



SQELT PROJECT

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Intellectual Output 01:

Benchlearning Report on Project Partner HEIs' Performance Data Management Models

The Case of Danube University Krems (DUK)

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Executive Summary

Danube University Krems: The institution

Danube University Krems (DUK) is a public university dedicated to continuing education. The University offers Master's programs and short programs in a broad range of subjects. In 2017, the institution had 8,702 students from 96 countries. Since its foundation in 1994, more than 23,000 students have graduated from DUK.

DUK provides research-based continuing education, and is a specialized institution in the sector of lifelong learning. In teaching and research, the University focuses on current challenges, and develops innovating courses on an ongoing basis. DUK is specifically focused on interdisciplinary cross-linking and future-oriented topics. High quality standards, a scientific, practical approach, and the use of innovating teaching and learning methods are part of all courses. DUK undergoes an institutional audit by the Austrian accreditation agency every seven years. Since 2014, the University is allowed to establish PhD programs after external program accreditation. Master and short programs do not require external program accreditation but can be established by decision of the Senate.

DUK students are on average aged 40 years; they have several years of professional experience and mostly hold a higher education degree at enrolment.

Danube University Krems: Digital Performance Data Management

DUK publishes an Intellectual Capital Report on an annual basis. This is the main driver for the implementation of performance indicators (PIs) on an institutional basis. The information comes partly from the Ministry (generated in a constant process of data exchange), and is partly collected from the employees of the University.

According to DUK's quality handbook, each faculty has to undergo an external evaluation every five years. The Rectorate has issued guidelines that include a list of PIs, subdivided for the areas of education, research and resources.

DUK consists of three faculties which are again subdivided in department and centres. Centres typically offer study programs and do projects. The choice, structures and contents of PIs on department, centre and study program level are hardly regulated, and the unit heads have great freedom to choose.

Data collection for most PIs is supported by the so called U7 database or other processes or IT solutions. For example, all publications and projects have to be fed into the U7 database, all teaching hours by internal faculty is collected in the campus management system, and international mobility of staff is monitored through application forms.

In addition to this internally generated data, DUK regularly collects feedback from various stakeholders. Student feedback through standardised online questionnaires is mandatory, and the evaluation software produces automatic reports including statistical analyses.

Danube University Krems: Strengths, weaknesses, opportunities and threats of performance data management

Table 1: Preliminary SWOT analysis of DUK's performance data management

Strengths	Weaknesses
<p>High comparability of data because of standardisation by the Ministry</p> <p>Annual reporting allows for collecting time series</p> <p>Elaborate cost accounting to administer high third-party share and assure financial sustainability</p>	<p>Available data partly not analysed or analyses not published</p> <p>Performance indicators from the Ministry do not entirely fit DUK reality</p> <p>Data used for reporting, less for the enhancement of performance</p> <p>Broad topic of student assessment is not looked at</p>
Opportunities	Threats
<p>More data on social impact could be incorporated after integration on federal survey</p> <p>More transparency could be achieved through use of internal PIs</p> <p>Life-long learning specific PIs should be developed because of the growing importance of LLL</p> <p>Students in continuing education could become part of the Student Social Survey soon</p>	<p>Quality of data is sometimes questionable (e.g. collection through faculty members, processing by staff)</p> <p>Parallel performance data management systems instead of one data warehouse</p> <p>Difficulty to find benchmark institutions with comparable scope and size</p>

Conclusion and Recommendations

Conclusion

Regarding performance indicators (PIs) in higher education, the Austrian Ministry of Science has a dominating role. In addition to those required by law, DUK collects and publishes some PIs for marketing purposes. Beyond those, performance numbers are mostly held confidential and it is difficult to analyze to what extent the University uses the ample data it collects.

Recommendations

Taking into account the international development and the situation in Austria and within the institution, the following recommendations for DUK can be derived:

- In data collection, DUK should reduce the number of IT systems or assure better interfaces between the systems. Today, systems like the Campus Management System, the U7 database, the Human Resource (HR) Management System and moodle are used in parallel.

