



## **SQELT PROJECT**

### **SUSTAINABLE QUALITY ENHANCEMENT IN HIGHER EDUCATION LEARNING AND TEACHING. Integrative Core Dataset and Performance Data Analytics**



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### ***Intellectual Output 3:***

### **Baseline Report on Project Partner HEIs' Performance Data Management Models**

### **The Case of Danube University Krems (DUK)**

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## Table of contents

List of acronyms	3
Executive summary	4
Introduction	5
Sample, time schedule and data types of the baseline case study	5
Stakeholders' assessment of core data	7
Structured survey about core data	7
Students' assessment	8
Teachers' assessment	10
Quality management staff's assessment	11
Leadership's assessment	13
Additional assessments by active SQELT project participants	15
Stakeholders' assessment of performance indicators	20
Structured survey about performance indicators	20
Students' assessment	21
Teachers' assessment	23
Quality management staff's assessment	24
Leadership's assessment	26
Additional assessments by active SQELT project participants	27
Stakeholders' assessment of quality evaluation instruments	30
Structured survey about quality evaluation instruments	30
Students' assessment	32
Teachers' assessment	33
Quality management staff's assessment	35
Leadership's assessment	36
Additional assessments by active SQELT project participants	38
Stakeholders' assessment of Learning Analytics	40
Structured survey about Learning Analytics	40
Students' assessment	41
Teachers' assessment	41
Quality management staff's assessment	42
Leadership's assessment	43
Active SQELT project participants' assessment	43
Conclusions and recommendations	44
Conclusions	44
Recommendations	44
References	45

## **List of acronyms**

HEI – Higher education institution

L&T – Learning and teaching

PDRLA – Personalized data required for Learning Analytics

PI – Performance indicator

QA – Quality assurance

QEI – Quality evaluation instrument

QM – Quality management

TBDE – To be determined by evaluation

## **Executive summary**

The results of this report are based on 18 filled-in questionnaires and five group discussions organised with the respondents of the questionnaires, grouped along the stakeholder groups of students, teachers, quality management staff, leadership and SQELT project staff. Though the report contains numeric data and graphs, the results have to be regarded as qualitative and conclusions must be drawn with the utmost care.

It seems that various stakeholder groups within DUK have a rather positive attitude towards core data, performance indicators, evaluation instruments and the like. The reason might be that DUK is a rather young, practically oriented university and data management is well established, though up to now it is mostly financial data.

It is interesting to see that quality managers are the stakeholder group that is most sceptic about the usefulness of core data. The other stakeholder groups seem to follow a “could be useful” approach. They would wish to have more data available, like a wealth of information that they can use whenever necessary.

Generally, DUK students seem to overestimate what data the university has at its hand.

In future, DUK should become more open regarding its data. Many data is collected, even more would be easy to get. The University should process these data to enable benchmarking both, between the subunits and programs of the institution, and between DUK and other institutions. A common set of performance indicators from the quality point of view might become a strong counterpoint to the ample financial data that is already widely used for decision making at DUK.

## Introduction

This report was produced by Roland Humer, David F.J. Campbell and Attila Pausits within the SQELT project. For the report, 18 persons from Danube University have filled in the SQELT questionnaires (Intellectual Output O20). The responses were analysed separately for each questionnaire and stakeholder group.

## Sample, time schedule and data types of the baseline case study

In May 2018, the SQELT team at Danube University Krems contacted colleagues and asked them about their general availability to become interview partners.

For the **student** interviews, students from the master programs in educational management (MA), and higher education and science management (MSc) were contacted via the moodle platform. It turned out the volunteers were a diverse group consisting of two men and four women, the youngest 33 years old, the oldest 57 years, with different discipline (first degree) and professional backgrounds. The interview was scheduled for Nov. 5th, 2018 after a class in educational management. One out of the six students therefore cancelled her participation. The students received the questionnaire via e-mail before the group discussion. The group discussion lasted one hour; it was moderated by Attila Pausits who simultaneously clustered the contents of the discussion in a mindmap.

**All other stakeholder groups** were invited via e-mail. Dates for the group interviews were found via Doodle. In the composition of the groups, a diversity regarding the following criteria was respected:

- gender
- faculties or sub-units
- discipline

As agreed in the SQELT consortium, the stakeholder group **teaching staff** should consist of people who are not involved in QA. Due to DUK's specific personnel structure, there are not many people who fit this definition, and they surely do not define themselves as teaching staff but rather as something like research staff with minor teaching obligation. As expected, the return rate in this stakeholder group was

particularly small. Six people were invited, three of them responded, and in the end two sent the filled-in questionnaire and participated in the group interview. The interview took place on Nov 22, 2018 and was moderated by David Campbell who simultaneously made a flip-chart protocol.

For the interview with **quality managers**, six people from the central QA unit and all faculties were invited. In the end, five people filled in the questionnaire and four participated in the interview. Beside one colleague from the central QA unit, the group consisted of faculty members who, as an additional obligation, take care of voluntary accreditations.

Two groups of people were contacted within the category **HEI leadership**, i.e. six Course Directors and five members of the top management. At Danube University, Course Director is a middle management position. Course Directors typically take care of the academic and managerial aspects of one study program or a bundle of study programs. Three out of six people filled in the questionnaire and participated in the interview. Due to time constraints, the invited members of the top management (one vice-rector, one dean, two vice-deans, one administrative director) could not participate.

The group interviews with quality managers and HEI leadership took place on November 27, 2018 and lasted one hour each. Both interviews were moderated by Roland Humer who simultaneously took notes.

### **Methodological remarks**

As can be seen below, the applied questionnaires and key questions can be used to generate nominal and ordinal data, but not genuinely metric data. Methodologically, for nominal data only information about frequencies and shares can justifiably be extracted from the data. In addition, ordinal data have a 'natural' order and mathematical comparison operations such as 'larger than' are properly defined. Only with genuinely metric characteristics, however, all arithmetic operations can be carried out in a meaningful way, for example calculating average values, correlations or regressions. Metric data are therefore also the basis for the application of the 'normal distribution' (Gaussian distribution).

However, often pseudo-metric scaling is applied to ordinal data, i.e. numerical values are 'arbitrarily' assigned to the (discrete) ordinal scale, which results in a 'rating scale'. Then, some metric methodologies like those mentioned above can be applied, though with restricted methodological justification, i.e. results are to be interpreted with caution (specifically when the sample sizes are small).

Particularly, computations of averages, standard deviations, and the normal distribution are now also possible, although it is not a metric scale. For example, such averages are therefore not 'real' averages, since no measured values are defined on a pseudo-metric scale between the discrete defined measured values; nevertheless such averages etc. can still be informative in descriptive statistics.

Against that backdrop, in this case study nominal, ordinal and pseudo-metric ordinal data are used, since metric data are not available.

## **Stakeholders' assessment of core data**

### **Structured survey about core data**

The approached stakeholders were asked to discuss in focus groups<sup>1</sup> certain issues and fill in a questionnaire (Table 1a), which is about university data that can be collected for quality monitoring and improvement in learning and teaching (L&T). For example, such data may be included in mandatory or non-obligatory quality reporting requirements, target agreements, rankings, etc.

Particularly, representatives of the stakeholder groups of students, teaching staff, quality management (QM) staff, and higher education institution (HEI) leadership were asked which of the following features apply to the 25 presented quantitative data ("core data"), which are listed in Table 1a: "indispensable", "useful", "useless" as well as "regularly collected in my HEI", "occasionally collected in my HEI" and "not collected in my HEI". Respondents also had the choice of answering "do not know". Moreover, respondents had an option to give open answers and add any comments or make further suggestions.

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<sup>1</sup> The group interviews did not fulfil all methodological characteristics of focus groups. The term is still used as a reference to the common methodological frame used by all higher education institutions within SQELT.

Table 1a: Surveyed performance data items (“core data”)

<b>Core data, selection of “the more uncommon or less widespread or novel items” from a more comprehensive set of core data</b>	
<b>L&amp;T Environment</b>	
Student interactions	Number & duration of student interactions with student admission system (SAS) (PDRLA)
	Number & duration of student interactions with student information system (SIS) (PDRLA)
	Number & duration of student interactions with students (e.g. via the HEI’s learning management system - LMS) (PDRLA)
Attraction of master & doctorate students	Number of master students who graduated at another institution
	Number of doctorate students who graduated at another institution
<b>Teaching Competences &amp; Processes</b>	
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 or reports presented at academic conferences during a certain period of time [TBD] per full time equivalent members of teaching staff
<b>Learning Competences &amp; Processes</b>	
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) (PDRLA)
	Number & duration of student interactions with course contents (e.g. via the HEI’s LMS) (PDRLA)
	Number of repetitive visits to learning contents (e.g. during online learning) (PDRLA)
<b>Learning Outcomes &amp; Learning Gain &amp; their Assessment</b>	
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
Gender balance in the transition from students to doctorate graduates	Ratio of female to male students who complete a doctorate
Employability	Number of Bachelor graduates who within a period of time [TBD] after graduation are unemployed
	Number of Bachelor graduates who found their first job (after graduation) in the region where the HEI is located
	Number of Bachelor graduates who within a period of time [TBD] after graduation are enrolled in further study
	Number of Master graduates who within a period of time [TBD] after graduation are unemployed
	Number of Master graduates who found their first job (after graduation) in the region where the HEI is located
	Number of Master graduates who within a period of time [TBD] after graduation are enrolled in further study
	Number of doctorate graduates who within a period of time [TBD] after doctorate are unemployed
	Number of doctorate graduates who found their first job (after doctorate) in the region where the HEI is located
Number of doctorate graduates who within a period of time [TBD] after doctorate are enrolled in further study	
<b>Space for additions and comments</b>	
Other, namely .....	

## Students’ assessment

The students underlined the importance of core data and they jointly highlighted that the core data is a very robust and comprehensive set of data. They did not mention any views regarding the division between the different sections nor within the given sections. One could have rather the feeling that the students were overwhelmed with



a large set of core data, which can be associated with teaching and learning issues in general and in higher education particularly, see Figure 1.

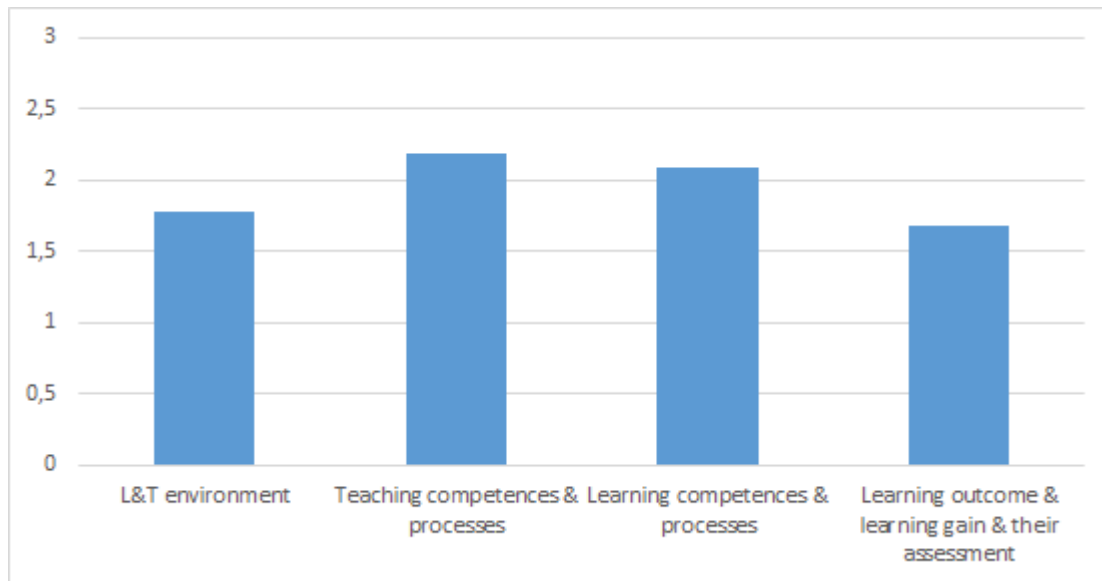


Figure 1: Students on questionnaire 1a: **Usefulness** of data (“core data”) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

Most probably the students, even if they study also quality management in education, were “hit by the number of different aspects and issues by filling in the questionnaire”. They did not miss further items, however also there was no highlight nor huge differences within the sections.

Prior to the focus group session the project team checked the results provided by the students including the open questions. None of the students addressed any further details or issues in these sections of the questionnaire nor mentioned anything during the focus group session.

Students however also mentioned the defined structure of the data and the division between the different areas. They felt that the survey is well structured including the different parts of the core data set.

