



## **SQELT PROJECT**

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



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### ***Intellectual Output 01:***

#### **Benchlearning Report on Project Partner HEIs' Performance Data**

#### **Management Models**

#### **The Case of Jagiellonian University in Kraków (JU)**

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## Executive Summary

### Introductory Remarks

The Jagiellonian University in Kraków (JU) is one of the oldest universities, consisting of 16 faculties with a variety of subject fields and disciplines and their related academic and didactic activities. Currently, three of them have the status of leading research centres in Poland. Every year about 37,000 students, 3,000 PhD students, 2,000 postgraduate students and numerous participants of specialized courses study within the university's walls in more than 80 different fields of study, which cover the areas of humanities, social studies, science, biological sciences, technological sciences and medical and health sciences (JU Rector, 2016).

The complex structure and diversified tasks realised by JU limits the possibilities to describe its global performance data management model. Performance areas that relate to the entire university are covered by integrated IT systems that provide access to detailed and structured data on learning and teaching (L&T), finance and employment. The performance indicators (PIs) created on the basis of this data are used for both management and reporting purposes. Data collected by individual JU units is more difficult to use because they may be unstructured, inconsistent and sometimes they are not accessible to external observers. Such data is utilised for management purposes and improving study programs offered by units; however, they are not applicable on a university-wide scale.

From a pragmatic point of view, the most important PIs are those declared as obligatory for Polish universities by the Ministry of Science and Higher Education. One of the external purposes of collecting data relates to the financial algorithm, deciding on the value of the subsidy amount of funds allocated to the statutory activities of the university. A wide range of PIs describing academic potential is therefore associated with the basic requirements of public universities and determines future expenses related to didactic activities, as well as entitlements to conduct studies.

### Summary – SWOT Analysis

The most important factors affecting the university's abilities to collect data and information and interpret PIs are presented below in the form of a simplified SWOT analysis.

#### Strengths

- Resources and power of influence. Being one of the largest universities in Poland, Jagiellonian University in Kraków has sufficient resources to undertake various initiatives in the field of research and education. A special role is played by human capital, through which the university gains a significant voice in the public debate through scientists in expert groups, successful alumni and students involved in social and economic activities. This makes the university recognized as a partner involved in decisions important for higher education (with a significant voice in ministerial consultations and the Conference of Rectors of Academic Schools in Poland), which facilitates the integration of PIs adopted in the organization with nationwide ones. Therefore, the JU is not only a passive source of data, but also participates in determining their relevance for the higher education system in Poland.
- Cooperation with stakeholders. JU cooperates with the external environment on many levels. This is particularly true for communication with research institutions (CITTRU, 2018) and employers (enterprises and public institutions located in Małopolska), thus supporting continuous improvement of study programs. Information is collected for specified purposes

(e.g. supplementing the content of the courses with knowledge of current work tools) and goes directly to the university units that run the study programs.

- University Study-Oriented System (USOS). USOS is a well-organized database, which collects data on the educational process, structures the essential parts of useful information. On this basis specialized applications are created which are dedicated to significant aspects of the University's functioning (e.g. the Theses Archive, international exchange module).

## Weaknesses

- Diversity of faculties. Until now, different conditions, measures and objectives make it difficult to use a common and coherent set of PIs in different faculties and institutes. A clear example is the JU Collegium Medicum, partly under the Ministry of Health, where legal restrictions sanction traditional differences between units associated with various fields of knowledge, which are also noticeable in other faculties. The organizational structures in which deans and faculty councils are entitled to take autonomous decisions in L&T are also not without significance. For example, numerous data is stored locally, in unstructured form, which makes it very difficult to use it systematically and on an operational level; not to speak of the option to draw general conclusions about the entire university, especially concerning qualitative aspects of the education process.
- Organizational traditionalism and the collegial university. Despite the many advantages of more than 650 years of JU tradition, there are also difficulties caused by it. These include the complexity of decision-making processes, in which not only the rectors and deans are important actors, but also numerous collegial bodies. In disputable matters, the time required to settle may be longer, with final decisions in the form of a compromise.
- Conflicts of interest. Different groups of internal stakeholders may have conflicting priorities for using the resources needed to collect data, as well as defining key PIs. An excellent example of this kind of divergence is the JU Collegium Medicum, whose functioning is regulated not only by the Ministry of Science and Higher Education, but also by the Ministry of Health, which causes different expectations as to the educational process and performance reporting (e.g. concerning the management of a university hospital).

## Opportunities

- Legislative changes. The higher education system in Poland is undergoing changes based on the Constitution for Science, a newly established law, initiated by the Ministry of Science and Higher Education. The expected benefits include increasing university freedom in the distribution of funds and strengthening the rector's position, which should improve the decision-making process. The actual effects of these regulations, both positive and negative, will be fully visible only after time.
- Information needs of decision makers. The university authorities see the need to obtain improved information for management purposes and to ensure that the utilised PIs are verified and updated. This creates an atmosphere conducive to the work aimed at optimizing the processing and presentation of the collected data, which is manifested, e.g. by the activity of the de-bureaucracy team<sup>1</sup>, consolidation of the IT works, or finally participation in the SQELT project.
- Involvement of faculties. The various information needs of individual JU units are discussed whenever developing university-wide solutions. The inclusion of these local viewpoints

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<sup>1</sup> The website of the de-bureaucracy team is available at: <http://www.mniejbiurokracji.uj.edu.pl/>

allows to verify action plans before they are implemented, thereby reducing the risk of using ineffective performance indicators and protecting against relying on inaccurate data in the decision-making process. Direct involvement of faculties is therefore a counterweight to their diversity.