- Also in the future, DUK needs to trade-off between standardization of PIs and liberty within profit centres. As, apart from cost accounting, standardization is very low, the future might bring more standardized indicators. In a transition period, they might come rather voluntary than mandatory.
- Once fully implemented, the standardized grading system for master theses will allow the comparison of student output across faculties and departments. The University should use this opportunity for concrete steps of quality assurance (QA).
- DUK should continue to lobby that the Ministry includes continuing education students in the national Student Social Survey. This exercise is a great opportunity to make the quality and social impact of continuing education transparent within the higher education system and beyond, among the general public.
- Within the development of the Ministry's set of indicators, DUK could greatly benefit if universities and Ministry agreed on special PIs for continuing education. Besides DUK, several other universities offer courses in continuing education, and it would be interesting for all partners to extend transparency in this area.
- Generally, the comparability and transparency of data within Austrian higher education can be seen as a great asset. DUK and the other higher education institutions should continue to support and use these data.

Introductory remark

This report presents Danube University Krems (DUK) within the Austrian higher education landscape with a focus on key figures and PIs from the area of learning and teaching (L&T). Among other things, DUK's practice is examined against the key figures elaborated within the SQELT project so far.

Danube University Krems and its context

This chapter presents Danube University Krems (DUK) within the Austrian higher education system. DUK is a rather young public university with a special dedication: academic continuing education. The Austrian higher education system is presented with its structure of institutions and study programs, with some special characteristics (in international comparison) and current topics and reforms.

Danube University Krems (DUK)

Danube University Krems is a public university dedicated to continuing education. Its courses are specifically oriented towards the needs of working professionals. The University offers Master's programs and short programs in subjects such as medicine and health, management and social sciences, law, arts and construction. In winter semester 2017, the institution had 8,702 students from 96 countries. Since its foundation in 1994, more than 23,000 students have graduated from DUK.

Danube University Krems is one of the pioneering institutions in Europe in the field of research-based continuing education, and a specialized institution in the sector of lifelong learning. In teaching and research, the DUK focuses on social as well as organizational and technical challenges of current times, and develops innovating courses on an ongoing basis. DUK is specifically focused on interdisciplinary cross-linking and future-oriented special sectors: it offers courses that combine medicine and management, education and new media, or law and social sciences. High quality standards, a scientific, practical approach, and the use of innovating teaching and learning methods are part of all courses. Following the Austrian Federal Act on Quality Assurance in Higher Education, the DUK's QA system undergoes an institutional audit by the Austrian accreditation agency AQ.Austria every seven years. Since 2014, the University is allowed to establish PhD programs after external program accreditation. Master and short programs do not require external program accreditation but can be established by decision of the Senate.

Students of Danube University Krems are on average aged 40 years; they have several years of professional experience and mostly hold a higher education degree at enrolment.

Danube University Krems is primarily devoted to translational research. Regularly, this research is carried out in cooperation with companies and other public institutions.

Austrian higher education: Context

Austria has four different types of higher education institutions, usually referred to as sectors of higher education:

- Universities (public): The 22 public universities were established between 1365 and 1995; they educate 309,271 students or 80% of the total student population in Austria. Following the University Act 2002, they are autonomous public legal entities. Danube University Krems is a public university, though its organisation is regulated in a separate law.
- Universities of Applied Sciences: The 1993 legal act started the universities of applied sciences sector. Today, the 21 institutions educate 48,051 students. Austrian Universities of Applied Sciences are public-private partnerships: they are institutions under private law, though the states pay them to educate students.
- University Colleges for Teacher Training: In 2005, academies for teacher training were upgraded to university colleges. The 14 institutions (partly public, partly run by religious bodies) educate 15,393 students. Legally, the public institutions are sub-units of the Ministry of Education (and even when there were two separate ministries, they belonged to the Ministry of Education, not the Ministry of Science).
- Private Universities: Since 1999, it is allowed to establish private universities in Austria. With 9,287 students, this sector is still rather small. Currently, there are 13 institutions. The denomination “private” is often misleading, as institutions are run by regional governments, chambers, churches or public universities.

