Study Visit with Coordination Meetings
Politecnico di Torino (Polytechnic University of Turin, POLITO)
20th-24th March 2018

Half-way through the PESHES project eligibility period: Developments and Results

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

Development and Implementation of System for Performance Evaluation for Serbian HEIs and System
573820-EPP-1-2016-1-RS-EPPKA2-CBHE-SP

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Erasmus+ CBHE Project PESHES
Overview

Started in December 2017, ending in 2019

WE USED AS A BASIS (Inspiration)

Prof. Hans Vossensteyn
Compare universities your way:
U-Multirank and its uses for institutional management
Information Day on HE Performance Indicators – Toward a New Model of Financing and Ranking of Study Programmes
Belgrade, Serbia, 24 November 2015

As well as "Quality-related funding, performance agreements and profiling in higher education" and many other **CHEPS documents** (www.utwente.nl/en/bms/cheps/ and www.umultirank.org)

Many other documents and attempts: EU Eurydice system, indicators of UNESCO, OECD, EUROPEAN UNIVERSITY ASSOCIATION (EUA), etc.

Ministry of Education, Science and Technological Development of the Republic of Serbia formed working groups to prepare the model of performance evaluation and new model of Financing in Heat the end of 2018.
The first documents that appear are more or less borrowings from the U-Multurank results
The Ministry wants to take advantage of the PESHES project
Chance that PESHES can strongly affect future legislative solutions in Serbia

ABOUT THE PROJECT 1/4

The project „Development and implementation of system for performance evaluation for Serbian HEIs and system – PESHES“ has a wider objective to Improve the management, operation and quality of higher education institutions and system in Serbia.

The idea of the project, as well as goals and outcomes, are connected with **two the most important documents** in Republic of Serbia:

- The first one is “Strategy for Education Development in Serbia until 2020” (http://www.mpn.gov.rs/wpcontent/uploads/2015/08/strategija_obrazovanja_do_2020.pdf)

and

- The second one “Action Plan for Implementation of the Strategy for Development of Education in Serbia by 2020” (http://www.mpn.gov.rs/wp-content/uploads/2015/08/Akcioni_plan.pdf)
  - Action HE-GF09 Establishment of the indicators in HE (ВО-ЗД09 Увођење индикатора квалитета у ВО)
  - Action HE-AS05 Ranking of the study programms (ВО-АС05 Увођење рангирања студијских програма)
  - Action FE-HE14 Development of the funding model with incorporated set of indicators for education quality evaluation (ФО-ВО14 Развијање модела финансирања и уграђибање у модел индикатора којима се мери квалитет образовног процеса)

ABOUT THE PROJECT 2/4

"Strategy for Education Development in Serbia 2020" – TWO MAIN MANTRAS:

PART THREE HIGHER EDUCATION DEVELOPMENT STRATEGY

I. COMMON FRAMEWORK FOR HIGHER EDUCATION DEVELOPMENT

1. Development Goals in Higher Education: 2012 – 2020 +

6) The new funding system shall simultaneously and explicitly support (a) the high-quality outcomes, relevance and efficiency in the utilization of resources and time of study; (b)... The elements that will be introduced on the basis of overall indicators
of competence allow the HEIs to access additional funding;

7.) Quality Assurance and Control - measuring quality

11) To develop and supplement information systems in HEIs and in the relevant government authorities, which will support the defined objectives, especially the continuous monitoring of quality indicators and competencies, a greater degree of electronic administration and the tracking of student achievement and opportunities for employment.

GOAL: TWO NEW LAWS – Law on quality measuring and Law of financing in HE

ABOUT THE PROJECT 3/4

"Strategy for Education Development in Serbia 2020"

PART FOUR PERVADING STRATEGIES OF EDUCATION DEVELOPMENT

II. EDUCATION FUNDING

3. Higher Education Funding

Model of Improvement of Higher Education Funding at State Universities

5) To develop and incorporate in the funding model the indicators of the quality of the education process and encourage excellence of the teaching staff. In doing so, special attention should be paid to making the conditions for the selection of teachers more stringent, and to the existence and implementation of a real assessment of their educational work;

OPEN ISSUE: should the model be related only to the state-run universities or it should be the same for the private ones? Could it be universal?

Possibility to have separate model for state-run universities funded by the state and a model for the private?