## Threats

- Legislative changes. The higher education system in Poland is undergoing changes (Constitution for Science) initiated by the Ministry of Science and Higher Education. The expected difficulties are related to the limitation of the autonomy of faculties, which may lead to ignoring their specificity with respect to PIs. The actual effects of these regulations, both positive and negative, will be fully visible only after time.
- Race for results. It is a dangerous temptation to use a biased selection of PIs emphasizing strengths and hiding weaknesses in university management (a similar problem in university rankings was one of the reasons to establish U-Multirank). The risk of creating misleading indicators, whether intentional or unintentional, also exists within the university itself.
- Size of the university. The complex and diverse structure of the university makes it difficult to assess the activities also due to the communication distance. The collection of data on specific aspects of the functioning of units and the training programs implemented in them is difficult and usually requires, apart from informal channels, the involvement of central administration units. The communication barriers between the different actors are not conducive to the development of optimal PIs. At the same time, in the context of ongoing changes in Polish higher education, it seems particularly important to propose PIs that will bridge the gap between various expectations of the faculties and the university authorities.

## Report

The report is a brief summary of determinants and possibilities of the JU to collect data on L&T and to use them in reliable PIs. It includes both the university's own management needs and the requirements of various public institutions, described in the first part of the report. The second part presents the most important PIs grouped thematically.

## Performance Data Management Model at Jagiellonian University in Kraków – an Overview

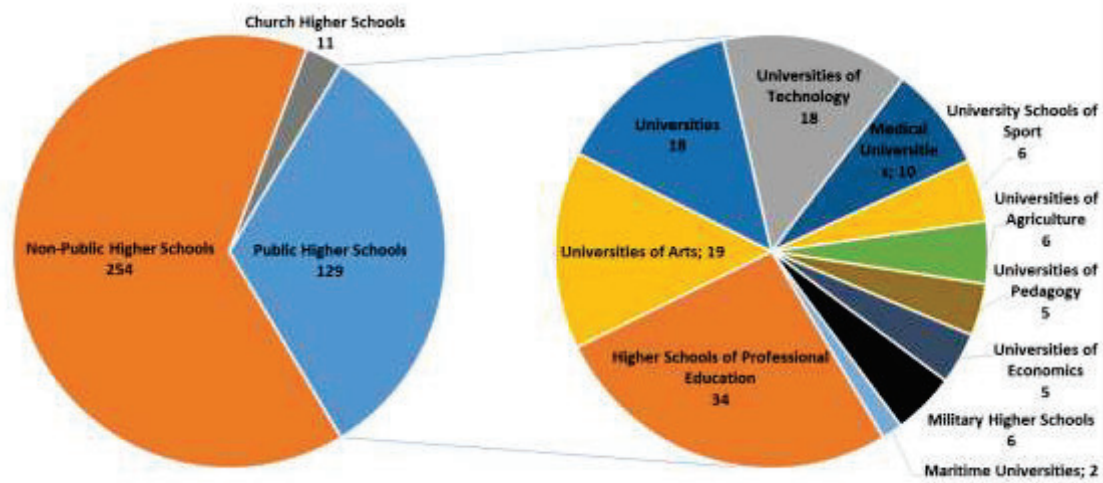
### JU in the Polish Higher Education Context

Most higher education institutions in Poland are regulated by the Ministry of Science and Higher Education. The exceptions are universities with specific educational profiles, e.g. medical universities under the Ministry of Health or military high schools under the Ministry of National Defence. Furthermore, there are various regulations for public and non-public higher education institutions (HEIs). JU belongs to the group of 18 universities, which have higher autonomy than other HEIs in the scope of creating study programs or conducting scientific research (LHE, 2005). It is also the second largest university in Poland, with an annual share of 3% of all Polish students and 2.5% of Polish graduates (GUS, 2017). Such a high share in the education market together with significant achievements in the field of science makes JU one of the leaders of the Polish education market.

An important issue that must be mentioned is the reform of education in Poland carried out in 2005. One of its assumptions was the resignation from university entrance examinations in favour of the

results of the matriculation examination. This system is still used to recruit for first and full cycle programs, which significantly limits the ability of universities to decide on recruitment criteria.

Figure 1. Higher Education Institutions in Poland (POL-on, 2018)



### Division of public finance

One of the most important aspects of the management of public higher schools is the source of financing, regulated by Polish law (MNiSW, 2017). The annual amount of the budget subsidy for public universities is based on the algorithm shown in Figure 2. The percentage share of the university in the budget subsidy is calculated on the basis of several components. The continuity of the university's operation is ensured by a fixed transfer from last year (C) by the amount of 50%. The next four groups of components are calculated based on a number of indicators and include: a student-doctoral component (S), a cadre component (K), a research component (B) and an internationalization component (U), these components having different weights.