According to Austrian law, there are also two different types of study programs:

- Regular study programs: Bachelor, Master or Doctoral Studies, or Diploma Studies of the pre-Bologna type. Students enrolled in these programs are regular students.
- Extraordinary study programs: academic continuing education or preparatory courses. If internationally common, LLL programs can award master degrees. Students enrolled in extraordinary programs, and students who are not degree-seeking, are referred to as extraordinary students.

In addition to this sub-division of higher education sectors and study programs, major characteristics of the Austrian higher education landscape are:

According to “Education at a Glance 2017” issued by the OECD, only 32% of the population in Austria aged 25-64 years hold a tertiary degree (OECD average: 37%). The situation changes rather quickly: in the age group 25-34 years, the percentage of degree holders has risen from 31% in 2005 to 40% in 2016. A strong vocational sector in secondary education might be the reason why young people opt against higher education.

In Austrian higher education, gender equality is in focus. Gender equality and the advancement of women is one out of eleven tasks for universities stipulated in the law, and the only task not directly linked to research, teaching and self-management.

Looking at Eurostat data (latest from 2012), the student body in Austria is highly internationalised, with 59,200 people from other EU/EEC or candidate countries that study in Austria. In other words, 15.7% of students in Austria come from other European countries, while the 2012 EU-28 average was 3.6%.

Free entry to higher education and the numerus clausus in German universities

Until 2005, all students holding a higher secondary degree (“Matura”) could enrol all study programs at universities. Entry examinations or other forms of student selection were not allowed (exceptions: arts, sports). A majority of Austrian MPs wanted to keep this situation, though a constant influx of students from other European countries who had failed entry examinations at home made legal adjustments necessary.

The pressure was particularly high in subjects in which German universities have a numerus clausus.¹ Therefore, Austrian universities got permission to introduce pre-entry selection in these disciplines. Later, pre-entry selection got also allowed for master programs taught in a foreign language, and recently also for very popular degree programs.

Universities of Applied Sciences and Private Universities have always been free in managing student selection. Since 2017, pre-entry aptitude tests are obligatory for all teacher-training programs.

External quality assurance in Austria

Austria had a rather fragmented regime of external QA, and regulations for the four sectors differed substantially. In 2011, the legislator introduced the Act on Quality Assurance in Higher Education (HS-QSG) and hence founded one QA agency (AQ Austria) responsible for three sectors: Universities, Universities of Applied Sciences and Private Universities.

Universities need to audit their QA system once every seven years. Curricular decisions are taken by the university senates and do not require external accreditation.

Universities of Applied Sciences can only start new programs after accreditation by AQ Austria. Afterwards, programs automatically stay accredited through institutional accreditation (at institutions younger than twelve years) or through audits of the QA system (at institutions older than 12 years).

Private Universities need institutional and program accreditation.

For audits, higher education institutions can choose AQ Austria or another agency listed by EQAR. All accreditations are realised by AQ Austria.

For teacher-training programs at University Colleges of Teacher Training and at Universities, a separate Quality Assurance Council was introduced in 2013. Public University Colleges for Teacher Training have a legal obligation for institutional evaluation through external experts.

Finance of higher education

In Austria, there are comprehensive plans to re-model the public financing of universities in reference to the so-called model of financing of “study places” (*Studienplatzfinanzierung*). This is being structured by the regulation of financing of universities (*Universitätsfinanzierungsverordnung – UniFinV*), which came into effect as of June 1, 2018. However, there is still feedback being provided by universities, and there is also criticism against this new approach.

¹ Subjects with numerus clausus are mainly Medicine, Law, Economics, and Social Sciences but also others (sometimes changing form year to year). In the winter semester 2018/19 41.1% of all study programs at German universities are restricted by a numerus clausus.

Currently, the plans for the designed model of financing of study places are: for the funding of universities, two “basic indicators” (*Basisindikatoren*) will be key. Furthermore, there are seven different subject groups, with different weighting factors (but particularly these weights are a source of controversy). The Basic Indicator 1 refers to the column of teaching. This is being distinguished for the active students (performing successfully for grades and tests) in the Bachelor and Master cycle, the number of graduations weighted for the subject groups, and the number of testing-active students again weighted for the subject groups. The Basic Indicator 2 is referring to the column of research (or the promotion of arts): personnel in research (or art promotion) in full-time equivalents per calendar year; income (revenues) created from R&D projects (or art promotion) per calendar year; the number of doctoral students with employment status with the university per calendar year. In addition, there should be space for a so-called Third Basic Indicator, where universities can go for particular arrangements (as part of the governance cycle of the performance agreements, *Leistungsvereinbarungen*) (see also Stransky-Can & Eisenstädter, 2018).