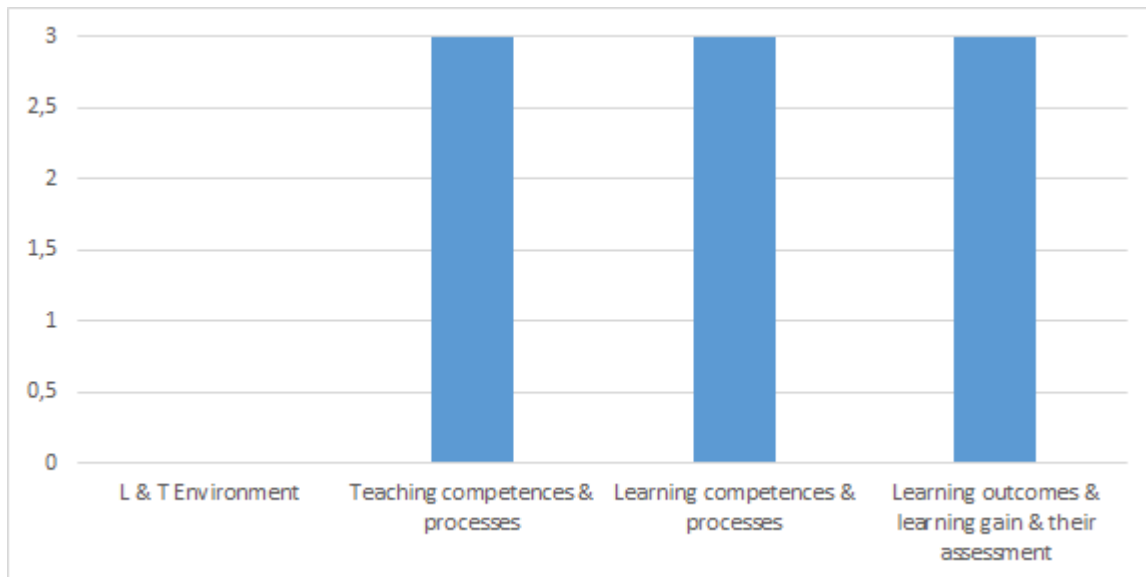


Figure 2: Students on questionnaire 1a - **Use** of data (“core data”) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

### Teachers’ assessment

On some occasions, there can be an occasion on the validity of data on students, when, for example, teaching programs have been established only recently.

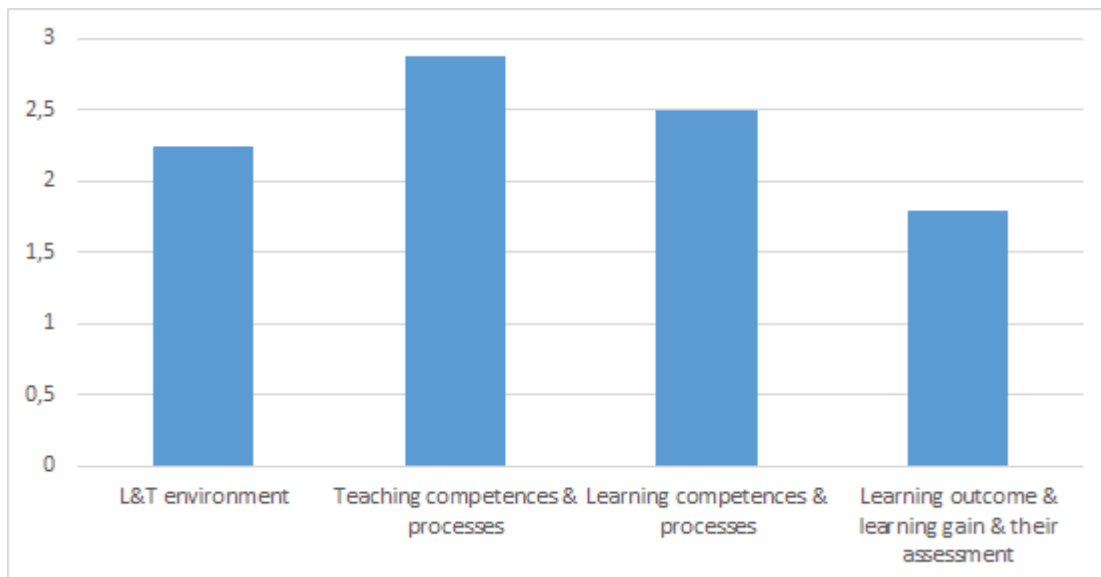


Figure 3: Teachers on questionnaire 1a: **Usefulness** of data (“core data”) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

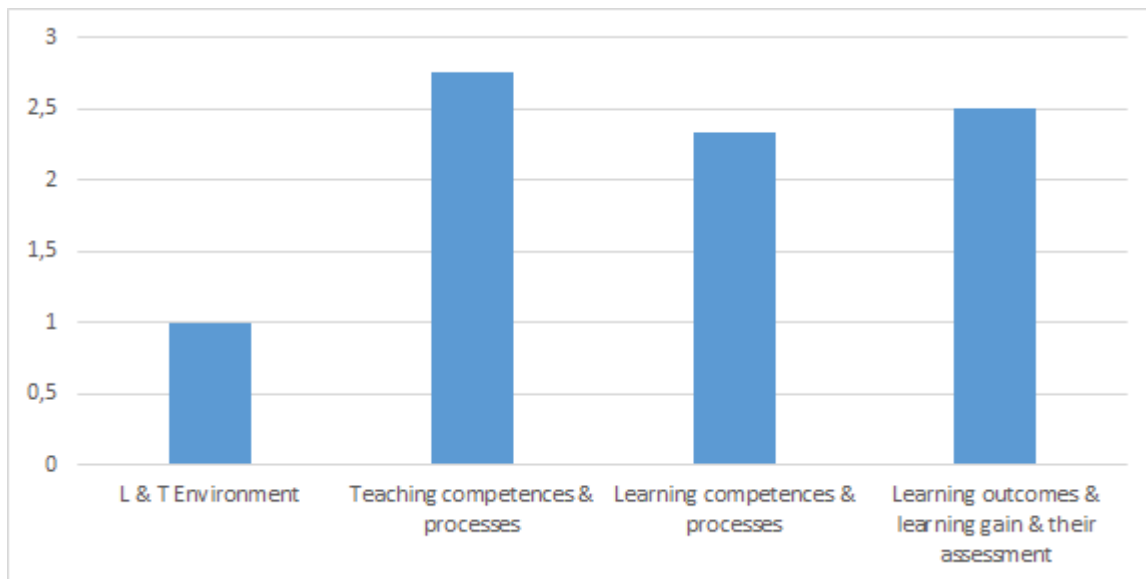


Figure 4: Teachers on questionnaire 1a - **Use** of data (“core data”) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

### Quality management staff’s assessment

The QM group consisted of five respondents. For most questions on core data (questionnaire 1a), one or two persons indicated they “do not know” about usefulness and use. In some cases, e.g. questions on Bachelors, respondents opted not to tick any box. These questions make sense on other HEIs but not at DUK. Therefore it is difficult to answer: “useless” from an organizational point of view, “indispensable” from a system point of view. Though, some key figures on Bachelors are relevant when analyzing the student intake (and are actually used at DUK, e.g. in voluntary program accreditation)

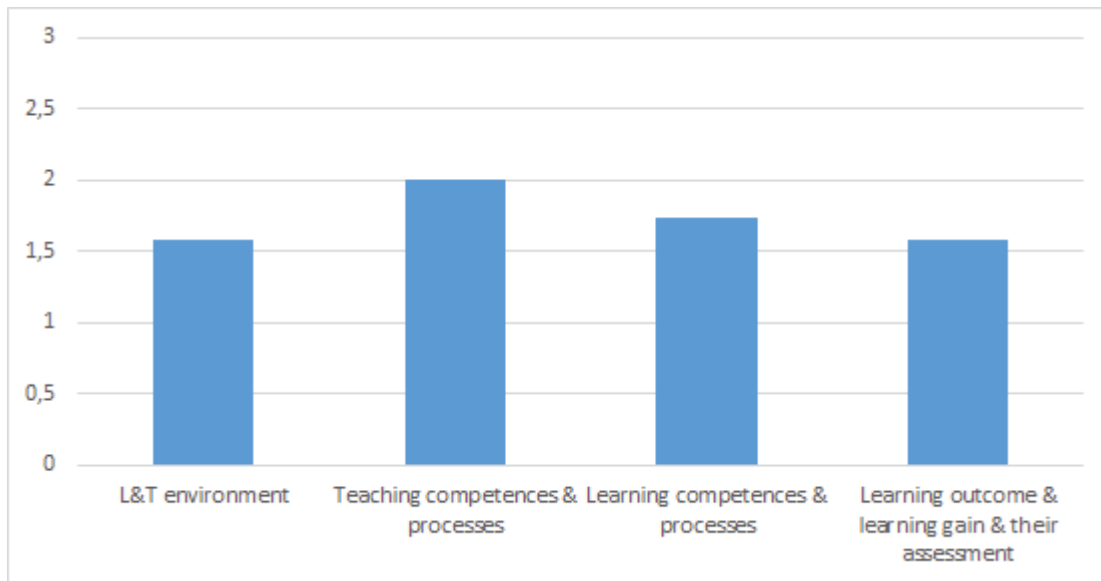


Figure 5: Quality managers on questionnaire 1a: **Usefulness** of data (“core data”) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

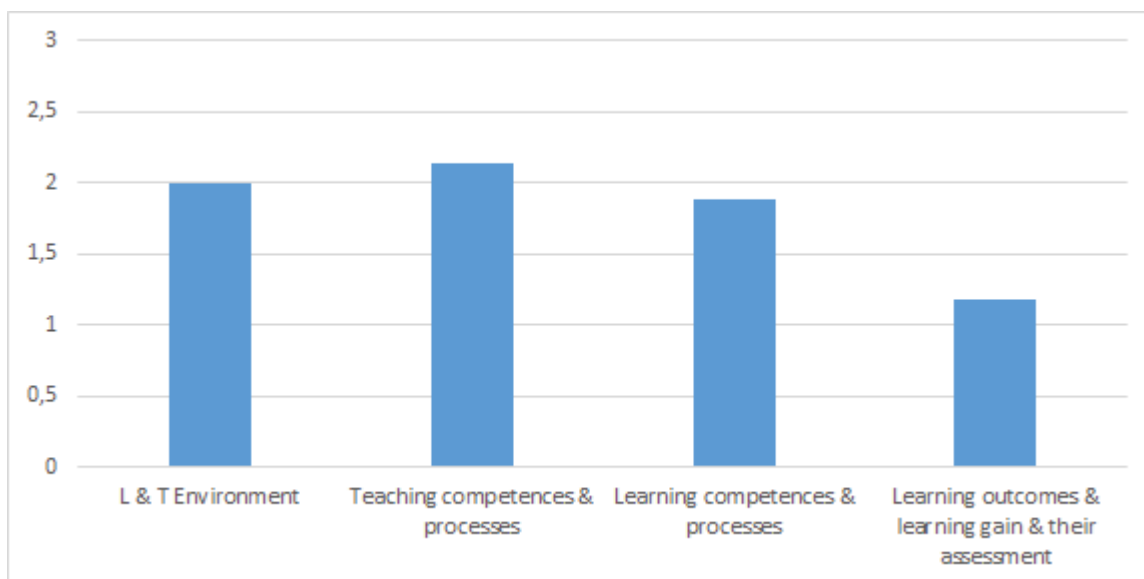


Figure 6: Quality managers on questionnaire 1a - **Use** of data (“core data”) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

With average opinions on the usefulness of core data between 1.58 and 2, results are quite similar across answer categories (Figure 5). Quality managers believe core

data on “learning outcomes, learning gain and their assessment” are hardly available, core data under other categories are mostly available occasionally (numeric roughly 2; Figure 6).

In the group discussion, the following topics have been highlighted:

- On L&T Environment / Student interactions: Counting events like log-ins to learning platforms, visits to libraries etc. does not say anything about the quality of use / interaction. Therefore, this type of data is not useful to measure quality of ???.
- On Teaching Competences / Quality of teaching staff: Adjunct lecturers from business and practice need different quality measures (long practical experience, publications, participation in conferences, teaching experience)
- On Learning Competences & Processes / Student Engagement: Soft-skills and networking between students is important, but the suggested core data does not help to measure that.
- On Learning Outcomes / Employability: The new generation of students (“millennials”) has another definition of “success” – not career, high income, other degrees etc. They rather want to achieve a good work-life-balance. The listed data does not measure if these students achieve their goal.

### **Leadership’s assessment**

The leadership group, which consisted of middle managers at DUK, find almost all core data “useful (2)”. Hardly any other answers than “useful” were given by the 3 respondents (Figure 7).

Regarding the availability of this core data, answers are very scattered (therefore still result in a mean of 2). In the subsets “L&T Environment” and “Learning Outcomes...” the leadership staff very frequently does “not know” about their use (Figure 8).