The student and doctoral student component is calculated on the basis of the number of students, PhD students and participants of preparatory courses, including the costs of study programs, and may be reduced in the case of an unfavourable ratio of students to teaching staff (reference value  $12 \pm 1$ ). The cadre component includes the number of academic teachers employed at the university, weighted by held academic titles and the academic potential of scientific units (assessed by Committee for Evaluation of Scientific Units). The research component is based on the number and type of research projects being carried out, while the internationalization component refers to the number of outgoing and incoming students and PhD students.

Due to the purpose of their collection, data and indicators used to calculate budget subsidies may be considered as mandatory for public HEIs.

Figure 2. Main part of the algorithm for calculating the budget subsidy for public universities

$$\frac{Du_i}{Dc} = \frac{D_p u_i}{D_p c} C + (1 - C) \times (W_s \times S_i + W_k \times K_i + W_b \times B_i + W_u \times U_i)$$

Table 1. Components of the algorithm for calculating the budget subsidy for public universities

Components	%	Example indicators
[C] Fixed costs	50	n/a
[S] student-doctoral	20	Total number of students and PhD students; ratio of students to teaching staff (reference value 12±1)
[K] cadre	22.5	Proportion of teaching staff with verified qualifications weighted by scientific unit category
[B] research	5	Number of research projects
[U] internationalization	2.5	Number of outgoing and incoming students

The subsidy for the Jagiellonian University in 2017 amounted to 481 968 900 PLN, which is 4.75% of the allocated budget.<sup>2</sup>

### Comprehensive assessment of the quality of scientific or research units

Considering the significant contribution of the cadre component to the financing algorithm, it is worth mentioning the comprehensive assessment of the quality of scientific or research units realised by the Committee for Evaluation of Scientific Units. The criteria of assessment regulated by law (MNiSW, 2016) are shown in Table 2.

Table 2. Summary of the assessment criteria in 2017

Evaluation criteria	Example parameters
Scientific potential	Power to grant scientific degrees; scientific degrees awarded; scientists' activities
Scientific and creative achievements	Number of publications and monographs; number of patents
Practical effects of scientific and artistic activity	Financial resources obtained from the commercialization of scientific research
Other effects of scientific and artistic activity	Organization of international conferences

The principles of this assessment are not the subject of this report, but it should be emphasized that the results of the evaluation of academic activity indirectly affect the possibility of implementing study programs. Therefore, data and PIs related to scientific/research activities should not be neglected in the discussion on L&T.

In 2017, 47 scientific units received the highest marks, among them three faculties of the JU.<sup>3</sup>

### Statistical reporting

The Act on public statistics with executive regulations imposes an obligation on universities to conduct annual reporting (STAT, 1995). The Statistics Poland (GUS, 2018) collects data covering:

- S-10: Number of students and graduates by year of birth, gender, field and level of study, including disabilities and nationality.

<sup>2</sup> The amounts for the year 2017 were published on:

[https://www.nauka.gov.pl/g2/oryginal/2017\\_04/7c713943902c5344bfc89902ffb7ed6b.pdf](https://www.nauka.gov.pl/g2/oryginal/2017_04/7c713943902c5344bfc89902ffb7ed6b.pdf)

<sup>3</sup> The results for year 2017 were published on:

[https://www.nauka.gov.pl/g2/oryginal/2017\\_10/ca19d390d520ad9a37d6f2ba7c8499e4.pdf](https://www.nauka.gov.pl/g2/oryginal/2017_10/ca19d390d520ad9a37d6f2ba7c8499e4.pdf)



- S-11: Number of students receiving social benefits and scholarships.
- S-12: Number of PhD students (total, initiated dissertation, defended dissertation), including disabilities, nationality and scholarships.

This set of core data must be collected by JU every year.

#### The Integrated System of Information on Science and Higher Education (POL-on)

POL-on is a data repository on Polish science and higher education operating under the supervision of the Ministry of Science and Higher Education. It covers a wide range of data about scientific institutions and universities, i.e. research and IT infrastructure, laboratories and apparatus, finances, prizes and awards, teachers and researchers, patents and implementations, research projects, study programs (POL-on, 2018).

The data collection models at Polish universities should be compatible with the POL-on repository. In the technical aspect, this applies in particular to adaptation of reporting systems to the structure of the POL-on database. For pragmatic reasons this leads to the adjustment of internal indicators to external expectations.

#### Monitoring system of professional careers of graduates (ELA)

Due to the need to obtain reliable data on the situation of university graduates in the labour market, in 2016, the central monitoring of the career of graduates called ELA was launched. It complements information obtained directly by universities, using data collected by the Social Insurance Institution system and the POL-on system (ELA, 2017).

The collected data is presented in the form of public reports for courses or for institutions, grouped in the following thematic areas:

- Work and unemployment (includes: time needed to find a job, work experience, percentage of months spent at work and number of employers);
- Salaries (average wages from employment and other sources);
- Work and further study (comparison of the economic situation of the graduates during the time when they studied after graduation, as well as during the time when they did not study);
- Work and place of residence (comparison of the economic situation of the graduates depending on their place of residence).