Tuition fees

Together with the politics of free entry into higher education, tuition fees are the “hot topic” of Austrian higher education politics. While higher education was free for all students from 1972 to 2001, legislation on tuition fees has changed several times since then. Though the amounts of tuition fees have remained stable (363.36 Euros per semester for EU citizens; 726.72 Euros for third-country students).

Private universities are free to require tuition fees (though some owned by municipalities, provinces or religious institutions still provide education for free). Academic continuing education at public institutions has to be self-financing and must not be co-financed from the budgets provided by the Federal Ministry of Science.

Coming challenges: Strict visa regime

The current Austrian government plans to increase visa barriers for third-country students. According to these plans, they would need to proof German-language skills before arrival. As the President of the Austrian Rectors’ Conference uniko stated in a press release on April 18, 2018, this would create a major obstacle to internationalisation. Particularly for students who study in English, this regulation would not make sense. Currently, some 30,000 students from non-EU countries study in Austria.

External metrics

In Austria, the Ministry of Science in cooperation with partner organizations assures that comparable data is available to the higher education system and the interested public. Most prominently, it defines the PIs to be collected by the universities in its intellectual capital reports and aggregates them in the uni:data warehouse. And it initiates the Student Social Survey that collects and aggregates data about a vast number of higher education graduates. Statistik Austria as the public statistics agency produces reports on higher education, and some universities cooperate in alumni surveys.

uni:data

Austria has established the so-called uni:data warehouse, which is a publicly accessible webspace (homepage), where key information about the Austrian higher education system is being presented. This homepage refers to the (public) universities, but also to the universities of applied sciences (*Fachhochschulen*). In principle, three categories of information are displayed: (a) general information; (b) statistics, comparative statistics; (c) key documents with regard to governance cycles of higher education. With regard to the governance cycle of the universities, these key documents are: development plans, performance agreements, intellectual capital reports, and accounting statements.

These key documents (see above) are specified individually for every (public) university and every university of applied sciences, also for every year in the recent time, since 2010. Therefore, this expresses a very high degree of transparency. With regard to the (comparative) statistics, the standard information is being represented, such as: personnel; space; students; studies; graduates; international educational indicators; Bologna monitoring; PIs based on the intellectual capital reports of the universities; gender monitoring; international mobility; PIs on medicine; selected PIs on university governance in reference to teaching and education.

Statistik Austria

Statistik Austria is a public institution that is also collecting and presenting information about the Austrian higher education sector. In its data collecting procedures, Statistik Austria follows primarily the standards of the OECD, but also those of Eurostat (between these two, there should be compatibility).

Following from the functional OECD logic, Statistik Austria is addressing the higher education system primarily from the two following (functional) perspectives:

- (1) First of all the educational statistics, which are then being distinguished between the primary, secondary and tertiary educational sectors.
- (2) For the research (R&D, research and experimental development) statistics, there is a functional distinction between the following sectors: higher education, government, private non-profit (PNP), and the business enterprise sector (the economy).

Aggregated together, tertiary education and the R&D of the higher education sector together represent then the (Austrian) higher education system.

Student Social Survey

The Student Social Survey (*Studierendensozialerhebung*) is a survey of students in Austria, which has been carried out regularly since the 1970s. The most recent Student Social Survey was conducted by the "Higher Education Research" group (at the Institute for Advanced Studies in Vienna), and focused on the spring term of 2015. No less than 47,000 students participated in this survey, coming from all sectors of the Austrian higher education system: (public) universities, private universities, universities of applied sciences, and the university colleges of teacher education.

As it is being stated on the respective website: "Since most of the information collected through the Social Survey is not otherwise available, the report is an important information

basis for higher education policy. The objective of the survey is to be able to provide an overview of the study situation and living conditions of different groups of students, e.g. first-year students, students on Bachelor, Master or Diploma programmes, Doctorate/PhD students, working students, students with children, older students, students with health impairments or foreign students”.