WE NEED COMPARATIVE EXPERIENCE AND WISDOM

PESHES PROJECT CONSORTIUM

University of Belgrade, UBG (Grant Holder)
University of Novi Sad, UNS
University of Niš, UNI
Universityof Kragujevac, UKG
State University of Novi Pazar, SUNP
Singidunum University, SUB

Ministry of Education, Science and Technological Development, Republic of Serbia, MEST
National Council for Higher Education, NCHE
Conference of academies for applied studies in Serbia, CAASS
Statistical Office of the Republic of Serbia, SORS
National Employment Service of Serbia, NES
Center for the Promotion of Science, CPN

University of Twente, UT
University of Rijeka, UoR
Politecnico di Torino, POLITO
Universitat Politècnica de València, UPV

Republic of Serbia
Minisrty of Education,
Science and Technological
Development

Republic of Serbia
National council
for higher education

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ABOUT THE PROJECT: WORK PACKAGES 1/2

PREPARATION: **Establishment of infrastructure for the development of system for performance based evaluation**
1.1 Report on analysis of the needs and priorities society and local economy
1.2 Report on students' and academics' needs and priorities
1.3 Improved Universities capacity
1.4 Report on analysis of performance based evaluation in EU
DEVELOPMENT: **Development of system for performance evaluation, profiling and multi-raking**
2.1 Report on key processes and selected fields at HEI in Serbia
2.2 Set of KPI at selected fields
2.3 Report on optimization of the set of performance indicators
2.4 Model for profiling and multi-ranking
DEVELOPMENT: **Development of ICT for support**
3.1 ICT solution for data acquisition and multidimensional ranking of study programs and institutions
3.2 Training, organization and implementation of the ICT system at national level
3.3 Presentation of the tools that will meet needs of students, labour market and society
3.4 Report on pilot testing, verification and validation of the system
DEVELOPMENT: **Institutionalisation of results and development of basis for value based management**
4.1 Report on development and adoption of results at institutional and national level
4.2 Changed accreditation standards
4.3 Developed input to the funding system
4.4 Networked system with stakeholders

ABOUT THE PROJECT: WORK PACKAGES 2/2

QUALITY PLAN: Quality planning, control and monitoring
5.1 Established working group for quality assurance
5.2 Report on external quality audit
5.3 Reports on regular quality control and monitoring
5.4 Inter-project coaching activities
DISSEMINATION & EXPLOITATION: Dissemination and exploitation of results
6.1 Organized of seminars, meetings and symposia
6.2 Realized promotional activities
6.3 DeveLoped project web-site
6.4 Awareness campaign realized
MANAGEMENT: Project management
7.1 Reports on daily management
7.2 SC meetings organized
7.3 Prepared reporting and audit control

PESHES Developments
Key Performance Indicators (KPI)
Overview

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SELECTION OF KEY PERFORMANCE INDICATORS
REASONABLE AND ADJUSTED TRANSPLANTS

It is important to provide an analysis of needs, priorities and demands of local economy, and Serbian society in order to provide set of goals that will be connected with performances.

The demands of students and academic community will be analyzed. The dialogue between different parties will be established in order to have complete picture.

Developing indicators regarding the inputs and outputs of higher education institutions in Serbia need to address (most of) the following criteria: national higher education priorities; regional engagement, economical priorities.

SELECTION OF KEY PERFORMANCE INDICATORS
1. Indicators that can be harvested from independent sources:
DOSITEJ, SORS, NES, WoS, FINVO, GOMES-INFOVO, KOBSON…
2. Indicators that assess teaching, research, third mission and financial aspects

MUST BE ACCOMPANIED BY
- Compliance to existing requirements on providing information to the MEST
- Adequate institutional information systems
- Transfer of data to existing and functional DOSITEJ, GOMES-INFOVO, FINVO or other database

INDICATORS BY U-MULTIRANK 1/2

Using this conceptual framework U-Multirank Project team has selected the following five dimensions as the major content categories of U-Multirank :

- Teaching & Learning
- Research
- Knowledge Transfer
- International Orientation
- Regional Engagement

For each indicator they add a number of comments that relate to the criteria (relevance, validity, reliability, comparability, feasibility) used for the selection of the indicator.

Indicators for all dimension presented for Institutional and Field-based Rankings, as well as Student satisfaction indicators.