Data obtained from ELA, together with the results of our own surveys, are a source of valuable information taken into account when planning study programs at the JU.

#### Polish Accreditation Committee (PKA)

The Polish Accreditation Commission is an institution operating under the Act on Higher Education, dedicated to quality assurance and improvement. PKA conducting obligatory programme evaluations and giving opinions on applications for the authorisation to provide degree programmes submitted by higher education institutions (PKA, 2018).

Criteria for obligatory programme evaluations include:

- Concept of education and its conformity with mission and strategy;
- Study program and possibility for achieving learning outcomes;
- Effectiveness of internal education quality assurance system;
- Competences of staff;

- Cooperation with stakeholders;
- Internationalisation;
- Infrastructure used in the education process;
- Care and support provided to students.

Collecting data required by PKA and using PIs to monitor the quality of education is required to manage study programs at JU.

### Constitution for Science

In 2016, the Minister of Science and Higher Education initiated a series of public consultations which resulted in changes of the content of the Law on Higher Education, called “Act 2.0” (MNiSW, 2018). Some of them will come into force at the beginning of the academic year 2018/19; however, it may take longer before the new regulations are fully implemented. The most important changes are listed below:

- Division of universities. Reinforcing the role of scientific evaluation research, which will be subject to disciplines within the university, instead of science units.
- University system. The obligation to establish the university board, which will take over some of the rector’s and senate’s powers. Increasing the role of the university statute in defining its internal organizational structure (which can reduce the autonomy of the faculties).
- Offering study programs. Strengthening the connection between the results of the scientific assessment and permits for running study programs and awarding academic degrees. Valuing the ability of the best disciplines to confirm the learning outcomes and shorten the duration of studies.
- PhD students. Establishing of two paths to obtain a doctoral title: doctoral college and extramural doctorate, with new rules for granting doctoral scholarships.
- Employment. Increasing the importance of the didactic career path as well as changes in the regulations regarding the employment of academic staff.
- Financing. New solutions for budgeting funds at the university. The possibility of obtaining additional funds by the best universities under the “Initiative of Excellence: Research University” program.

The proposed changes have caused many discussions in the academic community. The Polish parliament passed the Law on Higher Education and Science on July 10, 2018 (LHES, 2018). New regulations require implementation by universities, and their effects may possibly be evaluated in a few years.

### JU specific solutions

Due to the above-mentioned administrative and financial framework conditions of universities in Poland, the JU has adapted the external requirements for core data and PIs. The advantage of this solution is to reduce the resources needed to parallel development of similar data sets and increase their comparability with other universities. Additional sets of PIs are based on the assumptions of the development strategy and the internal system of quality assurance and evaluation.

### JU Strategic Goals

The Development Strategy of the JU 2014-2020 covers four main strategic goals:

1. Integration of didactics and research, including improvement of the organizational and management structure, investments in research and IT infrastructure;

2. Highest quality of teaching, including the attractiveness of the didactic offer, improvement of the recruitment system, support for lifelong learning services, development of teaching staff and building a culture of quality;
3. Highest quality of research, including providing conditions for conducting research, maintaining areas important to cultural heritage, interdisciplinary and high implementation potential research;
4. Effective impact on environment, including promoting of innovations, building the culture-forming and opinion-forming role of the scientific community and the identity of the JU.

The level of achieving these goals as well as achieving additional goals defined by faculties<sup>4</sup> is verified partially by PIs, partially through a description of the current state of affairs.

### Internal quality evaluation

Internal quality evaluation of the teaching process is undertaken at both university and unit level. University-wide evaluations are mainly based on student surveys. Faculties carry out various activities, including surveys and interviews as well as discussions, audits or analysis of the study program documentation.

Surveys carried out periodically include:

- Evaluation of courses, carried out at the end of each semester, consisting of questions about the course of classes and the way they are led by the teacher.
- Barometer of students' satisfaction, realized once a year, containing questions concerning general university issues (e.g. safety conditions, administrative procedures, social conditions), and issues specific to a particular university unit (e.g. teaching offer, weekly timetables, didactic equipment, internships, etc.).
- Monitoring the alumni's career, carried out three times after graduation, containing questions about the current professional situation, the choices that led to it, as well as the assessment of knowledge and skills acquired during the studies.
- Evaluation of administrative staff performance, collects students' opinions on the performance of the administrative staff members.
- Surveys for prospective students, indicates where candidates are looking for information about studying at the university.

### Tools for collecting data about teaching and learning process

Data on various areas of the university's activity is collected at the JU in several information systems. These systems are designed to support processes' management, but are also used for ongoing reporting, providing data to PIs. The main tool used to manage the teaching process is the University Study-Oriented System called USOS (MUCI, 2010). In the context of management, it is also worth mentioning the Central Admission System called ERK<sup>5</sup>, which collects data on candidates for studies and the SAP System, which processes human resource (HR) data and financial data.