The results of the survey of 2015 are being published (in German) in the “Report on the Social Situation of Students”. So far, alumni of extraordinary programs, and therefore all DUK alumni, have not been included in the Student Social Survey. Current discussions give hope that they might be included in the next round.

Alumni surveys

Currently, there exist two approaches for graduate surveys (alumni surveys) in Austria.

(1) The first approach is that universities (higher education institutes) perform their own graduate surveys. The rationale behind this is that then the universities have all the flexibilities at hand, to organize their graduate surveys in a way so to best address their profiles. Graduate surveys also should inform the governance decisions of a university leadership, therefore concrete information is valuable. Frequently conducted graduate surveys also allow a tracking of graduates from different completion periods, therefore some questions should be held constant, whereas others can be adapted. This also requests specific knowledge, for example being provided by QA or quality enhancement units within the university.

As an example for this, one can refer to the regularly performed graduate surveys of the University of Applied Arts Vienna (or “Angewandte”). There the results are also being published on the website of the University. The University states its approach to graduates in the following way:

“For the quality concept of the Angewandte, the experiences and feedback of the graduates play an important role, because artistic development represents more of a long-term process, which often only in retrospect allows for profound reflection. By knowing how the careers started, the Angewandte possesses relevant empirical information taken from real life, which may be used in the course of development planning processes, in particular for the revision and redesign of curricula. As of 2012, the survey about the professional career starts of graduates is being organized in a three-year sequence (cycle), so that the results can be taken into account for the developmental planning at the Angewandte. In early 2008, a survey of those graduates was conducted who had completed their studies at the Angewandte during the period 1995-2005 and thus could look back on 3 to 13 years of professional activities. Key topics were the work situation of graduates since study completion, the evaluation of the course of studies, and the assessment of competences (acquired during studies) from a professional perspective. In the summer of 2012, the graduates of the study years 2005/06, 2006/07 and 2007/08, with a work-related experience of four to six years, were surveyed about their professional situation. Key topics were the work situation of the graduates since study completion, the evaluation of course of studies, and the assessment of competences (acquired during the studies) from the professional perspective.”

At DUK, according to the quality handbook, alumni surveys should be carried out on a regular basis. The realization of these surveys lies in the responsibility of the academic units, and the central QA unit does not collect the data. This freedom of the academic units includes the method and frequency of evaluation, though the central QA unit provides sample questionnaires and the necessary IT for online surveys. As programs at DUK are often adjusted to market needs, and cohorts are relatively small (often 10-20 students), it is difficult to come up with statistically valid data.

The marketing unit of DUK has performed alumni surveys approximately on a biennial basis. The questionnaires are tailor-made for the characteristics of DUK. Questions focus mostly on student satisfaction.

(2) The other approach refers to jointly conducted graduate surveys of different universities (higher education institutions) that are grouped together in consortia or platforms. In such a case, there is less flexibility in developing a questionnaire or to design the survey. On the other hand, however, then the results can be compared with the results for other universities. One very prominent example for this is the so-called KOAB (*Kooperationsprojekt Absolventenstudien, Study Conditions and Professional Success – The German Tracer Studies Co-Operation Project*), which is carried by INCHER (The International Centre for Higher Education Research) at the University of Kassel. Three Austrian higher education institutes are also participating in this KOAB initiative. They are facing then the opportunity that they can compare themselves with German higher education institutions.

Due to its special nature and little possibility to compare, DUK does not participate in joint surveys with other universities.

Performance indicators in Austrian higher education

At Austrian public universities, the Intellectual Capital Report is the central document to list relevant key figures and PIs. Regarding comparability of data, the Ministry of Science takes a very active role, e.g. by defining PIs. On institutional level, internal PIs of sub-units are usually derived from the Intellectual Capital Report, as is also shown by the example of DUK.