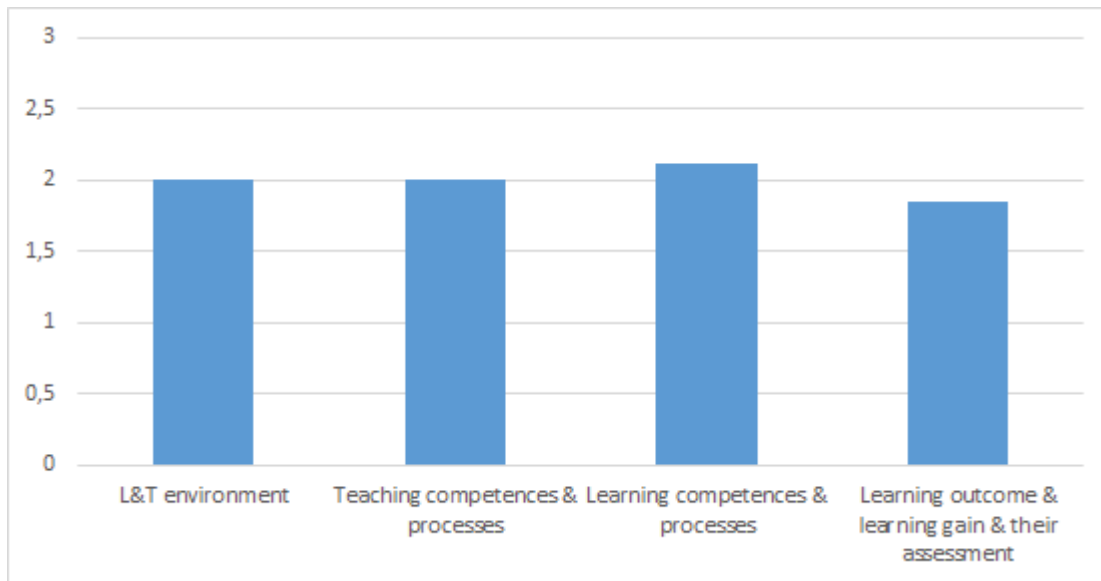


Figure 7: Leadership on questionnaire 1a: **Usefulness** of data (“core data”) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

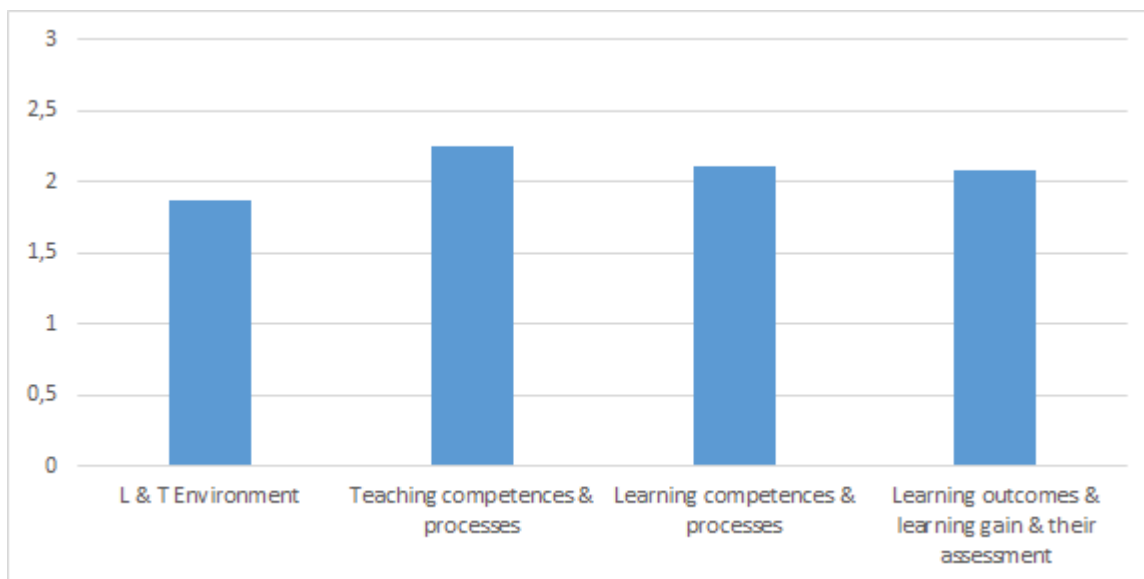


Figure 8: Leadership on questionnaire 1a - **Use** of data (“core data”) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

In the group discussion, the following topics have been highlighted – all in the subset Learning Outcomes / Employability:

- Measuring the impact of the university on the career development of postgraduate students is particularly difficult, as students are often in the middle of their professional life.
- Course directors observe their graduates make career steps both, in the subject area of the program but also in other areas.
- It is also often seen that career steps of DUK students already happen before graduation (and sometimes lead to the termination of studies).
- Like the quality managers, course directors observe that the new generation of students (“millennials”) behave different than their older colleagues, e.g. rather apply a like/dislike attitude than providing constructive feedback.

### **Additional assessments by active SQELT project participants**

In addition to the items presented in Table 1a, the active SQELT project participants were asked for their assessments on further core data, which are depicted in Table 1b.

Filling in questionnaire 1, the results of the project staff is also very scattered. Though, the core data on “Student composition & special support” stands out. All three project staff regard each of the data at least useful, and with the exception of full-time and part-time students (which does not exist under Austrian law), all data is at least occasionally collected at DUK.

In the topic area of didactic training for teaching staff, hardly any data is collected (numeric value is 1.4, Figure 10) though it would be seen as useful (1.8, Figure 9). A similar result is under Learning Competences and Processes (use 1.3; usefulness 1.8).

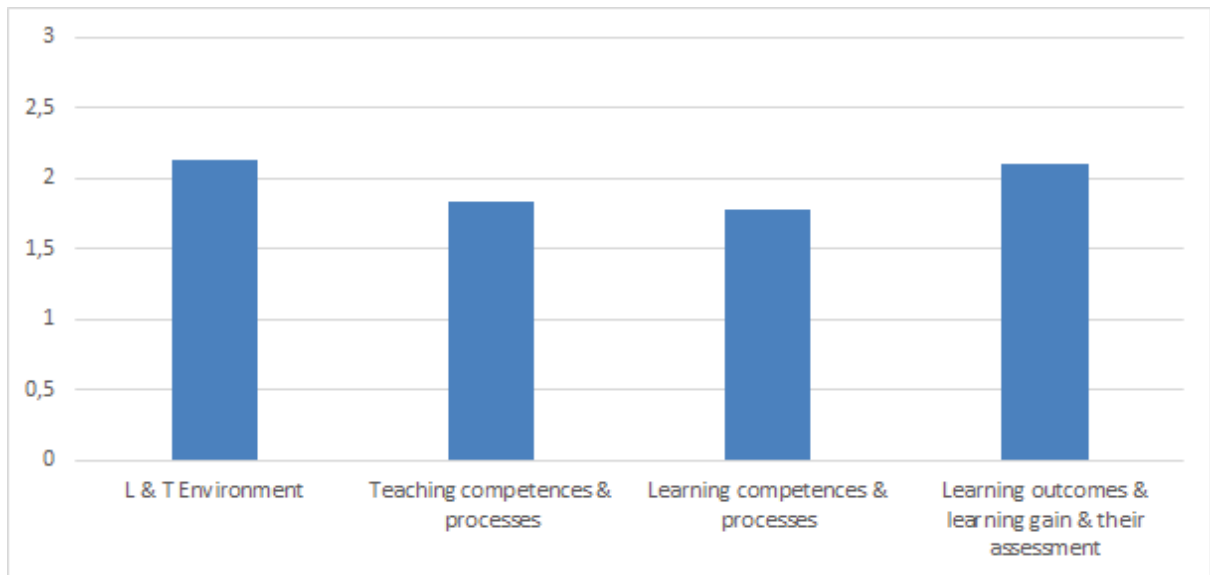


Figure 9: SQELT project staff on questionnaire 1 (a+b): **Usefulness** of data (“core data”) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

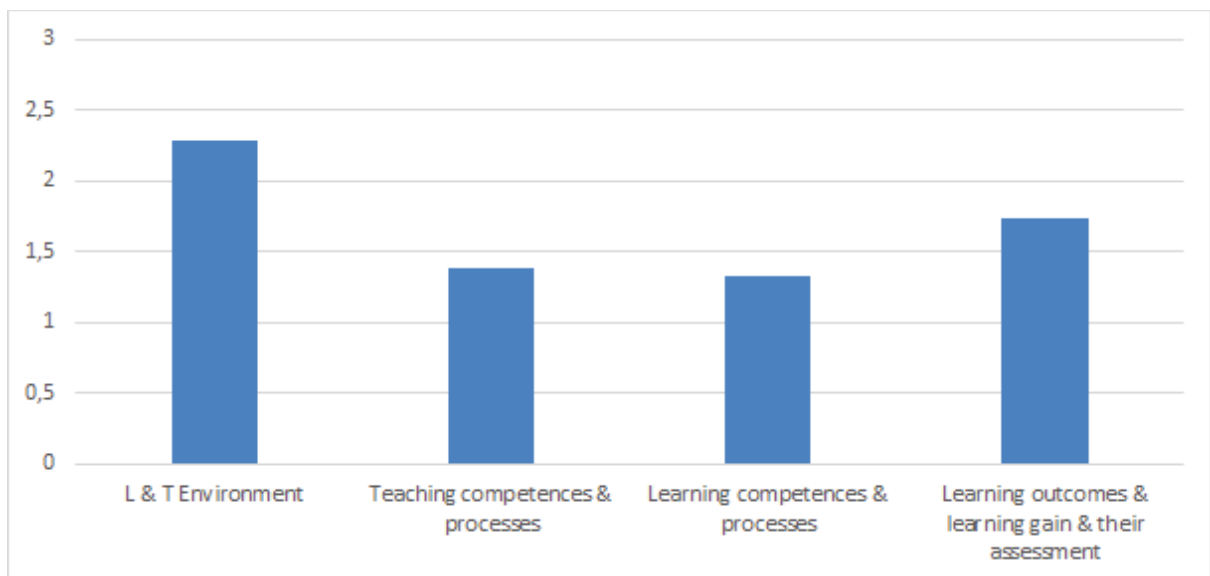


Figure 10: SQELT project staff on questionnaire 1 (a+b) - **Use** of data (“core data”) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

Academic continuing education has per definition a higher share of teaching staff from the practical world. There would be a need to elaborate data that also measure the quality of these external lecturers. A system based on scientific publications, doctoral and post-doctoral degrees supports traditional scientific teaching and does



not help to evaluate the quality of university teaching performed by practitioners from outside the academic sphere.

Table 1b: Further surveyed performance data items (“core data”) as assessed by active SQELT project participants

Further surveyed performance indicators supplementing those in Table 2a to build a comprehensive set	
<b>L&amp;T Environment</b>	
Learning resources	Number of book titles held in library
	Number of periodical print subscriptions held in library
	Number of periodical online subscriptions held in library
	Number of student workplaces held in library
	Number & duration of student interactions with library
	Average processing time of a library orders
Teaching resources	Number of Bachelor programs offered
	Number of Bachelor programs that are offered in a foreign language
	Number of joint/dual degree Bachelor programs
	Number of Master programs offered
	Number of Master programs that are offered in a foreign language
	Number of joint/dual degree Master programs
	Ratio of teaching staff number to student number
	Number of female teaching staff
	Number of teaching staff with foreign citizenship
	Number of teaching staff with verified doctorate qualifications (PhD or equivalent)
	Number of teaching staff with verified teaching qualifications
	Number of teaching staff participating in professional development activities
	Number of broad educational subject fields (ISCED97/2011) in which students have graduated in the latest year (disciplinary diversity)
Number of beds available for teaching in university hospital & affiliated hospitals per 100 students (medicine)	
Facilities & equipment	Number of students allowed to enrol in a subject/subject field
	Total institutional expenditure (per full-time student) on ICT for L&T
	Accessible internet bandwidth per student user
	Total institutional expenditure on laboratory resources
	Ratio of students to administrative staff
Financial income & investment	Percentage of total institutional expenditure dedicated to L&T activities (core education expenditure)
	Percentage of total institutional expenditure dedicated to the provision of student services (other than accommodation & student allowance)
	Percentage of total institutional expenditure dedicated to student accommodation & allowance
	Amount of third party funding/extra funding income in L&T per student (e.g. funded research projects for the advancement of L&T)
Student composition & special support	Number of Bachelor students enrolled
	Number of Master students enrolled
	Number of female (& male) Bachelor students enrolled
	Number of female (& male) Master students enrolled
	Number of female postgraduate students
	Number of male postgraduate students
	Number of full-time students
	Number of part-time students
	Number of international students
	Number of international incoming exchange student
	Number of international outgoing exchange students
	Number of students in international joint degree programmes
	Number of students with certain social origins [TBD]
Supportive environment	Number of students who need special access offerings (e.g. because of physical handicaps, dyslexia, autism, visual deficits, ...) (personalized data required for Learning Analytics – PDRLA)
	Number of students who need support for minorities (PDRLA)
	Number of students who use official HEI network options that meet their social, cultural, study interests (PDRLA)
Quality of incoming students	Number of students who use official HEI network options for linking to community/collaborating with the world of work (e.g. internships) (PDRLA)
	Grades of student entrance score/secondary school grades (PDRLA)
	Grades of university admission tests (PDRLA)
<b>Teaching Competences &amp; Processes</b>	
Quality of teaching staff	Grades of introductory courses/examinations (e.g. in mathematics) (PDRLA)
	Number of teaching staff who participated in support activities for their adaptation of technology-enhanced L&T
<b>Learning Competences &amp; Processes</b>	
Quality learning &	Number of teaching staff who participated in peer support systems for teaching staff/teaching observation
	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) (PDRLA)

student engagement	Number & duration of student interactions with course contents (e.g. via the HEI's LMS) (PDRLA)
	Number of repetitive visits to learning contents (e.g. during online learning) (PDRLA)
<b>Learning Outcomes &amp; Learning Gain &amp; their Assessment</b>	
Student success	Coursework marks (PDRLA)
	Number of students who do not complete the program modules they had started (PDRLA)
	Number of students who do not successfully complete the first year of study (PDRLA)
	Number of students who do not successfully complete undergraduate programs (Bachelor graduation) (PDRLA)
	Number of students who do not successfully complete undergraduate programs within the planned program duration (Bachelor graduation on time) (PDRLA)
	Number of students who do not successfully complete graduate programs (Master graduation) (PDRLA)
	Number of students who do not successfully complete graduate programs within the planned program duration (Master graduation on time) (PDRLA)
	Number of students who do not successfully complete their long first degree (long first degree graduation) (PDRLA)
	Number of students who do not successfully complete their long first degree within the planned program duration (long first degree graduation on time) (PDRLA)
	Number of students who do not successfully complete postgraduate programs (postgraduate graduation) (PDRLA)
	Number of students who do not successfully complete postgraduate programs within the planned program duration (postgraduate graduation on time) (PDRLA)
	Number of students who exit HEI per year (PDRLA)
	Number of students who exit HEI per year to change to another HEI (PDRLA)
Assessment of learning outcomes	Percentage of examinations (e.g. in medical doctor training programmes) which use innovative forms of assessment (e.g. assessment of practical work by faculty & structured clinical cases)
	Examination marks (PDRLA)
	Grades of students' final examinations (PDRLA)
	Number of Bachelor degrees awarded
	Number of Master degrees awarded
	Number of doctorate degrees (PhD or equivalent) awarded
Contact with work environment	Number of doctorate degrees that are awarded to international doctorate candidates
	Number of Bachelor students actually doing an internship (PDRLA)
	Number of Master students actually doing an internship (PDRLA)
	Number of Bachelor teaching practitioners from outside the HEI departments
Employability	Number of Master teaching practitioners from outside the HEI departments
	Number of Master graduates who within a period of time [TBD] after their long first degree graduation are unemployed
	Number of Master graduates who within a period of time [TBD] after their long first degree graduation are enrolled in further study

## Stakeholders' assessment of performance indicators

### Structured survey about performance indicators

The approached stakeholders were asked to discuss in focus groups certain issues and fill in a questionnaire (Table 2a), which is about university performance indicators (PIs), broadly construed, that can be reported for quality monitoring and improvement in L&T. For example, such PIs may be included in mandatory or non-obligatory quality reporting requirements, target agreements, rankings, etc.