The USOS supports main aspects of university education, such as preparation of teaching offer, management of study programs and courses, degree certificates, financial aid for students, international exchanges and many more. USOS is a set of applications developed for several years by

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<sup>4</sup> Examples of development strategies for JU faculties: <http://www.wbbib.uj.edu.pl/wydzial/strategia-rozwoju>, <http://www.filg.uj.edu.pl/wydzial/strategia-rozwoju>, <https://wl.cm.uj.edu.pl/wydzial/misja-i-strategia-wl/misja-i-strategia-rozwoju/>.

<sup>5</sup> Online Application System website: <https://www.erk.uj.edu.pl/>

Polish universities cooperating within the MUCI consortium (which currently consists of around 50 universities). As a system built by universities for universities, USOS promotes the exchange of experiences and optimal solutions, and thus indirectly creates a university lobby that may suggest improvements to existing law regulations. Access to the system takes place on two levels: an administrative application and a web environment for students and teachers. Both of these levels use several modules, including not only a core database but also a Rooms Reservation System, Archive of Diploma Theses, and Open System for Antiplagiarism.

The ERK is a system supporting the planning and implementation of the recruitment process. It collects data on the current didactic offer of the university and applications of candidates. Data of students who were admitted are transferred to the USOS.

In the field of resource management, the JU uses commercial SAP software. All accounting data is processed using this system as well as complete employment data. SAP is connected with USOS and ERK, enabling the execution of financial transactions. Data regarding employees is partially obtained from the USOS (didactic workload) and the JU Repository (scientific publications). Built-in reporting tools provide necessary management information for the university authorities.

## Main Data Sources

University authorities obtain data mainly from sources as depicted in Table 3.

Table 3. Sources and description of data used by JU authorities

Source	Description	Type	Structured (Y/N)
POL-on, GUS	Nationwide datasets allowing comparisons between universities.	External	Y
ELA	Monitoring system of professional careers of graduates based on data from the Social Insurance Institution system and the POL-on.	External	Y
USOS	Management information system handling main aspects of teaching process.	Internal	Y
ERK	Central Recruitment System collecting data on the current didactic offer and candidates' applications.	Internal	Y
SAP	Management information system used for finances and human resources (HR).	Internal	Y
JU Repository	Web based register of publications and activities of JU academics and PhD students.	Internal	Y
Evaluation surveys	Data from questionnaires filled mainly by students.	Internal	Y/N
University or faculty registries	Sets of explicit or implicit documents, processed outside of IT systems.	Internal	N

## Performance Indicators in Learning and Teaching at Jagiellonian University in Kraków

The below presentation of PIs in L&T at Jagiellonian University Kraków is subdivided into the four sections of Learning and Teaching Environment, Teaching Competences and Processes, Learning Competences and Processes and Learning Outcomes and their Assessment.

## Learning and Teaching Environment

In the area of L&T Environment JUK has PIs in the following seven performance areas:

- **Financial management:** This is a set of PIs for accounting purposes related to L&T, including a number of economic indicators.
- **Integration of didactics and research:** The inclusion of current research into the study program and the involvement of students is important at a university treated as a forge of scientific cadres.
- **Internationalization:** This set of PIs shows the scope of international cooperation between universities.
- **Quality of incoming students:** Recruitment for higher education studies in Poland is based on the results of (secondary) school leaving exams, i.e. they are treated as the candidates' quality indicator which is important for determining the scope of realised teaching programs.
- **Social context:** This set comprises PIs that are not directly related to formal teaching, but may affect the learning process and indirectly shape interpersonal and cultural skills.
- **Study facilities:** This is a set of PIs showing the usability of facilities for students.
- **Teaching resources:** This set contains basic PIs describing the teaching resources, including human and material resources as well as equipment necessary to conduct classes.

The PIs and their respective information/data sources are depicted in the tables below.

### Financial management

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Expenditure on IT	SAP, university and faculty registers	Annual amount of expenditure on IT solutions (related to annual JU budget)	N
Expenditure on research-didactic infrastructure	SAP, university and faculty registers	Annual amount of expenditure on laboratories, archives, databases and research, measuring or laboratory equipment (related to annual JU budget)	Y
Funds allocated to provision of student services	SAP, USOS	Annual amount of funds allocated to provision of student services (related to annual JU budget)	Y
Individual education costs	SAP, university and faculty registers	The cost of running a study program per student	Y
Investments and costs of repairs	SAP, university and faculty registers	Annual amount of investments and costs of repairs of research-didactic infrastructure (related to annual JU budget)	N
Number of students receiving social benefits and scholarships	USOS	Number of students receiving social benefits and scholarships (annual reports in relation to total number of students)	Y
Costs of research activity	SAP, university and faculty registers	Annual cost account of research activity (related to annual JU budget)	Y

Costs of teaching activity	SAP, university and faculty registers	Annual cost account of teaching activity (related to annual JU budget)	Y
Returns on investment in research-didactic infrastructure	SAP, university and faculty registers	Sum of income from the rental of infrastructure in a given calendar year divided by the initial value of research equipment purchased in a given calendar year	Y
Revenues from research activity	SAP, university and faculty registers	Annual revenues from research activity (related to annual JUK budget)	Y
Revenues from teaching activity	SAP, university and faculty registers	Annual revenues from teaching activity (related to annual JUK budget)	Y