Intellectual Capital Reports (Wissensbilanz)

The Intellectual Capital Reports (of the universities) refer to the following structure:

- (1) Intellectual capital – human capital: This represents data on personnel, different gender measures (payment, representation in hearing panels).
- (2) Intellectual capital – relational capital: This expresses personnel data with experiences of being abroad.
- (3) Intellectual capital – structural capital: This captures revenues from R&D project, as well as investment into R&D infrastructure.
- (4) Core processes of L&T including continuing learning: Here a wide range of PIs is being covered, such as number and qualification of teaching staff; performance of teachers and researchers; study programs; completion ratios of studies; applicants for studies with entrance regulations; number of students; test-active students at the levels of Bachelor and Master degrees; number of outgoing regular students; number of regular incoming students.

(5) Core processes of research and the development of the arts: Doctoral students with an employment status at their university.

(6) Output of the core processes of L&T including continuing education: This addresses graduations; graduations within standardized and regular study durations; graduations with a component of a study stay abroad.

(7) Output of core processes of research and artistic development: The focus here refers to the number of scientific and artistic publications; the number of academic presentations of the personnel; the number of (pending and approved) patents; the number of spin-offs; revenues from intellectual property activities.

Sharing Data

In Austria, the Ministry of Science defines the data that have to be collected for each student. The universities collect the data. The data flow between the universities and the Federal Computing Centre (commissioned by the Ministry) is fully electronic. Data is exchanged on a daily basis. The Ministry and the statistics agency process this data.

A law on documentation in education regulates the collection of data in schools and higher education institutions. A separate decree on documentation of education at universities defines data to be collected at higher education institutions.

Performance Indicators in the DUK Context

Danube University Krems publishes an Intellectual Capital Report on an annual basis. This is the main driver for the implementation of PIs on an institutional basis. That data comes partly from the Ministry (generated in a constant process of data exchange), and is partly collected from the employees of the University. Compared to the other public universities, DUK produces a rather short report. This can be explained with the distinct denomination of DUK, the continual education profile, and legal differences (e.g. all other public universities have a collective bargaining agreement specifying staff categories, salaries, etc, but DUK is not part of that).

According to DUK's quality handbook, each faculty has to undergo an external evaluation every five years. The Rectorate has issued guidelines that include a list of PIs, subdivided for the areas of education, research and resources.

DUK consists of three faculties which are again subdivided in departments, most of which consist of centres. Centres typically offer study programs and carry out (applied research) projects. PIs on department, centre and study program levels are hardly regulated, and their respective heads have great freedom to choose.

Data collection for most PIs is supported by the U7 database or other processes or IT solutions. E.g. all publications and projects have to be fed into the U7 database, all teaching hours by internal faculty is collected in the Campus Management System, and international mobility of staff is monitored through application forms.

In addition to this internally generated data, DUK regularly collects feedback from various stakeholders. Student feedback through standardised online questionnaires is mandatory, and the evaluation software produces automatic reports including statistical analyses.

Applying Performance indicators at DUK

The following tables show in which areas DUK collects data in L&T. This does not necessarily mean that the University uses the data to derive publicly available PIs. But with the will of the University Management, PIs could be easily established from this data.

Learning and Teaching Environment

Table 2: DUK's performance types, indicators and information sources in L&T environment

Performance types	Performance indicators	Sources
Quality of incoming students	Share of incoming students holding a university degree No. of years with professional experience, no. of years with management experience Type of secondary school Migration background (nationality/country of schooling, citizenships of parents) Highest education; social class (occupation and education of parents)	Enrolment data
Learning resources	Analysis of library resources,	Library
Teaching resources	Hours taught by internal faculty Participation in continuing education by staff	Campus Management System; HR Management System
Facilities & equipment	Expenditure for software Expenditure for laboratories Accessible student terminals	Financial management, cost accounting Could easily be counted
Financial management	Break even points for each study program Financial result (incomes and expenditure) of each unit	Elaborated cost accounting system
Student composition, student administration & support services	Planned: social background of students, e.g. education of parents, migration background etc. Student gender, nationality, place of home	Ministry in cooperation with HIS research institute Enrolment data

	Student type (regular or extraordinary)	
Staff composition	Citizenships and age of permanent staff	HR management system
Social context	Participation in sports courses	Campus sports
Stakeholders' participation	Share of women in academic boards of departments or programs	Equality working group

