Approach(es)** –



“**[B]est practice is a myth**” (Fernie & Thorpe 2007, p. 328).



## Basic elements of PDGM

For the pursuit of these goals the following is “helpful”:

- Actionable **Performance Data Governance & Management Policy (PDGMP)**: Indispensable for HEIs as autonomous, multiple-hybrid organisations: **regulates** issues of **governance & strategy; ethics & responsibility**, including **sustainability; quality, accessibility & usability** of information & data (about student lifecycle); **investments** of human & financial resources.
- **(Digital) PDM System** is required that makes performance data/information operational and coherent.
- **Suitable set of PIs** to monitor, measure & report information & data related to L&T (the student lifecycle) is core, including core qualities of successful Student Experience & Engagement.
- **Systematic & ongoing reflection** of **methodological & ethical** issues of PDGM is essential.
- **Vivid PDGM culture: sufficiently widespread understanding** of PDGM ownership & related interpretation capabilities & evidence-based decision-making



## Stakeholders and usage of L&T performance data

Stakeholders – groups & individuals	Areas and tasks for using performance data of L&T
Teaching staff	Instructional processes; action research; assessment practices; learning processes; teaching effectiveness; teaching evaluation
Students	Learning processes; self-monitoring of own academic progress
Researchers	Student-centred research initiatives; pedagogy research; learning-related research
Department heads/ Programme directors	Teaching effectiveness; teaching evaluation; programme evaluation; student flow-through; student dropout rates & failure; student retention strategies
Deans	Empowering education research; enhancing reputation; improving accountability
Government & policy makers	Improving accountability; creating transparency; assessing impact of policy changes
Community & donors	Educational outreach
Executive officers	Process optimisation; improving graduation rates; improving retention rates; empowering education research; enhancing reputation; improving accountability
Survey supervision staff	Improving user experience; improving survey usability & performance; improving survey design
Administration staff (Student Affairs)	Monitoring student progress, student flow-through; managing student intervention (at-risk students); developing retention strategies

# (Digital) PDM System:

operationalise stakeholders' usage of valid and reliable performance data

Regulate collecting, processing, categorising, aggregating of PD & info

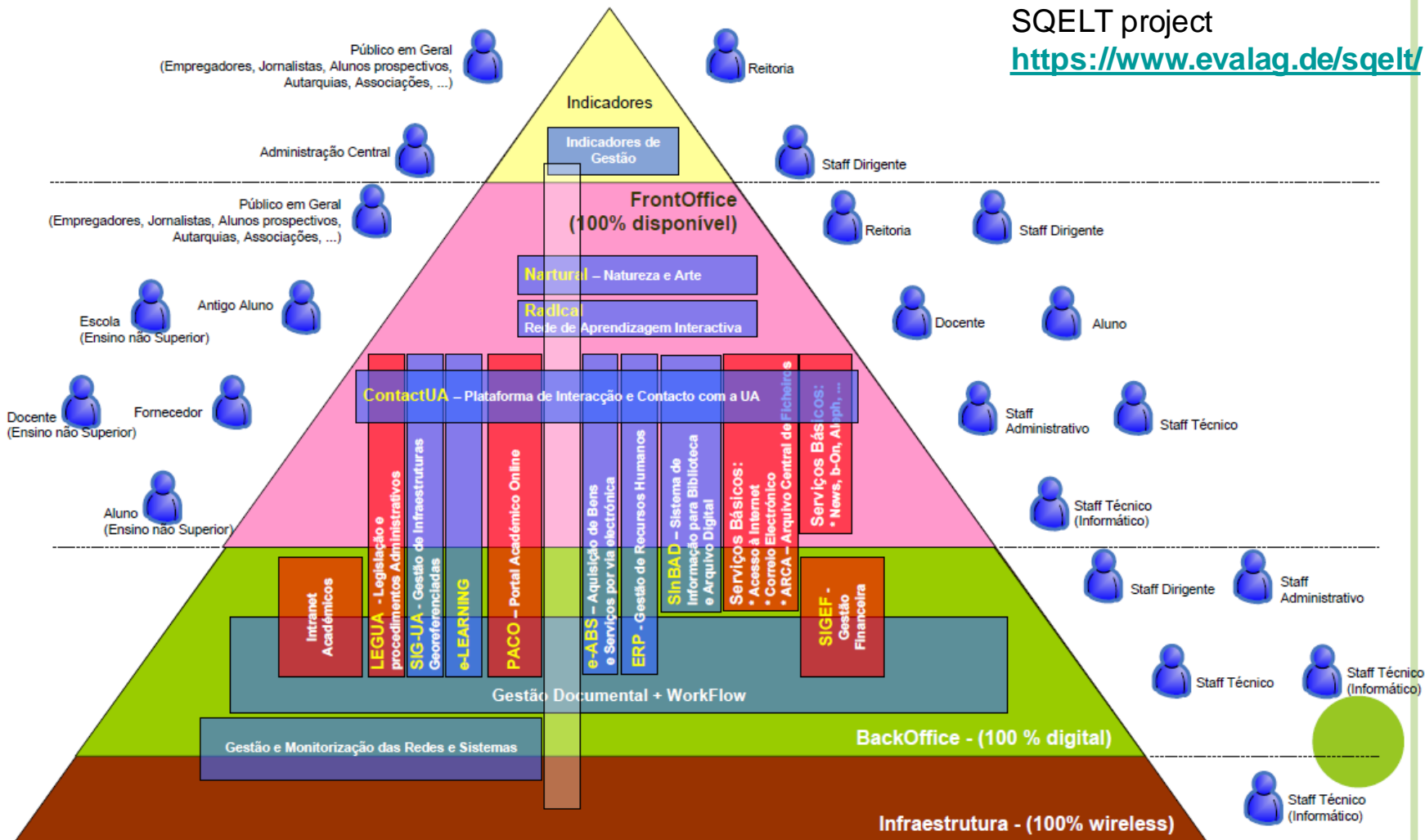
Match different PD(M) systems & databases ?