Particularly, representatives of the stakeholder groups of students, teaching staff, QM staff, and HEI leadership were asked which of the following features apply to the 31 presented PIs which are listed in Table 2a: “indispensable”, “useful” and “useless” as well as “regularly monitored in my HEI”, “occasionally monitored in my HEI” and “not monitored in my HEI”. Respondents also had the choice of answering “do not know”. Moreover, respondents had an option to give open answers and add any comments or make further suggestions.

Table 2a: Surveyed performance indicators (PIs), broadly construed

<b>Performance indicators, selection of “the more uncommon or less widespread or novel items” from a more comprehensive set of performance indicators</b>	
<b>L&amp;T Environment</b>	
Learning resources	Learning diversity offered with respect to course structures to do justice to different learner types & learning processes (PDRLA)
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
<b>Teaching Competences &amp; Processes</b>	
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)
<b>Learning Competences &amp; Processes</b>	
Quality learning & student engagement	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)
	Quality personal (bespoke) learning (TBDBE) (PDRLA)

<b>Learning Outcomes &amp; Learning Gain &amp; their Assessment</b>	
Constructive alignment of programs/ courses	Design & adjustment of teaching & assessments/examinations to defined intended learning outcomes (TBDBE)
Study experience satisfaction	Freshman satisfaction with study experience (TBDBE) (PDRLA)
	Undergraduate satisfaction with study experience (TBDBE) (PDRLA)
	Graduate satisfaction with study experience (TBDBE) (PDRLA)
	Postgraduate satisfaction with study experience (TBDBE) (PDRLA)
	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) (PDRLA)
	Student learning gain in methodological competences (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases) (PDRLA)
	Student learning gain in learning strategies (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases) (PDRLA)
	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) (PDRLA)
	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) (PDRLA)
Employability	Possibility of inclusion of work experience & elements related to work practice (TBDBE)
	Employer satisfaction with graduates (TBDBE)
<b>Space for additions and comments</b>	
Other, namely .....	

## Students' assessment

Based on the student perspectives during the focus group session as well as underlined in the results in the survey, students did not distinguish between the different sets or areas mentioned in the survey. Results provide us a rather homogeneous picture related to the usefulness of performance indicators. However, students questioned some of the performance indicators calling them rather descriptors than indicators. The reason was that many of the indicators are not in relation to something or another data. Some of the students also highlighted that the questions are not on the same "level". Some of the questions and explanations were rather long others very short. Here they would prefer a more harmonized survey. In addition students would like to see more qualitative indicators in the given set.

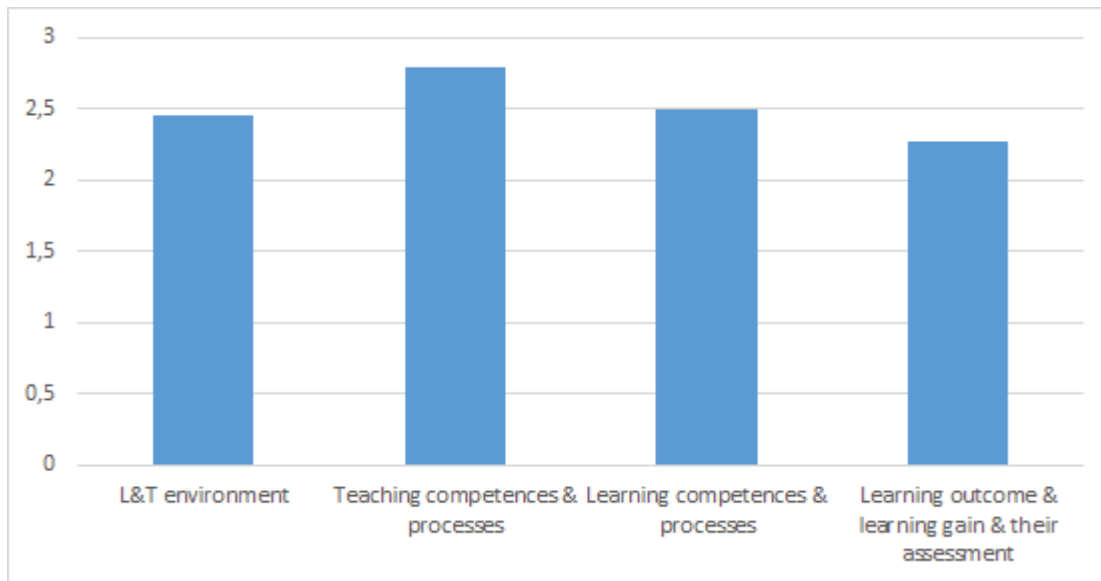


Figure 9: Students on questionnaire 2a: **Usefulness** of performance indicators (PI) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

In both perspectives, usefulness and use, students at the Danube University see the set of indicators as rather important. Over all four categories they do not have a highly diverse view. For example, it cannot be argued that one of the areas such as L&T environment is assessed more important than another one. We can see the same “tendency” in the table below too. However the “use” is even a bit higher than “usefulness” at least in the view of the students.

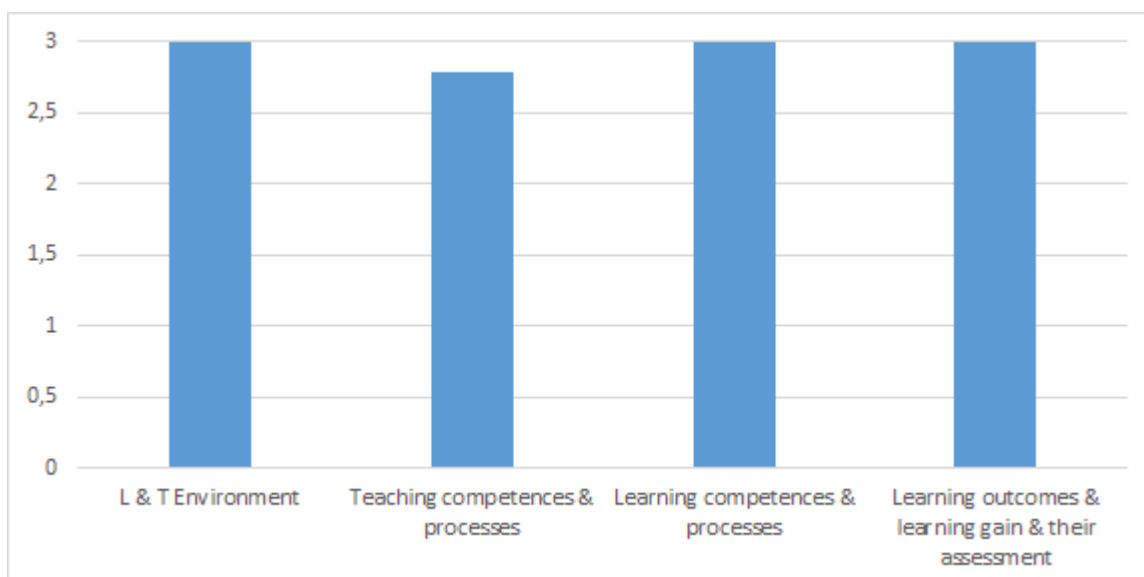


Figure 10: Students on questionnaire 2a - **Use** of performance indicators (PI) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

At the end students suggested to address in a better way the student perspective. The given look and feel including the use of color etc. is not user friendly. Further to this, based on the complexity and large set of the indicators students were not able to see where they could bring in a student specific perspective. Therefore they recommended to adapt the survey in a way that the student perspective, e.g. only student relevant indicators, would be asked and not the whole set of indicators.

### Teachers' assessment

In the discussion groups, it was asserted that within the orientation or “quality orientation” of the university there may be a shift of an explicit focus in favor of the students. But still, multifaceted approaches are important, by this reflecting the whole diversity and complexity of the university.

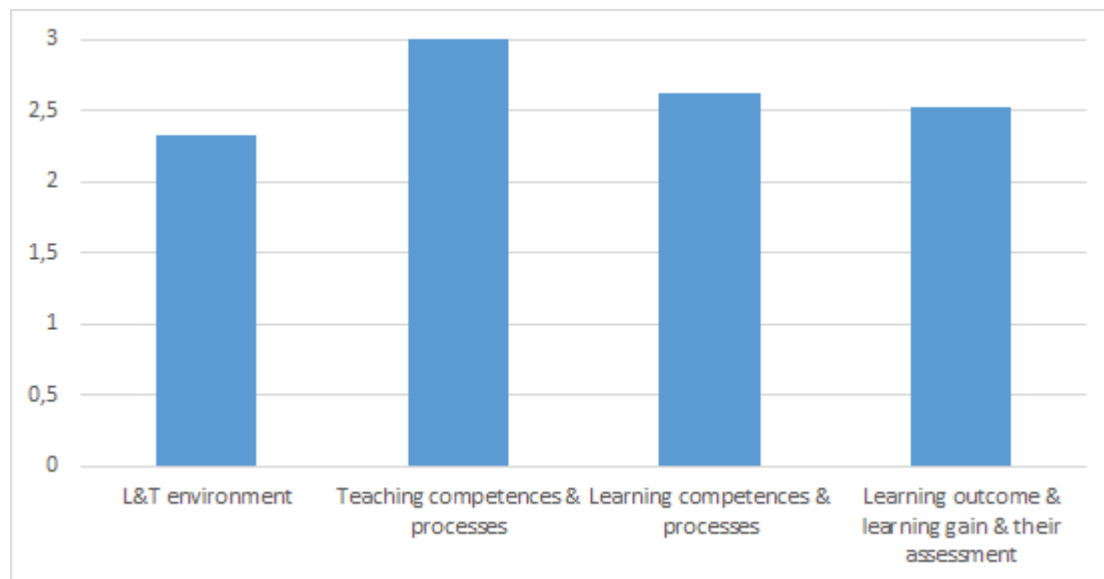


Figure 11: Teachers on questionnaire 2a: **Usefulness** of performance indicators (PI) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

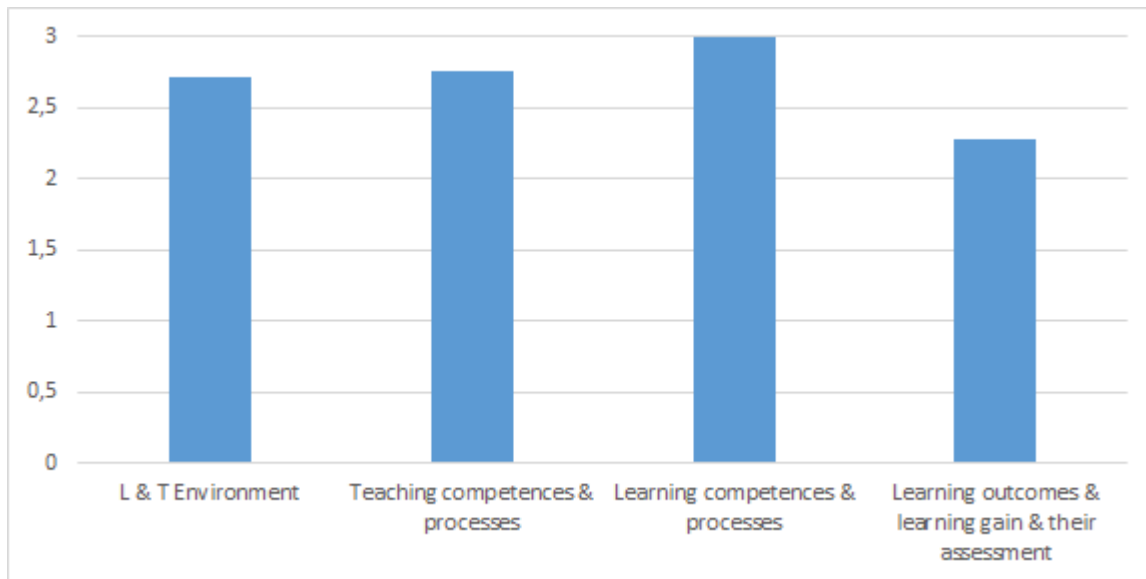


Figure 12: Teachers on questionnaire 2a - **Use** of performance indicators (PI) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

### Quality management staff's assessment

It seems, DUK quality managers are well-informed about performance indicators; the boxes “Do not know” have hardly been ticked.