Teaching Process

Table 3: DUK's performance types, indicators and information sources in teaching processes

Performance types	Performance indicators	Sources
Quality of staff	Wage categories for new staff	HR management system
Teaching staff workload	Hours taught by internal faculty	Campus management system
Competences in subject-matter & methodology	Teachers' theoretical background and competences	Module evaluation questionnaire (student evaluation)
	Practical relevance of classes	U7 database
	Academic staff's presentations at conferences	
	Academic staff's publications	
General education skills	n/a	
Experience of teaching staff	n/a	
Course quality	Student assessment of course quality	Module evaluation questionnaire (student evaluation)
Teaching diversity	n/a	

Learning Process

Table 4: DUK's performance types, indicators and information sources in learning processes

Performance types	Performance indicators	Sources
Student workload	ECTS calculations required in curriculum design	DUK quality handbook
Quality learning	n/a	
Learning diversity	n/a	

Learning outcomes and their assessment

Table 5: DUK's performance types, indicators and information sources in learning outcomes and their assessment

Performance types	Performance indicators	Sources
Student success rates	n/a	
Student & alumni satisfaction	Alumni satisfaction survey	Marketing office
Employability	Evaluation of practical relevance of modules	Module evaluation questionnaire (student evaluation)
Achievability of high level L&T goals	n/a	
Problem solving	n/a	
Research by students	n/a	
ICT use by students	n/a	
Applied knowledge	Evaluation of practical relevance of modules	Module evaluation questionnaire (student evaluation)
Personality (social & self-competences)	n/a	
Assessment of learning outcomes	From 2019 on: standardised grading scheme for master theses	Quality handbook, departments
Assessment of assessments	n/a	

Performance overall

It is fair to say that there is a lot of data that is collected at various places and stages during a study program at Danube University Krems. With the PIs required for the Intellectual Capital Report and within the Law on Documentation of Education, lots of data and PIs are defined by the Ministry.

It is likely that the Rectorate of the University uses the data beyond the legal requirements, to assess and compare the performance of the different sub-units, and to prepare strategic decisions. Anyhow, this is not transparent to the single employee of the University and kept confidential.

Learning analytics – Austria and DUK

Austria comes out of a tradition of free student admission. Therefore, many universities have regarded student drop-out as a necessary evil to get adequate student/faculty ratios. This might be one reason why learning analytics, which is often driven by the objective to foster student success, is still in a basic stage.

At DUK, where student numbers per program are typically around 20, the most Course Directors have a good overview over student success without IT support.

As the contact between the Course Directors and their students is lower in the time of writing the master theses, the DUK rectorate has recently introduced a uniform system to manage Master theses on Moodle. The system defines several stages from agreeing the topic to grading the defensio examination, and provides quick information which students are in which stage. Within the same reform, the DUK Rectorate has partly standardised the grading system for master theses, which will allow a comparison of theses grades.

Course evaluation by students

Course evaluation is mandatory in Austria, though the laws do not regulate the nature and frequency of evaluations. DUK invites its students to evaluate each module and, if taught

jointly, each faculty member. DUK uses a standardised questionnaire that evolved from a participative process. Evaluations are processed online via EvaSys, and the system sends out standardised reports to the evaluated person, the central Quality Management Unit and to staff members who supervise the quality, typically the respective Course Director. Students do not get access to evaluation results. If course evaluations show poor results, the Quality Management Unit alerts the Course Director and requests a short report on follow-up measures.

Management control and cost accounting

Having only a 30% share in public funding, DUK needs an elaborate financial management. Academic Departments are treated as profit centres. The Finance Unit provides calculation sheets that help finding out the break-even point. In case the minimum number of students is not reached, programs can only start for strong strategic reasons and if cross-financing is possible from other programs or projects. Annual budgeting and constant cost accounting assure that academic units perform financially sober.

On the national level, the Ministry of Science has recently initiated that universities all over Austria implement a standardised system of cost accounting. This will allow to compare financial data in the future.