### Integration of didactics and research

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Percentage of inter-faculty study programs	USOS	Number of interfaculty fields of study divided by the total number of fields of study at JU	N
Using research results in study programs	Faculty registers	Using the results of research conducted at the unit in designing and developing study programs and in the process of its implementation (part of self-assessment reports for the Polish Accreditation Committee)	N
Scientific cooperation in study programs	Faculty registers	Aspects of domestic and international scientific cooperation of the unit that affect the study programs (part of self-assessment reports for the Polish Accreditation Committee)	N

### Internationalization

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Number of students and PhD students from abroad	USOS	Counted per year (annual reporting)	Y
Number of visiting professors from foreign universities	USOS, SAP	Number of visiting professors coming from foreign academic centres who conducted at least 60 hours of classes; counted per academic year	Y
Percentage of courses given in English	USOS	Number of courses given in English within the study programs per academic year divided by number of all courses in the teaching offer, excluding language courses and philological studies	N

Percentage of fields of study and specializations with English-language path	USOS	Number of fields of study and specializations with at least 5 students and English-language path divided by the number of all fields of study and specializations with at least five students, excluding Faculty of Philology and interfaculty studies	N
Percentage of students participating in international exchanges (outgoing and incoming)	USOS	The number of students outgoing to or incoming from foreign academic centres for at least one semester in the given academic year divided by the total number of students	Y
Percentage of PhD students participating in international exchanges (outgoing and incoming)	USOS	The number of PhD students outgoing to or incoming from foreign academic centres for at least three months in the given academic year divided by the total number of PhD students	Y

#### Quality of incoming students

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Average results of school leaving exams	External (regional examination commissions), Admission Office	Average results of the compulsory written part of school leaving exams taken at the basic level (Polish, mathematics and foreign language) of persons admitted to first or long cycle studies, presented on a percentage scale from 0 to 100	N

#### Social context

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Quality of administrative services	Students satisfaction survey	Average value of answers to questions about the strengths and weaknesses of administrative services, e.g. time or accuracy (for internal use, at faculty level)	N
Participation of students in student organizations	Student satisfaction survey	Percentage of students declaring activity in student organizations (scientific clubs, self-governance, associations)	N
Student safety	Student satisfaction survey	Average value of answers to questions about the safety of students at JU (for internal use, at faculty level)	N

#### Student facilities

Performance indicators	Sources	Description	Required by politics/law (Y/N)
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Quality of library procedures	Student satisfaction survey	Average value of answers to questions about the strengths and weaknesses of library procedures (for internal use, at the faculty level)	N
Quality of student residence halls	Student satisfaction survey	Average value of answers to questions about the strengths and weaknesses of student residence halls (for internal use, at faculty level)	N
Number of student residence halls and canteens	University registers	Number of student residence halls and canteens in a given reporting year	N
Student space and equipment	Student satisfaction survey	Average value of answers to questions about the strengths and weaknesses of space and equipment available to students (for internal use, at faculty level)	N
Usability of the IT systems	Student satisfaction survey	The average value of answers to questions about the strengths and weaknesses of IT systems available to students (for internal use, at faculty level)	N

### Teaching resources

<b>Performance indicators</b>	<b>Sources</b>	<b>Description</b>	<b>Required by politics/law (Y/N)</b>
Number of academic teachers holding a master's degree or equivalent	USOS, SAP	Counted on the basis of HR data (Employment and Wages) in response to ministerial requirements	Y
Number of academic teachers holding a PhD degree or equivalent	USOS, SAP	Counted on the basis of HR data (Employment and Wages) in response to ministerial requirements	Y
Number of academic teachers holding an academic degree <i>doktor habilitowany</i> or equivalent	USOS, SAP	Counted on the basis of HR data (employment and wages) in response to ministerial requirements	Y
Number of academic teachers holding an academic title of professor	USOS, SAP	Counted on the basis of HR data (employment and wages) in response to ministerial requirements	Y
Number of awarded academic degrees and titles	University and faculty registers	Counted per year	Y
Occupancy of didactic rooms	USOS, faculty registers	Weekly occupancy of didactic rooms	N
Student-staff ratio	USOS, SAP	Value of student-staff ratio (total numbers), as a pro-quality indicator of the availability of didactic university staff (most optimal value according to the ministry: 11-13±1)	Y



Didactic equipment	SAP, fixed assets register	Available didactic equipment counted for specific purposes (e.g. resources necessary to launch new course modules)	N
Total number of students and PhD students	USOS, SAP	Counted per year (annual reporting)	Y

## Teaching Competences and Processes

In the area of Teaching Competences and Processes JU Kraków has PIs in the following four performance areas:

- Academic Staff: This is a set of PIs describing the competences of academic staff in both fields, didactics and science.
- General quality of teaching: This area is assessed on the basis of external PIs provided by HEI rankings, used to assess the strengths and weaknesses of the university offer.
- Organisation of courses: This set of PIs is composed of descriptors of the quality of courses offered in the study programs, used by units running study programs to improve the organization of courses.
- Organisation of study programs: This set of PIs consists of descriptors of the quality of the study programs, used by units running study programs to improve the teaching offer.
- Teachers' education skills: This set of PIs describes the education competences of academic teachers in order to indicate the development needs of the JU employees in this area. The collected data are mostly quantitative and therefore difficult to compare.