In the subset “Learning Outcomes, Learning Gain and their assessment” there is a major discrepancy between the estimated value of performance indicators (average 2.42, so mostly useful or indispensable) and their availability at DUK (average 1.57, so mostly not or only occasionally collected). There are similar tendencies in the other three subsets, though not so explicit.

When discussion possible equivalents to PIs on employability and student satisfaction, the quality managers came up with the idea to measure fundraising through graduates or consulting jobs and joint applied research projects assigned by alumni. As all these figures are rather small now, such indicators would only make sense in the long run.



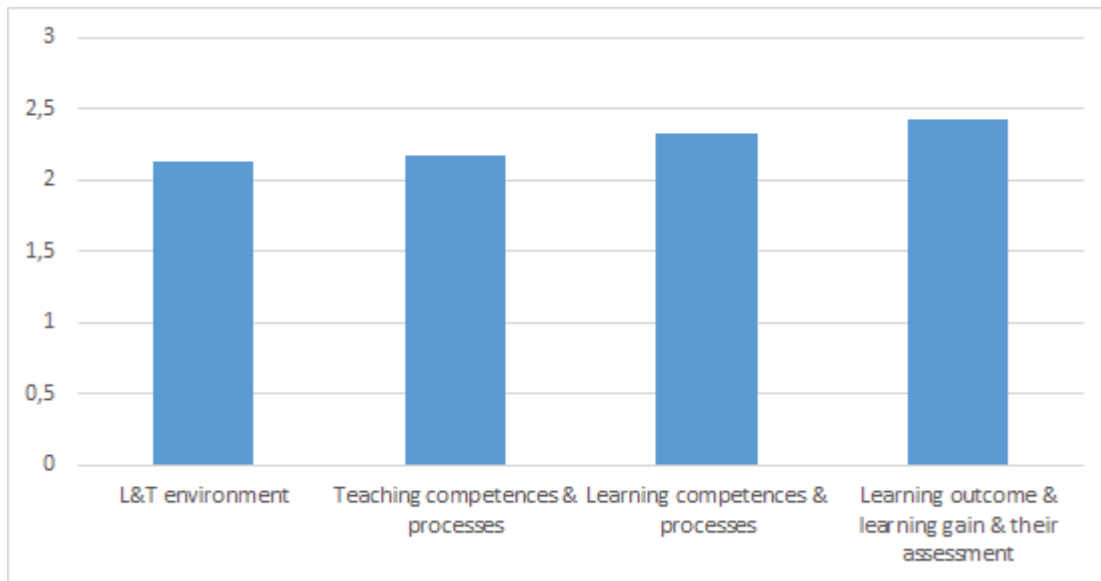


Figure 13: Quality managers on questionnaire 2a: **Usefulness** of performance indicators (PI) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

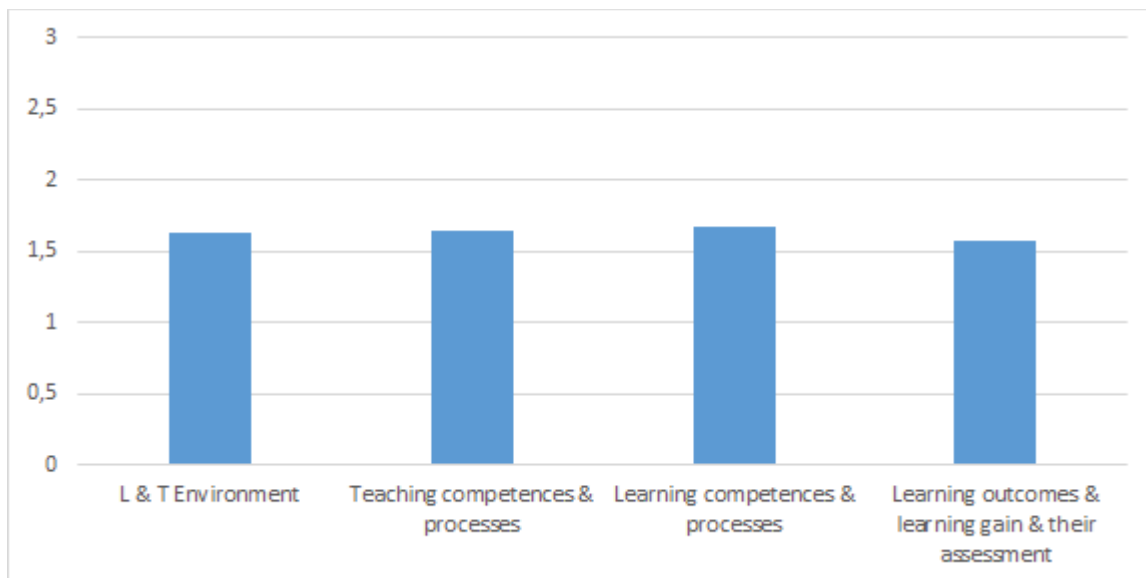


Figure 14: Quality managers on questionnaire 2a - **Use** of performance indicators (PI) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

## Leadership's assessment

The course directors regard all indicators as either useful or indispensable, the boxes “useless” or “do not know” have hardly been ticked. Regarding the availability of indicators, the results of the survey are very scattered and therefore difficult to interpret.

Course directors at DUK see the evaluation of student satisfaction rather critically. So-called “happiness sheets” (i.e. evaluation questionnaires for lecturers with very good entertainment skills) influence the overall perception of course quality.

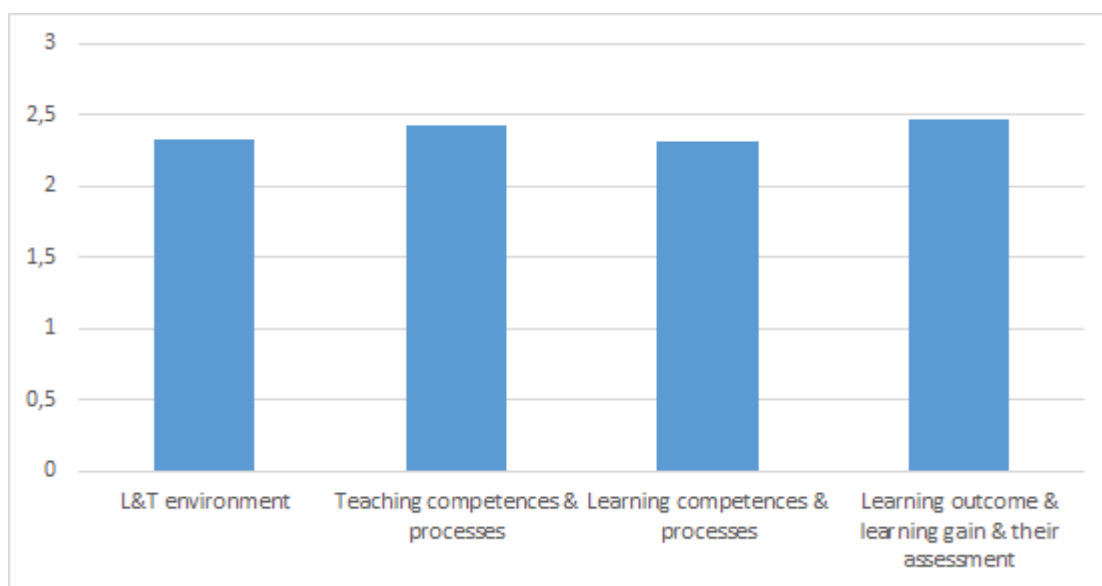


Figure 15: Leadership on questionnaire 2a: **Usefulness** of performance indicators (PI) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

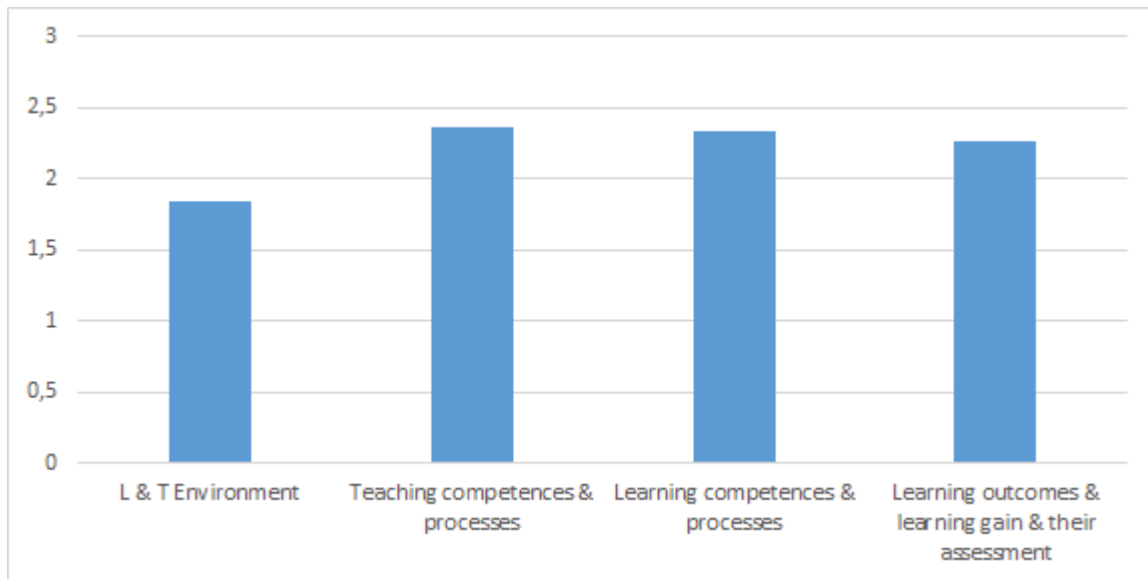


Figure 16: Leadership on questionnaire 2a - **Use** of performance indicators (PI) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

### Additional assessments by active SQELT project participants

In addition to the items presented in Table 2a, the active SQELT project participants were asked for their assessments on further core data, which are depicted in Table 2b.

As the comparison of the following figures shows, SQELT project staff would regard most of the performance indicators as useful or indispensable (average values around 2.5) while the availability is low (average values around 1.7).

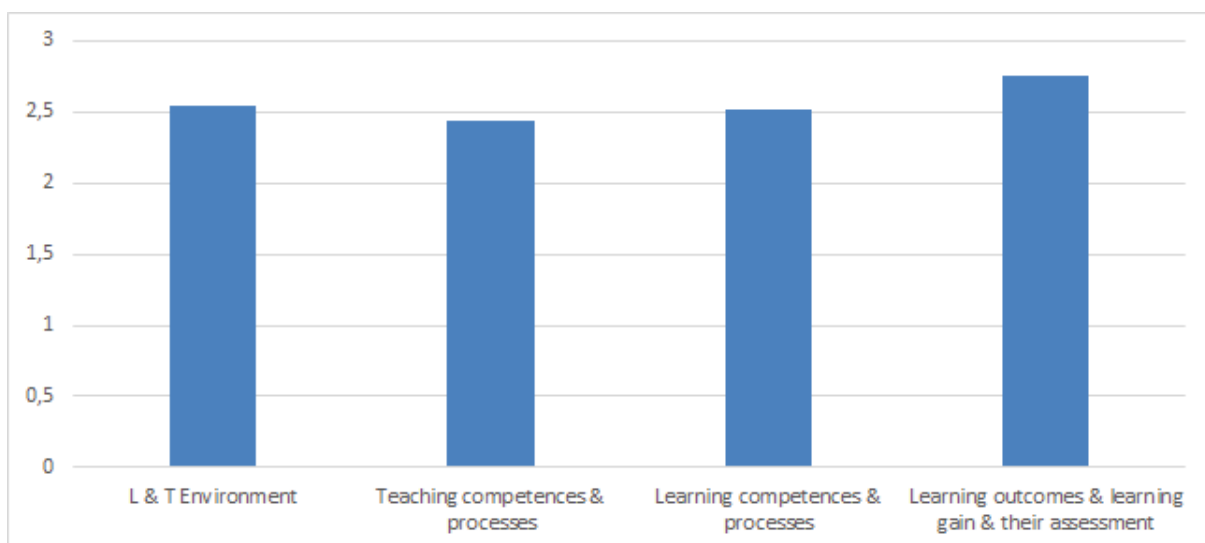


Figure 17: SQELT project staff on questionnaire 2 (a+b): **Usefulness** of performance indicators (PI) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