Strengths, Weaknesses, opportunities and threats of performance data management

University position

DUK is in a sandwich position: On the resource side, it is very different from the other public universities in Austria (e.g. in regard of sources of funding, student tuition, staff categories). On the reporting side, DUK has to apply the same instruments as the other public universities. This makes DUK's position unique; and advantages as well as disadvantages stem from this stress. The strengths, weaknesses, opportunities and threats for DUK in regard of PIs in L&T are presented in Figure 1.

Table 1: Preliminary SWOT analysis of DUK's performance data management

Strengths	Weaknesses
High comparability of data because of standardisation by the Ministry	Available data partly not analysed or analyses not published
Annual reporting allows for collecting time series	Performance indicators from the Ministry do not entirely fit DUK reality
Elaborate cost accounting to administer high third-party share and assure financial sustainability	Data used for reporting, less for the enhancement of performance
	Broad topic of student assessment is not looked at
Opportunities	Threats

More data on social impact could be incorporated after integration on federal survey	Quality of data is sometimes questionable (e.g. collection through faculty members, processing by staff)
More transparency could be achieved through use of internal PIs	Parallel performance data management systems instead of one data warehouse
Life-long learning specific PIs should be developed because of the growing importance of LLL	Difficulty to find benchmark institutions with comparable scope and size
Students in continuing education could become part of the Student Social Survey soon	

DUK: future outlook

“Digitization” is a frequently heard buzzword in Austria, including the Austrian universities. There is certainly an awareness among higher education leaders that digitization will lead to changes in higher education. But from today’s perspective, major changes are not within reach. The discussion about learning analytics comes very much from abroad and has not become a hot topic in Austria. Still, DUK’s re-organisation of its service centre for e-learning and investments in e-learning hardware and software might prove to be good starting points into learning analytics at a later stage.

The Ministry constantly modifies its set of PIs, but the major items are stable. And for the institutional indicators, also at DUK, the Ministry PIs remain dominant. The standardisation of cost accounting at universities could be seen as a supplement to these indicators, and it could certainly lead to major changes in Austrian higher education if differences in value-for-money become evident.

Conclusions and Recommendations

Conclusions

Regarding PIs in higher education, the Austrian Ministry of Science has a dominating role in the country. The ministry sets the standards, and the Universities and other higher education institutions use the ministry PIs not only for external reporting, but also adapt the figures for internal use. The higher education institutions, including DUK, profit from this situation, as comparable key figures are available. However, the situation of DUK is unique as it has a different funding model and denomination, the standardized PIs often do not fit the reality. DUK needs to find a compromise between performing within the existing PI set and asking for adaption. DUK collects and publishes some additional numbers for marketing purposes. Beyond these PIs, performance numbers are mostly held confidential and it is difficult to analyze to what extent the University uses the ample data it collects.

Due to its large share of third-party funding, DUK has developed an elaborate cost accounting system that covers all programs, projects and organizational sub-units. Those sub-units have great liberty to choose PIs for their own purposes and to use available data for learning analytics. Again, the use of PIs on that organizational level is not transparent. A first step to standardization is a new regulation to build a common management process for master theses including a common grading system.

Recommendations

Taking into account the international development and the situation in Austria and within the institution, the following recommendations for DUK can be derived:

- In data collection, DUK should reduce the number of IT systems or assure better interfaces between the systems. Today, systems like the Campus Management System, the U7 database, the HR Management System and Moodle are used in parallel.
- Also in the future, DUK needs to trade-off between standardization of performance indicators and liberty within profit centers. As, apart from cost accounting, standardization is very low, the future might bring more standardized PIs. In a transition period, they might come rather voluntary than mandatory.
- Once fully implemented, the standardized grading system for master theses will allow the comparison of student output across faculties and departments. The University should use this opportunity for concrete steps of QA.
- DUK should continue to lobby that the Ministry includes continuing education students in the national Student Social Survey. This exercise is a great opportunity to make the quality and social impact of continuing education transparent within the higher education system and beyond, among the general public.
- Within the development of the Ministry's set of PIs, DUK could greatly benefit if universities and the Ministry developed special PIs for continuing education. Besides DUK, several other universities offer courses in continuing education, and it would be interesting for all partners to extend transparency in this area.
- Generally, the comparability and transparency of data within Austrian higher education can be seen as a great asset. DUK and the other higher education institutions should continue to support and use these data.

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