## Academic Staff

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Number of citations and h-index	JU repository	Part of periodic assessment of academic teachers; counted per given period	Y
Number of publications and scripts in didactics	JU Repository	Part of periodic assessment of academic teachers; counted per given period	Y
Number of educational projects in which an employee participated	University and faculty registers	Part of periodic assessment of academic teachers; counted per given period	N
Number of international conferences in which an employee participated	JU repository	Part of periodic assessment of academic teachers; counted per given period	N
Number of patents and protective rights	University and faculty registers	Part of periodic assessment of academic teachers; counted per given period	Y
Number of research projects in which an employee participated	University and faculty registers	Part of periodic assessment of academic teachers; counted per given period	Y
Number of scientific publications and monographs	JU Repository	Part of periodic assessment of academic teachers; counted per given period	Y

Students' assessment of academic teachers	USOS	Part of periodic assessment of academic teachers; collected per given period	Y
Teaching workload (number of teaching hours)	USOS, SAP	Part of periodic assessment of academic teachers	N

#### General quality of teaching

Performance indicators	Sources	Description	Required by politics/law (Y/N)
JU rank in the ARWU ranking	External ranking	Taken into account to determine the amount of subsidies for the university	N
JU rank in the QS ranking	External ranking	Taken into account to determine the amount of subsidies for the university	N
JU rank in the Perspektywy University Ranking	External ranking	Position in the ranking of Polish universities (Perspektywy, 2018) as an indicator of competitiveness on the education market	N

#### Organisation of courses

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Compliance with the study program	Faculty registers	Documentation of the study program stored by the unit. Unstructured data being the basis for internal evaluation	N
Completeness of syllabuses	USOS, faculty registers	The number of courses with incomplete descriptions published by teachers divided by the total number of courses offered in the study program	N
Compliance with the criteria of assessment	Faculty registers	Documentation of the study program stored by the unit. Unstructured data being the basis for internal evaluation	N

#### Organisation of study programs

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Adaptation for people with disabilities	Disability Support Service, faculty registers	Documentation of adapting the study programs, didactic methods and infrastructure to the needs of people with disabilities	N
Conclusions from periodic reviews of study programs	Faculty registers	Documentation of the study program stored by the unit. Unstructured data being the basis for internal evaluation	N
Conclusions from assessment of Polish Accreditation Committee	Faculty registers	Documentation of the study program stored by the unit. Unstructured data being the basis for external evaluation	Y

## Teachers' education skills

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Ability to transfer knowledge	Students' assessment of courses, faculty registers	The average value of answers to questions about the teacher's knowledge transfer skills, complemented with qualitative data from class visits	N
Communication skills	students' assessment of courses, faculty registers	The average value of answers to questions about the teacher's communication skills, complemented with qualitative data from class visits	N
Know-how of teaching models and methods	Faculty registers	Qualitative data from class visits and teachers' self-assessment	N
Selection of course content	Faculty registers	Qualitative data from class visits and teachers' self-assessment	N

## Learning Competences and Processes

In the area of Learning Competences and Processes JU has PIs in the following three performance areas:

- General quality of learning: Collected data is based on opinions obtained from students in surveys (or in informal ways); data is used to assess the strengths and weaknesses of the learning process.
- Learning activities: This amounts to a set of basic PIs showing students' involvement in the learning process that goes beyond the requirements set out in the study program.
- Student workload: Collected data is based on opinions obtained from students in surveys (or in informal ways) and the assessment of requirements. It can be used to indicate the possibility to come through the study programs in the prescribed time duration.

### General quality of learning

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Students' assessment of overall learning experience	Students' satisfaction survey	The average value of answers to questions about the overall satisfaction from studying at JU and the field of study	N

### Learning activities

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Students' participation in practices and internships	Careers Service	Percentage of students realizing optional practices and internships during their studies and declared workloads	N

Students' participation in research projects	Faculty registers	Percentage of students realizing optional research projects during their studies and declared workloads	N
Students' participation in conferences and workshops	Faculty registers, Careers Service	Percentage of students involved in optional conferences and workshops during their studies and declared workloads	N

### Student workload

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Assessments of workload by students	Students' assessment of courses	The average value of answers to questions about the student workload during semester	N
Assessments of workload by teachers	Faculty registers	Documentation of the study program stored by the unit. Unstructured data being the basis for internal evaluation	N

### Learning Outcomes and their Assessment

- Assessment of assessments: This set contains basic PIs used to evaluate assessment procedures, mostly unstructured.
- Alumni career: This is a set of PIs from graduates surveys and the monitoring system of professional careers of graduates, covering the most important aspects of their career paths, including the usefulness of content contained in education programs for their future activities.
- Knowledge (gain): This set comprises basic PIs used to verify the knowledge acquired by students.
- Social and self-competences: This set contains basic PIs used to verify the social and self-competences acquired by students.
- Student success rates: This set comprises PIs showing the effectiveness of JU Kraków students in scientific and professional activities.