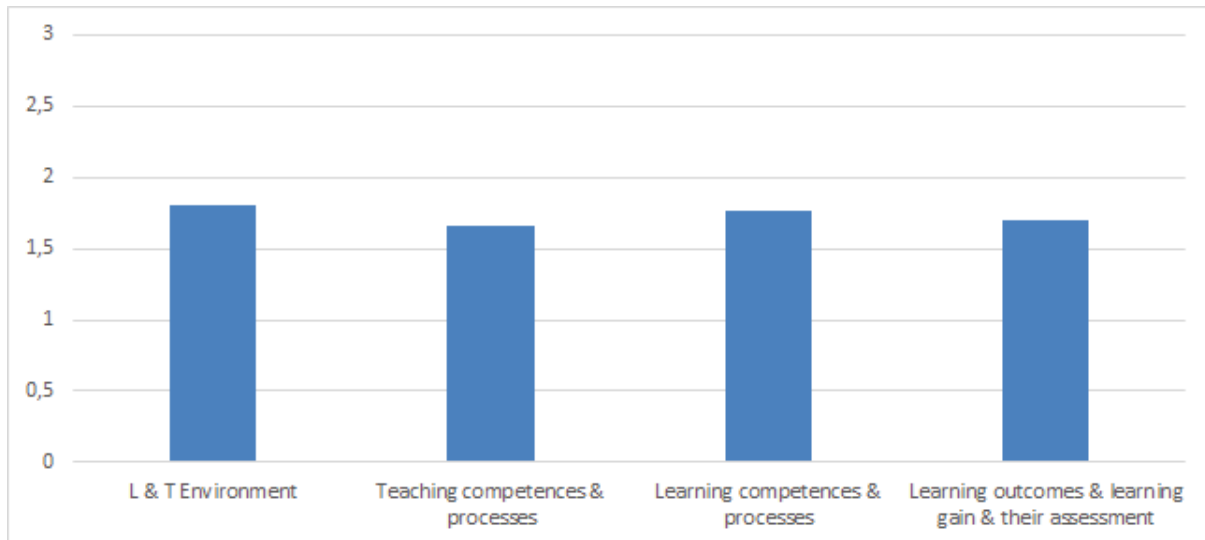


Figure 18: SQELT project staff on questionnaire 2 (a+b): **Use** of performance indicators (PI) related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

Even though “creativity” is often mentioned as one of the main drivers of our economies and employment in the future, there are still hardly any indicators that measure the performance of HEIs in terms of facilitating and supporting the development (education) of creative capacities of students.

DUK with its strong focus on blended learning also experiences that measuring the “teacher’s workload” becomes more and more difficult. While most system still measure hours of in-class teaching, there are still no indicators that would mirror different kinds of online teaching. As an extreme example: while both result in a grade for the student, individual feedback and multiple choice tests require very different teacher’s workload.

Table 2b: Further surveyed performance indicators (PIs), broadly construed, as assessed by active SQELT project participants

<b>Further surveyed performance indicators supplementing those in Table 2a to build a comprehensive set</b>	
<b>L&amp;T Environment</b>	
Learning resources	Quality of library services (TDBBE)
	Diversity of courses offered (with respect to topics, class options & sizes, time, place, lecturers, etc.) to guarantee that the study programs can be completed within the regular time period (TDBBE)
	Quality organization of study programs (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) (TDBBE)
Teaching resources	Opportunity offers for studying abroad (TDBBE) (PDRLA)
	Possibility of inclusion of Bachelor study periods abroad Possibility of inclusion of Master study periods abroad
Facilities & equipment	Quality of lecture halls & seminar rooms (TDBBE)
	Quality of IT services (TDBBE)
Supportive environment	Quality of laboratory facilities (TDBBE)
	Provision of student support to succeed academically (TDBBE)
	Quality of learning support services (e.g. tutoring services, writing centre, student exchange centre, learning management system) (TDBBE) (PDRLA)
	Measures of encouraging contact among students from different backgrounds (social, ethnic, religious, etc.)
	Provision of opportunities for students to be involved socially (TDBBE)
	Provision of student support for managing non-academic responsibilities (e.g. work, family, etc.) (TDBBE)
	Provision of student support for overall well-being (e.g. recreation, health care, sports, counselling, etc.) (TDBBE)
	Quality offer of campus activities & events for students (e.g. performing arts, sports events, etc.) (TDBBE)
	Quality offer for students to attend events that address important social, economic, sustainability, or political issues (TDBBE) (PDRLA)
	Equity student support (TDBBE)
Student interactions	Institutional recognition of teaching (TDBBE)
	Student interactions with students (TDBBE)
	Student interactions with student services staff (e.g. career services, student activities, housing, etc.) (TDBBE)
	Student interactions with other administrative staff & offices (e.g. registrar, financial aid, etc.) (TDBBE)
Further education & lifelong learning	Student experience in discussions with diverse others (TDBBE)
	Mediation of motivation for lifelong learning (TDBBE)
Stakeholder participation in L&T quality development & evaluation	Student participation in student evaluations of courses & teaching (SECT)
	Student participation in decision-making related to student evaluations of courses & teaching
	Teaching staff participation in student evaluations of courses & teaching
	Teaching staff participation in decision-making related to student evaluations of courses & teaching
<b>Teaching Competences &amp; Processes</b>	
Teaching staff workload	Teaching workload of teaching staff (TDBBE)
Quality teaching & teaching staff engagement	Teaching quality in general (TDBBE)
	Quality organization of course sessions (TDBBE)
	Teaching staff respect & interest for students (TDBBE)
	Teaching staff pedagogical knowledge & skills (e.g. knowledge of teaching models & learning processes) (TDBBE)
	Teaching staff sensitivity to class level & progress (TDBBE)
	Teaching staff social competences (e.g. team, communication & leadership competences) (TDBBE)
	Bedside teaching (medicine) (e.g. concerning mentoring, suitability of rooms & variety of diagnostic techniques applied) (TDBBE)
	Integration of pre-clinical/theoretical & clinical courses (medicine) (TDBBE)
	Quality skills labs & training centres (e.g. maintenance, accessibility, technical facilities, mentoring) (medicine) (TDBBE)
Teaching staff satisfaction with teaching quality (TDBBE)	
<b>Learning Competences &amp; Processes</b>	
Quality learning & student engagement	Course quality (TDBBE)
	Training offers to reflect upon student learning approaches (TDBBE)
	Student experience of learning quality in general (TDBBE)

	Development of student competences of self-learning (TBDBE)
	Teaching staff assistance in organising peer learning activities (TBDBE)
	Integration of practical experience with patient contact into the study program (medicine) (TBDBE)
	Student engagement in general (TBDBE)
<b>Learning Outcomes &amp; Learning Gain &amp; their Assessment</b>	
Constructive alignment of programs/ courses	Clearly formulated intended learning outcomes (e.g. goals of study modules & courses) (TBDBE)
	Teaching staff awareness of existing intended learning outcomes (TBDBE)
Learning gain	Student learning gain in higher-order learning (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases) (PDRLA)
	Student learning gain in reflective & integrative learning (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases) (PDRLA)
	Student learning gain in quantitative reasoning (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases) (PDRLA)
	Student learning gain in collaborative learning (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases) (PDRLA)
	Student learning gain in interdisciplinarity (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases)
	Student learning gain in transdisciplinarity (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases)
	Student learning gain in transdisciplinarity (TBDBE) (e.g. by comparison of knowledge & skills before & after learning phases)
Assessment quality	Fairness of assessments/examinations
	Timeliness of assessments/examinations
	Quality of assessment/examination formats (TBDBE)
Contact with work environment	Possibility of inclusion of internships/ phases of practical experience or external projects in the Bachelor curriculum
	Possibility of inclusion of internships/ phases of practical experience or external projects in the Master curriculum
Employability	Academic & career counselling for students (TBDBE)

## Stakeholders' assessment of quality evaluation instruments

### Structured survey about quality evaluation instruments

The approached stakeholders were asked to discuss in focus groups certain issues and fill in a questionnaire (Table 3), which is about quality evaluation instruments (QEI) that can be used for quality monitoring and improvement in L&T.

Particularly, representatives of the stakeholder groups of students, teaching staff, QM staff, and HEI leadership were asked which of the following features apply to the 15 presented QEIs which are listed in Table 3: “indispensable”, “useful” and “useless” as well as “regularly applied in my HEI”, “occasionally applied in my HEI” and “not applied in my HEI”. Respondents also had the choice of answering “do not know”. Moreover, respondents had an option to give open answers and add any comments or make further suggestions.

Table 3: Surveyed quality evaluation instruments (QEIs)

<b>Quality evaluation instruments, selection of “the more uncommon or less widespread or novel items” from a more comprehensive set of quality evaluation instruments</b>	
<b>Teaching Competences &amp; Processes</b>	
Quality teaching & teaching staff engagement	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
<b>Learning Competences &amp; Processes</b>	
Quality learning & student engagement	Reports generated from Learning Analytics tools such as BlackBoard, Moodle, Desire2Learn (e.g. individual user tracking, course based) <b>(PDRLA)</b>
	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) <b>(PDRLA)</b>
	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) <b>(PDRLA)</b>
	Discourse analysis generated from Learning Analytics tools such as COHERE (e.g. visualization of social & conceptual networks & connections) <b>(PDRLA)</b>
	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) <b>(PDRLA)</b>
<b>Learning Outcomes &amp; Learning Gain &amp; their Assessment</b>	
Learning gain	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) <b>(PDRLA)</b>
	Learning content interaction generated from Learning Analytics tools such as LOCO-Analyst (e.g. providing insight into individual & group interactions with the learning content) <b>(PDRLA)</b>
Assessment quality	Student evaluation of assessments/examinations (peer grading)
Prediction of student success	Predictive models for student performance
	Predictive models for student attrition
Accreditation	Accreditation (external) of study programs
	Institutional accreditation (external) of QMS in L&T (program accreditation carried out by HEIs themselves)
<b>Space for additions and comments</b>	
Other, namely .....	

## Students' assessment



Figure 17: Students on questionnaire 3: **Usefulness** of evaluation instruments related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

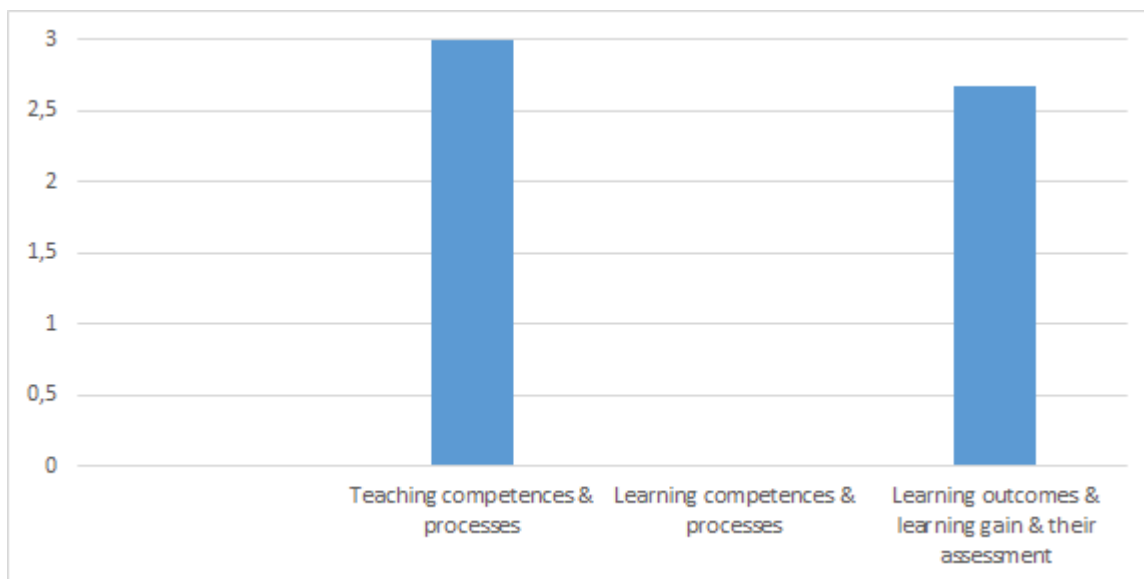


Figure 18: Students on questionnaire 3 - **Use** of evaluation instruments related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]



## **Teachers' assessment**

As was expressed in the discussion groups, it is difficult to assess evaluation and evaluation instruments without an explicit underlying definition of quality. So good evaluation approaches also should refer to the involved understandings (quality understandings), in fact even requiring this type of intellectual work and engagement. Such quality definitions are furthermore important for reflecting different quality understandings in the different disciplines. This diversity poses the question, if “one questionnaire” even is possible or feasible.

Furthermore, the assessment is that the evaluation approach of the Danube University Krems may be more oriented toward “quantitative counting”, whereas “quality work” within evaluation may be less emphasized. There may also be a need not only to ask for quality, but also “quality for whom”, meaning different groups, such as students or the employees of the university.

In the group discussion it was being asked: What are the options for different “building blocks” for indicators on quality? Respectively, should quality understandings refer to the “whole university”, the specific discipline (disciplines) or the perspective of the students.

The group discussions also highlighted one particular aspect of possible interest: there should be also “inter-level-review”, by this emphasizing the importance to bring different constituencies together. Concrete examples for this may be: the mutual involvement and bridging of faculty and students; faculty cross-linking that is cross-networking between different institutions, within university but also across a multitude of universities.