## (D)PDM SYSTEM MODEL AT UA

SQELT project

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

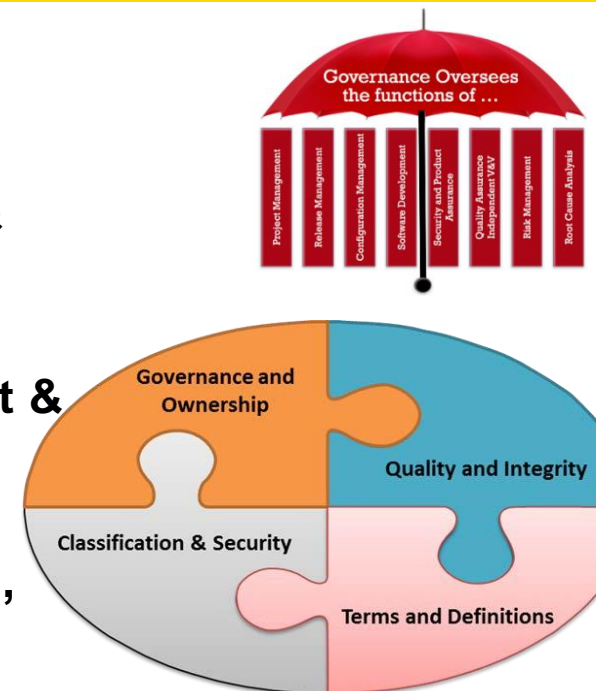




# Basic elements of PDGM: PDGM Policy

## Core purposes of PDGM Policy:

- Define **roles and responsibilities** for different data creation & usage types, cases or situations, & to establish clear lines of accountability;
- Develop good quality practices for effective **data management & protection**;
- Protect the HEI's data against internal & external threats; particularly assure **protection of privacy, academic freedom, intellectual property, information security & compliance**;
- Ensure that the HEI's data handling **complies with applicable laws, regulations, exchange & standards**;
- Ensure that a **data trail is effectively documented** within the processes associated with accessing, retrieving, exchanging, reporting, managing & storing of data.



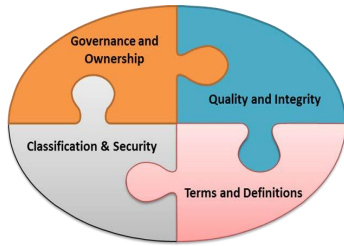


# Basic elements of PDGM: PDGM Policy

## Performance Data Governance and Management Policy (PDGMP)

of *[insert name of higher education institution]*

With Focus on Performance Data of Learning and Teaching, including Learning Data Analytics, to be Accompanied by Supporting Documents

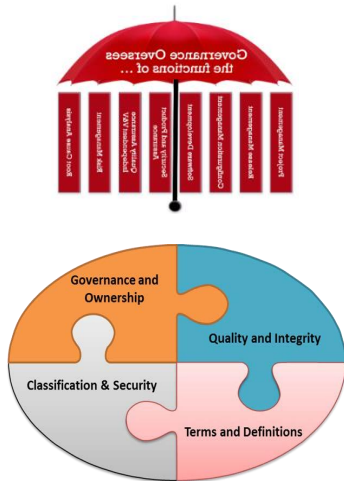


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# Basic elements of PDGM: PDGM Policy