### Assessment of assessments

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Analysis of assessment protocols	Faculty registers	Documentation of the study program stored by the unit. Unstructured data being the basis for internal evaluation	N
Assessment of learning goals achievability	Faculty registers	Documentation of the study program stored by the unit. Unstructured data being the basis for internal evaluation	N

## Alumni career

Performance indicators	Sources	Description	Required by politics/law (Y/N)
General satisfaction of alumni	Monitoring the JU Alumni's career	Average value of answers to questions about the overall satisfaction from studying at JU and the field of study	N
Assessment of skills acquired during studies	Monitoring the JU Alumni's career	Average of differences between values of answers to questions about the skills important on labour market and the skills acquired during studying at JU	N
Proportion of graduates who are employed within six months after graduation	Monitoring the JU Alumni's career	Number of graduates who are employed within six months of graduation divided by number of all graduates in a given period	N
Proportion of graduates who are enrolled in further study within six months after graduation	Monitoring the JU Alumni's career	Number of graduates who are enrolled in further study within six months after graduation divided by number of all graduates in a given period	N
Proportion of graduates who are not seeking employment or further study within six months after graduation	Monitoring the JU Alumni's career	Number of graduates who are not seeking employment or further study within six months after graduation divided by the number of all graduates in a given period	N
Average time spent on job search	Monitoring the JU Alumni's career; external	Average number of months spent on searching a first job after graduation	N
Average salary	Monitoring the JU Alumni's career; external	Average salary of graduates based on Social Insurance Institution data and survey result, aggregated to the level of university or the field of study	N
Work stability	Monitoring the JU Alumni's career; external	Set of indicators describing work stability of graduates based on Social Insurance Institution data and survey results, aggregated to the level of university or the field of study	N
Expectations of employers to alumni	JU Careers Service researches among employers	Data from surveys and interviews carried out on an ad-hoc basis, ordered by units modifying study programs	N

## Knowledge acquired

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Final grades	USOS	Distributions of grades obtained by students at subsequent stages of studies	N

Bachelor/Master/Doctoral thesis	USOS, faculty registers	Reviews of theses as a form of practical application of knowledge acquired during studies	N
Documentation of learning processes	Faculty registers	Documentation of the study program stored by the unit (e.g. student exams, opinions from internships). Unstructured data being the basis for assessment of students' performance	N

### Social and self-competences

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Documentation of tasks performed by students during classes	Faculty registers	Documentation of the study program stored by the unit (e.g. group project reports). Unstructured data being the basis for assessment of students' performance	N
Observation of students performing tasks during the classes	Faculty registers	Documentation of the study program stored by the unit (e.g. comments on topic presentations). Unstructured data being the basis for assessment of students' performance	N
Observation of students during final exams	Faculty registers	Documentation of the study program stored by the unit (e.g. protocols of diploma exams). Unstructured data being the basis for assessment of students' performance	N

### Student success rates

Performance indicators	Sources	Description	Required by politics/law (Y/N)
Results of nationwide professional exams (e.g. doctors, lawyers)	external	Percentage of JU graduates among those who obtained positive results from nationwide professional exams	N
Number of doctoral degrees awarded	USOS	Counted per given year; related to number of PhD students and number of started doctoral dissertations	Y
Total number of graduates	USOS	Counted per given year; related to number of students of the last year of study	Y
Proportion of students who successfully completed first year	USOS	Number of students who successfully completed first year divided by the total number of students in the same year	N
Proportion of students who completed programs in specified time	USOS	Number of students who completed programs in specified time divided by the total number of students in the same year	N
Number of publications, international conferences	faculty registers	Counted per academic year	N

and research projects achieved by JU students and PhD students			
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## Conclusions

Public universities in Poland are subject to numerous legal regulations, which entails the obligation to collect and report specific data on the educational process. It is necessary to emphasize the close relationship between university research and the right to conduct study programs that blur the boundaries between them. For this reason, this report describes not only L&T PIs, but also scientific and research PIs influencing the L&T processes. This connection was strengthened by the new version of the Law on Higher Education, which was established after nearly two years of ministerial consultations with universities.

The JU is a large and internally complex university, which makes it necessary to process a large number of different data. It creates various organizational difficulties in collecting and analysing available data, and even in presenting university-wide recommendations for teaching units. Information systems (USOS, SAP) are an invaluable aid in management, however, apart from them there are many unstructured contents that are easily accessible only to units running study programs. This applies in particular to educational activities, which in contrast to the didactic offer, are not systematically monitored.

Participation in the SQELT project allows to exchange experiences and solutions with other universities, creating an opportunity to organize own PIs. Ongoing works provide an opportunity to discuss and critically verify the quality of collected data and PIs used by the JU. The expected effect of the Jagiellonian University's involvement in the SQELT project is to improve the functioning of the university as a whole and individual units, by presenting possible and useful PIs for the L&T process.

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