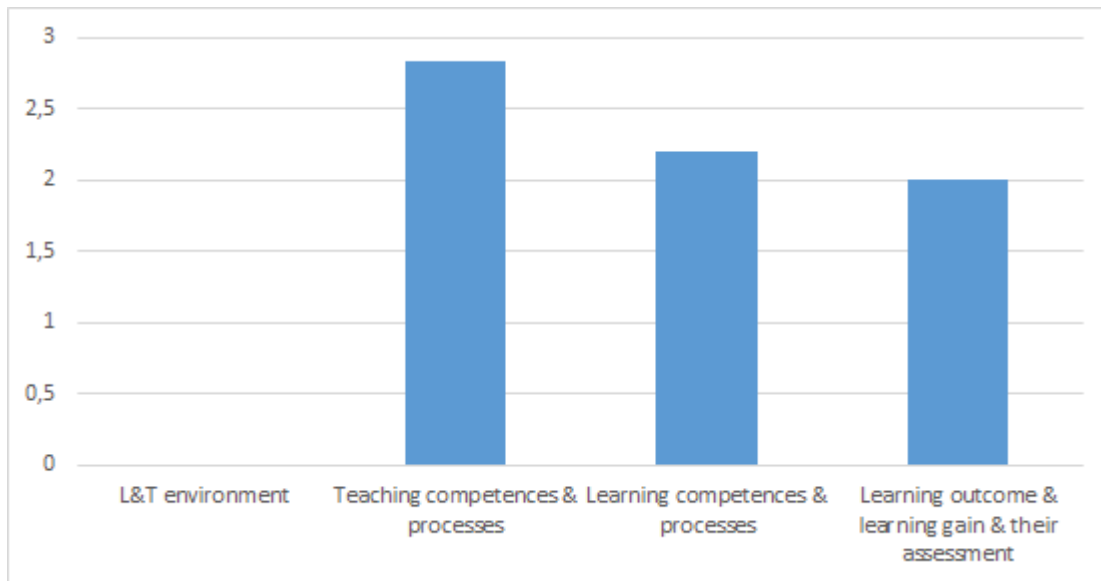


Figure 19: Teachers on questionnaire 3: **Usefulness** of evaluation instruments related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

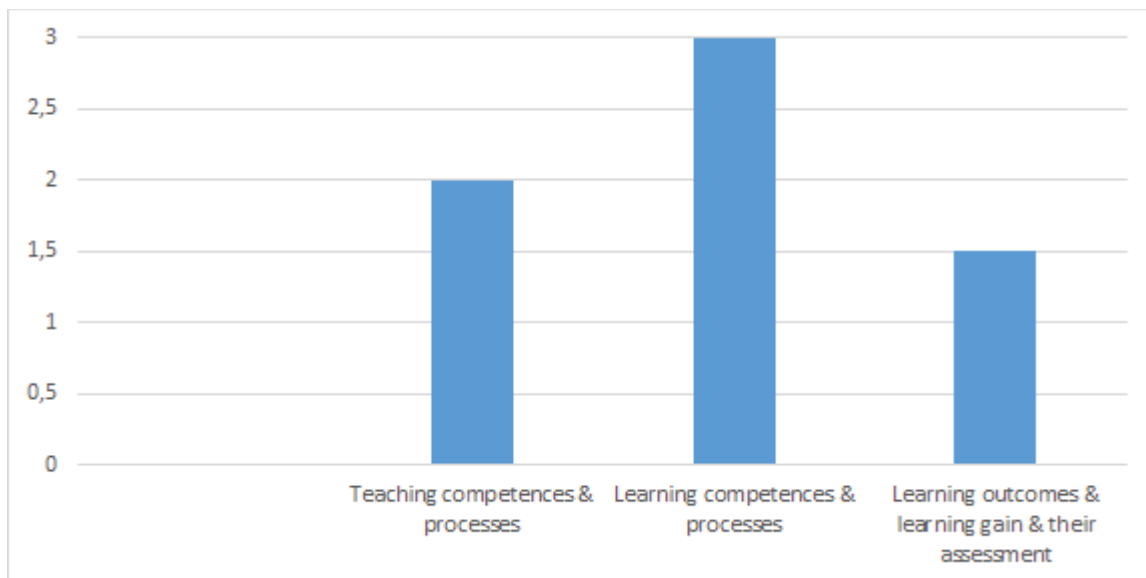


Figure 20: Teachers on questionnaire 3 - **Use** of evaluation instruments related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

## Quality management staff's assessment

As DUK is a public university, teaching staff recruitment is strongly regulated by law. The quality managers value recruitment processes as very useful and also used at the institution.

The various learning analytics instruments listed in the subset Learning Competences and Processes divides the group of quality managers. Half see them useful, half useless.

Accreditation and audit are valued as good instruments.

The subsets Learning Competences & Processes and Learning Outcomes, Learning Gain and their Assessment differ a lot from the other parts of the questionnaires in the group of quality management staff. Approximately 50% of answers on the use of the listed instruments is "do not know".

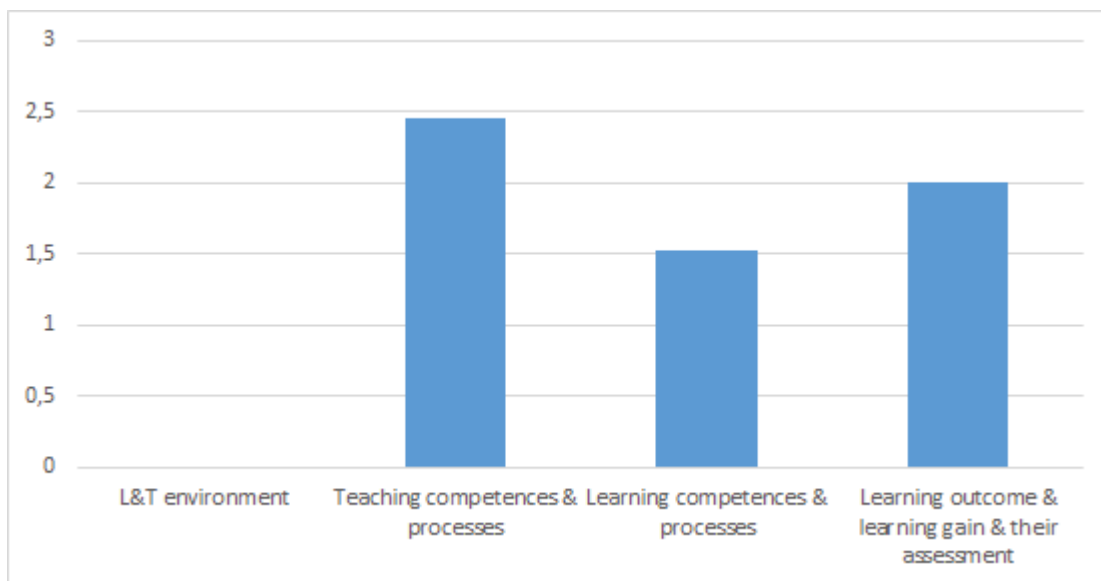


Figure 21: Quality managers on questionnaire 3: **Usefulness** of evaluation instruments related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

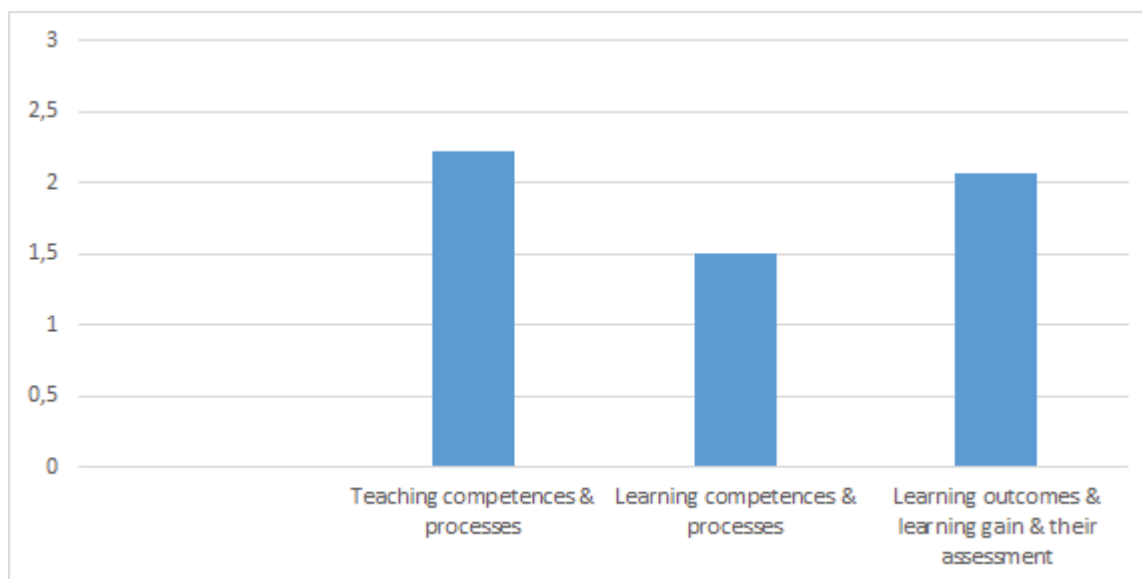


Figure 22: Quality managers on questionnaire 3 - **Use** of evaluation instruments related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

### Leadership's assessment

Similar to quality managers, course directors regard teaching staff recruitment as indispensable or useful. For the other two subsets of questionnaire 3, course directors again say they find everything useful (hardly any other answers; Figure 23). Apart from staff recruitment, knowledge about the use or availability of listed instruments is rare (most answers “not collected” or “do not know”, Figure 24).

Course directors report that so far, activities of students on the e-learning platform Moodle have been mostly tracked manually. As typical cohorts consist of 10 to 100 students, no IT support is needed on study program level. Course directors believe learning analytics would be more interesting for strategic decisions above program level.

DUK as a university for continuing education has an important evaluation instrument at student enrolment: many students enter (master) programs without holding a first academic degree, though they undergo a process of recognition of prior learning. Course directors would be very interested to have data on this student subgroup, e.g. the percentage of students without first degrees per study program, the study success (graduation rate) of these non-traditional students, etc.

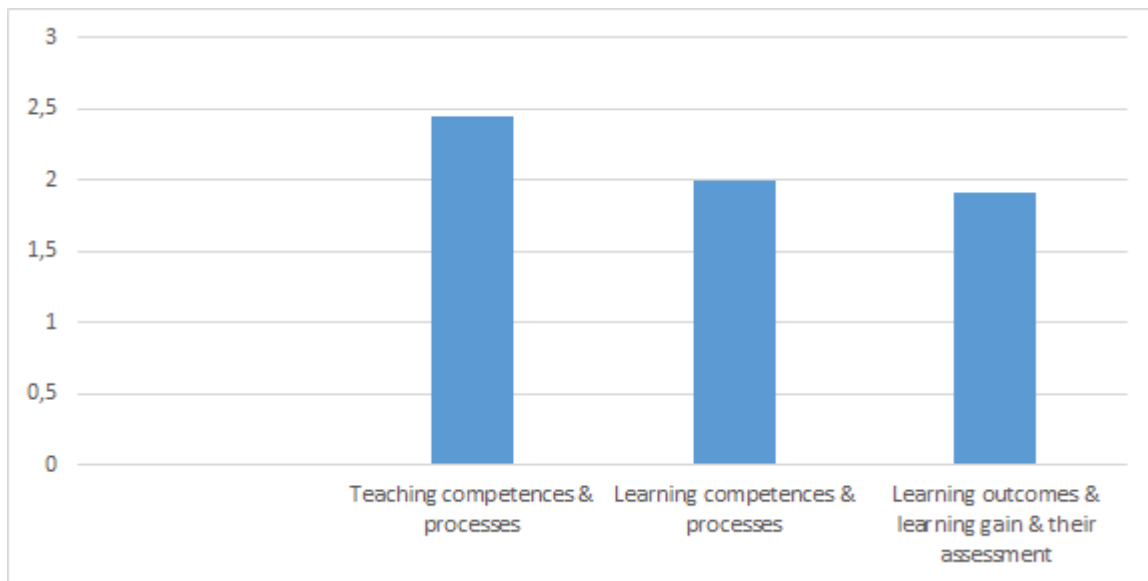


Figure 23: Leadership on questionnaire 3: **Usefulness** of evaluation instruments related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

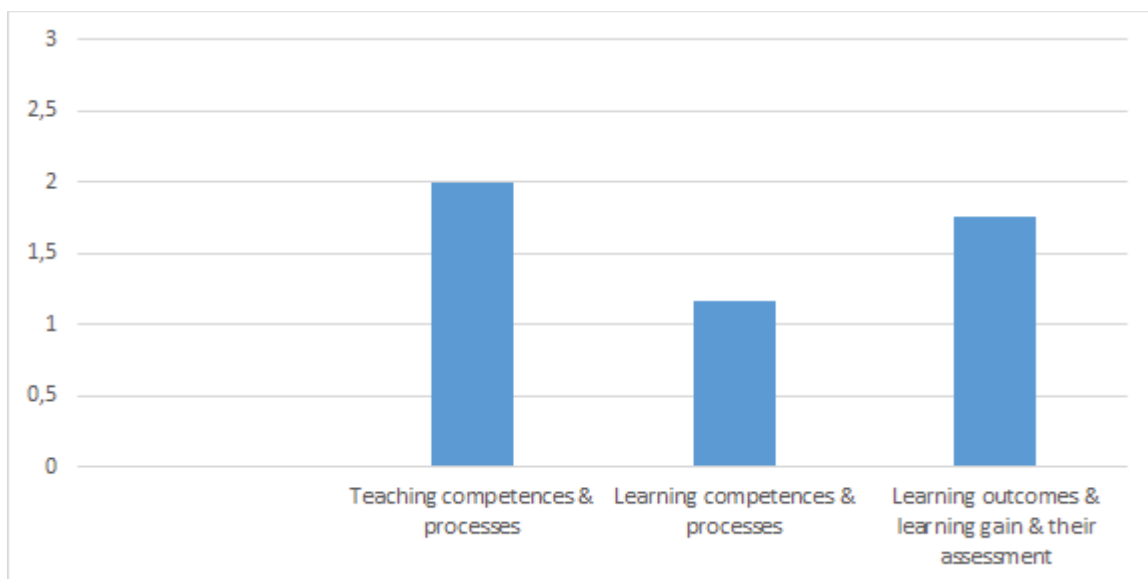


Figure 24: Leadership on questionnaire 3 - **Use** of evaluation instruments related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

### Additional assessments by active SQELT project participants

The active SQELT project participants were also asked for their assessments on the same list of quality evaluation instruments (QEIs) which were presented to the university's respondents, see Table 3.