## Policy Statement

Version	Approved by	Approval date	Effective date	Next review
1.0	<i>[insert name(s) of approving person(s)]</i>	<i>[insert approval date]</i>	<i>[insert effective date]</i>	<i>[insert date of next review]</i>
<b>Purpose</b>	<p>Performance Data Governance and Management Policies (PDGMPs) are collections of principles that describe the rules to steer and manage the integrity, security, quality, and usage of performance data<sup>2</sup> during their lifecycle.</p> <p>PDGMPs also define the roles and responsibilities of institutional/organisational staff, contractors, and consultants with internal and external parties in relation to data access, retrieval, storage, disposal, and backup of institutional/organisational data assets.</p> <p>This PDGMP is adapted to higher education institutions (HEIs), a specific type of complex multiple-hybrid social organisations, as far as necessary. Accordingly, the purpose of this PDGMP is to:</p> <ul style="list-style-type: none"> <li>• Define the roles and responsibilities for different data creation and usage types, cases and/or situations, and to establish clear lines of accountability;</li> <li>• Develop good quality practices for effective data management and protection;</li> <li>• Protect the HEI's data against internal and external threats; particularly assure protection of privacy, academic freedom, intellectual property, information security and compliance;</li> <li>• Ensure that the HEI's data handling complies with applicable laws, regulations, exchange and standards;</li> <li>• Ensure that a data trail is effectively documented within the processes associated with accessing, retrieving, exchanging, reporting, managing and storing of data.</li> </ul>			
<b>Scope</b>	<p>This PDGMP applies to, but is not limited to, all institutional performance data of learning and teaching at <i>[insert name of HEI]</i>. Management of data associated with academic research activity, Third Mission and University administration will be covered by respective policies (e.g. Research data management Policy; Third Mission Data Management Policy; Administration Data Management Policy) which will address the specific requirements at more detailed levels.</p> <p>This PDGMP covers, but is not limited to, institutional performance data in any form, including print, electronic, audio visual, backup and archived data.</p> <p>This PDGMP applies to all staff, contractors and consultants of <i>[insert name of HEI]</i>.</p>			

# Basic elements of PDGM: Comprehensive PI set for L&T in HE

e.g., Leiber, T. (2019b) “A general theory of learning and teaching and a related comprehensive set of performance indicators for higher education institutions.” *Quality in Higher Education* 25(1), 76-97.

## Abstract

... performance indicators are an indispensable element ... learning and teaching quality in higher education should be approached in a holistic way, namely across the four subdomains of learning and teaching environment, teaching processes, learning processes, and learning outcomes and their assessment. Performance indicators related to these areas must align with a synoptic understanding of learning and teaching comprising behavioural, information processing, cognitive, social (constructivism) and humanistic theories of learning. Selected issues from a comprehensive set of about **280 performance indicators for learning and teaching** are presented and contextualised. The indicators set resulted and emerged from critical reflection of research literature and **explorative surveys** of various informed and engaged stakeholders, from **14 public European universities**, and a **general theory of learning and teaching**.



## Nine qualities of successful SEE and related performance indicators

Performance types	Performance sub-types	(“Non-simple”) PIs and their measures/performance measurement methods
Learning resources	Organisation of study programmes	Assessment survey of students and/or assessment survey of teaching staff and/or expert/peer assessment (report) about organisation of study programmes (e.g. transparency of entrance requirements/admission regulations; access to classes; average class size; completeness of courses offered compared to the study guide; transparency of the examination system; opportunity offers for studying abroad; possibility of inclusion of study periods abroad)
...	...	...
Supportive environment	Personality development and well-being of students (social and societal competences)	Satisfaction survey of students about measures of encouraging contact among students from different backgrounds (social, ethnic, religious)/provision of opportunities for students to be involved socially/provision of student support for managing non-academic responsibilities (e.g. work, family)/experience in discussions with diverse others
...	...	...

(Leiber, 2019)

## Nine qualities of successful SEE and related performance indicators

Performance types	Performance sub-types	PIs and their measures/performance measurement methods
Quality of teaching staff, quality teaching and teaching staff engagement	Teaching staff recruitment	Expert assessment and/or assessment survey of students and/or assessment survey of teaching staff of recruitment procedures (e.g. procedural responsibilities; recruitment and selection process; recruitment quality criteria) for lecturers/associate professors/full professors (e.g. teaching skills, pedagogic skills, research success)
	...	...
	Teaching staff competences	Satisfaction survey of students about teaching staff's subject-matter competences/methodological competences/vocational training competences/digital skills competences/social competences (e.g. team, communication and leadership competences)/respect and interest for students/encouraging students' autonomous thinking and acting/pedagogical knowledge and skills (e.g. knowledge of teaching models and learning processes)/sensitivity to class level and progress/fostering sustainability values (social, ecological, economical)/feedback to students (e.g. on work in progress, test, completed assignments)
...	...	...