As with the other questionnaires, the SQELT project staff regards many of the indicators as useful, though the availability is low. With an outstanding result under the headline "Learning Competences and Processes" that lists mainly tools of learning analytics. These systems are hardly in place at DUK, though might be helpful.

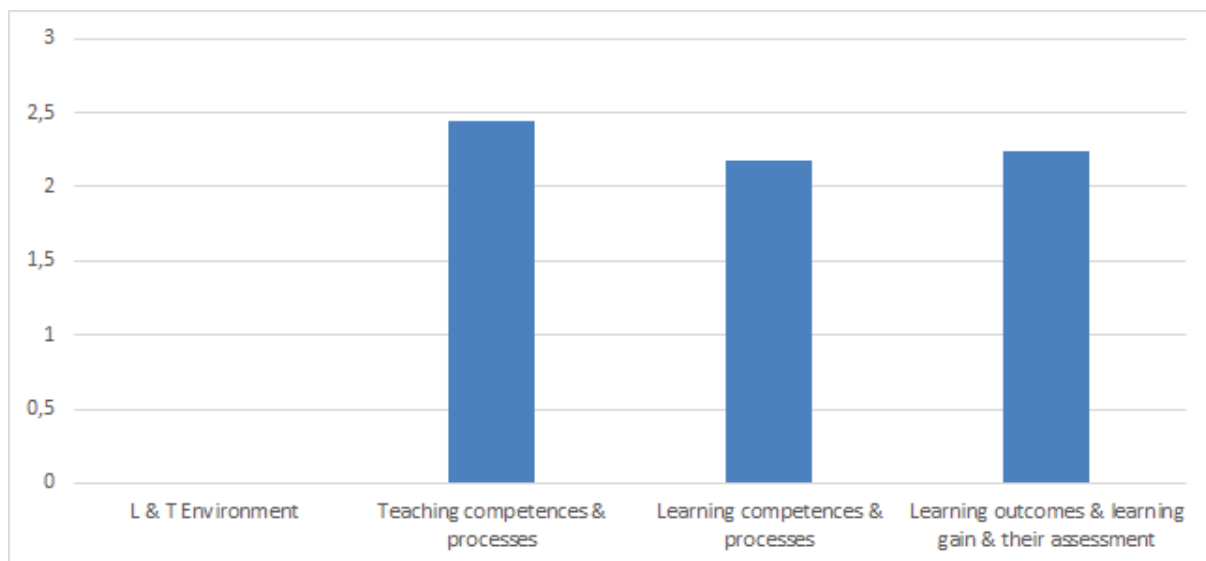


Figure 25: SQELT project staff on questionnaire 3: **Usefulness** of evaluation instruments related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: useless, 2: useful, 3: indispensable; on the y-axis the arithmetic mean is plotted]

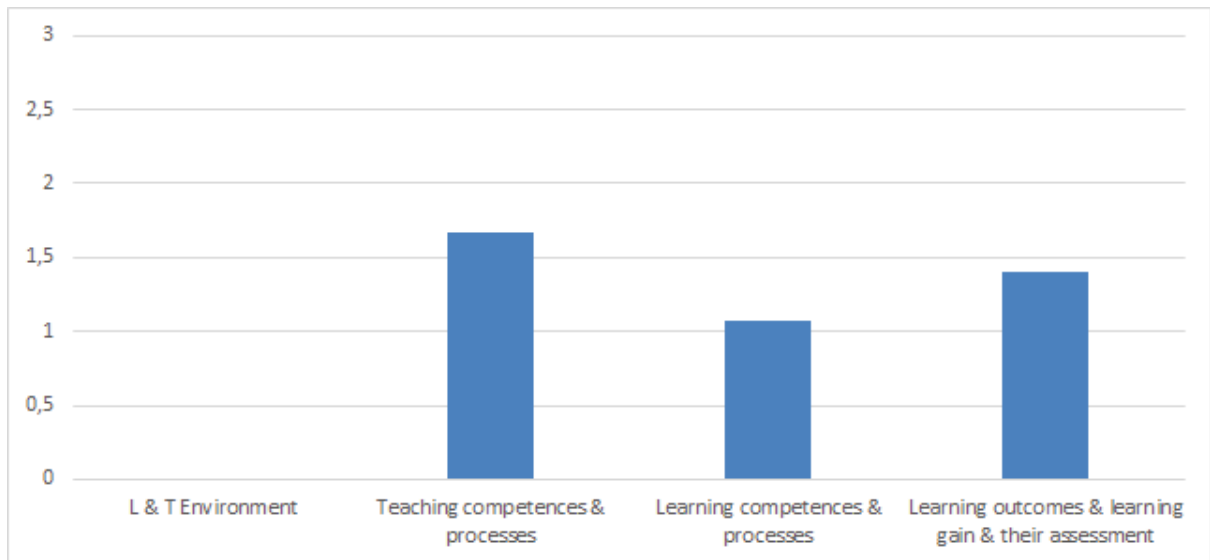


Figure 26: SQELT project staff on questionnaire 3 - **Use** of evaluation instruments related to university quality performance in L&T [exemplary graph: pseudo-metric data: 1: not collected, 2: occasionally c., 3: regularly c.; on the y-axis the arithmetic mean is plotted]

## Stakeholders' assessment of Learning Analytics

### Structured survey about Learning Analytics

Respondents, focus group and interview participants were presented the commonly used definition that 'Learning Analytics is the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environment in which it occurs' (Siemens 2011a; HEC 2016, p. 4).

Then, respondents were asked whether Learning Analytics is put into practice in their HEI. The answer options were "Yes", "No", and "Cannot answer, because ..."

As the concept of learning analytics is not very widespread in Austria and at DUK, the group discussion showed that the quality of answers on learning analytics was rather low. Talking more about the concept, respondents got aware that DUK's standardised course evaluation system or the use of data generated through moodle can be regarded as part of learning analytics.

In the questionnaires, further questions about Learning Analytics only were addressed at those respondents who answered the question in the affirmative whether Learning Analytics is put into practice in their HEI. The approached stakeholders (students, teaching staff, QM staff, and HEI leadership) were asked to discuss in focus groups and fill in a questionnaire about certain items relating to Learning Analytics, which are depicted in Table 4. The question was "Which of the listed functions of Learning Analytics are realized in you HEI?" Respondents were also asked to give some information and detail about their answer.

Table 4: Surveyed functions of Learning Analytics

Functions of learning analytics, which are realized in universities or not
Supporting concrete pedagogical decisions as actionable results
Supporting the study of learning-related emotions such as enjoyment, curiosity, frustration, or anxiety, & their interactions
Supporting the quality improvement of courses
Supporting the improvement of course design
Supporting the verification of student workload
Supporting the monitoring of students learning progress (stages)
Supporting the prediction of student learning effectiveness/success
Supporting the identification of students failures of study
Supporting the identification of deficits in learning support for students
Supporting the identification of deficits in environment support for students
Supporting the targeted counselling of individual students
Supporting the improvement of admission & recruitment practices
Other, namely.....



In addition, respondents were asked the open questions listed in Table 5.

Table 5: Further open questions addressed at stakeholders

Functions of Learning Analytics in HEIs
In which ways could/can you participate in the development of Learning Analytics?
Which ethical framework or policy for Learning Analytics is available at your HEI (e.g. referring to data privacy, data reliability, control of data access)?
How are appropriate data access controls ensured for different stakeholders?

Finally, the respondents were asked, which strengths, weaknesses, threats and opportunities (SWOTs) they see for Learning Analytics, and how they would strategically deal with them. Particularly, they were confronted with the questions listed in Table 6.

Table 6: Preliminary SWOT analysis questionnaire for Learning Analytics

What are, in your view, strengths of Learning Analytics?
What are, in your view, weaknesses of Learning Analytics?
What are, in your view, opportunities & threats of Learning Analytics?
What are, in your view, threats of Learning Analytics?
What ideas do you have using the strengths to overcome the weaknesses?
What ideas do you have using the strengths to exploit the opportunities?
What ideas do you have using the strengths to avoid the threats?

## Students' assessment

## Teachers' assessment

As the group discussions have highlighted, the applied or used learning resources sometimes exist and operate outside the official quality assurance realm. For example, formats on facebook or google are being utilized, also moodle. Social media in general are playing an increasingly important role here, but of course also the "informal communication", talking about or referring to quality, is of further relevance. Further examples are internationalization activities of faculty and students.

In the group discussions, examples were mentioned, how the quality of teaching could be further improved. In practical terms, this could mean, as possible measures or steps: (1) to identify concretely good teaching; (2) to experiment with teaching fairs; (3) to promote teaching awards; (4) finally, such measures should be communicated throughout the whole university, also should be tested for pedagogical opportunities. In principle, this communication should always include faculty and students, and should be motivated with a desire for further improvement.

### **Quality management staff's assessment**

The general attitude of quality managers was that all data and information can be interesting, if it is well-interpreted.

Danube University uses the following systems that could be grouped under “learning analytics”: standardised course evaluation by students through EvaSys, ample use of moodle (managed by a separate e-learning unit), and a new common process to manage master-theses (including a standardised structure to assess them). In place, though available to / used by many people is the so-called “marketing cockpit” that covers various data (e.g. student numbers per program of the last years).

At Danube University, studies are organised in specialised programs. All in all, the (roughly) 8,000 students study in 200 programs, i.e. 40 students on average per program. Each program has a Course Director. So, this person normally has a good overview over their students on a personal basis and do not need automated reports etc. to understand what is going on in their cohorts. The quality managers believe, though, that learning analytics would be interesting for higher hierarchical ranks like department heads, deans of faculties or the rectorate. More information on these levels might lead to better strategic decisions.

It would be interesting to make aggregated data available to the middle-management so course directors or department heads can compare data. Data of particular interest to quality managers are students' reasons to take a leave, graduation rate and dropout per study program.

## **Leadership's assessment**

Almost all programs at DUK use the moodle platform. The knowledge about the learning analytics side of this learning software varies substantially. The interview partners believe that some course directors use these possibilities more extensively while others only use the basic functions.

The evaluation of student workload is a big challenge, and course directors would appreciate (IT) support to see if their ECTS calculations are valid and reliable.

Course directors at Danube University are more reluctant to learning analytics:

- People and activities in Continuing Education are so heterogeneous, they believe this does not fit learning analytics; e.g. differentiation in e-learning / blended learning / in-class learning; or diverse students
- Course directors have also seen that too much service to students decreases their motivation. That raises the question: what would we do with all the data from learning analytics? Course directors want students to show self-motivation and self-responsibility, they do not want to become their “helicopter parent”.

## **Active SQELT project participants' assessment**

### **Strengths:**

DUK has a standardised course evaluation system and moodle use is widespread if not covering all programs. This could be a good starting point for joint efforts to establish a learning analytics system.

### **Weaknesses:**

Organisation of study programs is very heterogeneous, as department heads and course directors have quite some freedom. This is also necessary to meet the needs of outside partners and students, both very diverse groups.

### **Opportunities:**

Learning analytics would bring the opportunity to make strategic decisions on students and programs more evidence-based, hence better.

### **Threats:**

Learning analytics might mean that the university collects a large amount of data, more than could be processed and finally translated into follow-up measures. Secondly, data protection is an important issue: on the one hand that data is not misused, on the other hand that data protection legislation hinder the development of learning analytics.

## **Conclusions and recommendations**

### **Conclusions**

With large questionnaires that were difficult to understand and limited numbers of respondents per stakeholder group, conclusions must be drawn with the utmost care.

It is fair to say that various stakeholder groups within DUK have a rather positive attitude towards core data, performance indicators, evaluation instruments and the like. The reason might be that DUK is a rather young, practically oriented university and data management is well established even though it is mostly financial data.

It is interesting to see that quality managers are the stakeholder group that is most sceptic about the usefulness of core data. The other stakeholder groups seem to follow a “could be useful” approach. They would wish to have more data available, like a wealth of information that they can use whenever necessary.

Generally, students seem to overestimate what data the university has at its hand.

### **Recommendations**

DUK should become more open regarding its data. Lots of data is collected, even more would be easy to get. The University should process these data to enable benchmarking both, between the subunits and programs of the institution, and between DUK and other institutions. A common set of performance indicators from the quality point of view might become a strong counterpoint to the ample financial data that is already widely used for decision making at DUK.

## References

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