(Leiber, 2019)

## Nine qualities of successful SEE and related performance indicators

Performance types	Performance sub-types	PIs and their measures/performance measurement methods
Quality learning and student engagement	Student interactions with learning content	Number of students and their identity and duration of their interactions with course activities (e.g. solution of exercises, watching videos, listening to lecture, participation in working groups) based on reports generated from Learning Management Systems (LMSs) and Learning Analytics tools
		Number of students and their identity and duration of their interactions with course contents based on reports generated from LMSs and Learning Analytics tools
		...
...	Student motivation	Assessment survey of students about their dispositions, values and attitudes towards learning, that is collection of learner data and pedagogical descriptors (e.g. students' ability in deactivating negative learning emotions, students' learning strategies)
	...	...
...	...	...

## Nine qualities of successful SEE and related performance indicators

Performance types	Performance sub-types	PIs and their measures/performance measurement methods
Constructive alignment of study programmes/courses	Learning outcomes	Expert assessment and/or satisfaction survey of students and/or satisfaction survey of teaching staff about intended learning outcomes (e.g. clear formulation and transparency of goals of study modules and courses)
...	...	...
...	...	...
Student learning gain		Assessment survey of students and/or assessment survey of teaching staff about learning gain in subject-matter competences (e.g. by random control trials and/or comparison of knowledge and skills before and after learning phases, including examination grades and earned credit points)/in methodological competences/in higher-order learning/in reflective and integrative learning/in learning strategies and self-learning competences/in quantitative reasoning/in collaborative learning/in digital skills/in interdisciplinary competences/in transdisciplinary competences/in social competences (e.g. team, communication and leadership competences; empathy; ability to cooperate; ability to solve conflicts)/in self-competences (e.g. self-determination; capability of decision and learning; flexibility of action; ability to reflect; sovereignty)
...	...	...

## Summary

- Notorious **success factors** of QM and OD are non-trivially (also) relevant for successful **PDGM**, among them
  - To foster and disseminate personal characteristics for **ethical behavior**, including **self-competences** and **social competences**
  - To oblige **leadership**
  - To assure data and reporting quality including proper **design**, tested **validity**, **reliability** and **communicated purposes** of data collection
  - To **involve relevant stakeholders** in all PDGM development and application phases
  - To **close the quality** (Deming) **cycles**
  - To **restrain the various biases** of applied surveys
  - To **invest sufficient resources** (time, money, competences, human workforce)

Also cf. (Leiber, 2019a, 332ff.)



## Summary

- **Benchlearning** and **strategic SWOT analyses** exhibit the **need of several EBOCD initiatives** to further develop, **improve** and refine the **PDGM models** of the case study universities
- Thus, PDGM in L&T have the following **organisational transformation needs**:
  - Procedures of data processing and communication, software platforms and responsible bodies for collecting and interpreting PIs must be (further) developed to improve quality as well as usability and accessibility of data and information. Particularly, there is a need for **better organising PDGM systems** that **avoid multiple island solutions** and unnecessary resources' consumption.
  - The 'real' **performance monitoring needs** of HEIs must be **balanced** with various **policy demands** originating from traditional disciplinary attitudes as well as from education politics.



## Summary

- Processes, bodies and human resources for **fostering participative responsibility for PDGM** including **more efficient decision-making** of collegial bodies must be established.
- **Educational strategies** (mission, values, vision) must be established, including the prospects and ambiguities of PDGM and **learning analytics**.
- Currently, the following success factors of PDGM can be identified:
  - Justifiable belief in success promises of PDGM;
  - **Leadership engagement**;
  - **Reflected understanding and practice of PD(G)M** based on adequate/sufficient & self-determined PI sets;
  - **Reflected PDGM ethics**;
  - Adequate financial climate.

(It is one of the goals of the SQELT project to improve on these factors in the Strategic Partnership's HEIs.)



## Open questions and limitations of the case study

### *Questions which are open at present* (within SQELT but not only there ...)

- Which or how many PIs can be justified by L&T theories?
- How would a (digital) PDM System (incl. software solutions) allow for integration of data from different sources? How generic can suggested PDM System models be?
- Differentiation of “aggregate data” and “base data” – PIs & simple PIs? – further classification & relations of PIs (list) necessary, useful, ...?
- Clarify, harmonise (?) different ethical regulations in different countries and HEIs.
- Consensus on a PDGM Policy (document)?
- ...







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