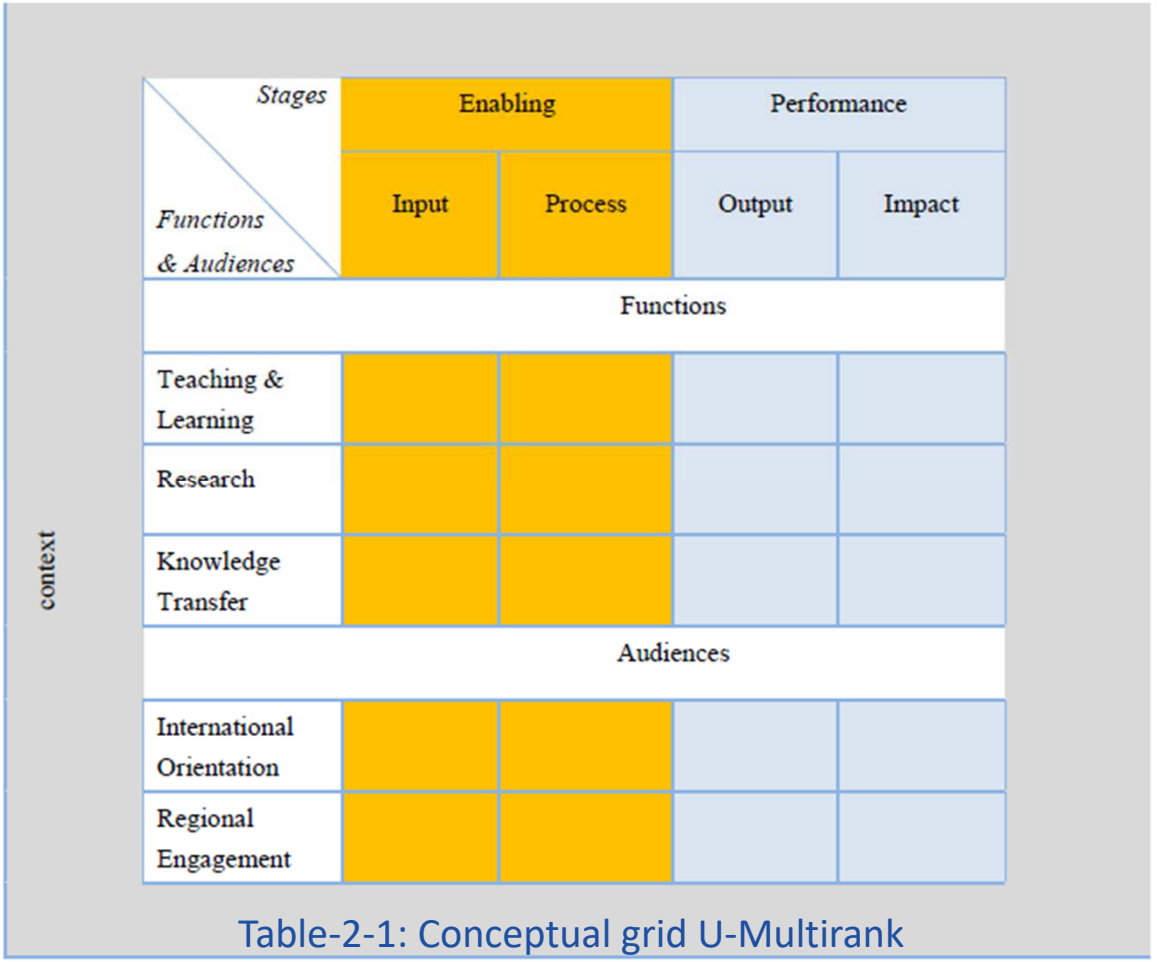

Table-2-1: Conceptual grid U-Multirank

INDICATORS BY U-MULTIRANK 2/2

Teaching & Learning		Research		Knowledge Transfer (KT)		International Orientation		Regional Engagement	
Institutional	**Field-based**	**Institutional**	**Field-based**	**Institutional**	**Field-based**	**Institutional**	**Field-based**	**Institutional**	**Field-based**
Expenditure on teaching	Student-staff ratio	Expenditure on research	Doctorate productivity	Third Party Funding	Co-patents	International academic staff	International academic staff	Joint research publications	Student internships
Graduation rate	Graduation rate	Field-normalized citation rate	Field normalized citation rate	Incentives for Knowledge Exchange	Annual income from licensing	Programs in foreign language	Incoming and outgoing students	Graduates working in the region	Graduates working in the region
Interdisciplina-rity of programs	Interdisciplina-rity of programs	Research publication output	Research publication output	University-industry joint publications	Number of license agreements	Joint research publications	Joint international publications	Income from regional/local sources	Participation in continuing education
Relative rate of graduate employment	Relative rate of graduate employment	Research income from competitive sources	External research income	Size of Technology Transfer Office	Joint research contracts with private sector	International doctorate graduation rate	International graduate employment rate	Student internships in local/regional enterprises	Degree theses in cooperation with regional enterprises
Time to degree	Qualification of academic staff	Interdisciplina-ry research activities	Highly cited research publications	Patents and Co-patents	Patents awarded	Number of joint degree programs	International research grants	Research contracts with reg. business	Summer school/ courses
	Investment in laboratories	Share of highly cited research publications		CPD courses offered	University-industry joint publications		Percentage of international students		
	Inclusion of issues relevant for employability in curricula	Number of international awards and prizes for research		Number of Spin-offs	Academic staff with work experience outside higher education		Internationali-zation of programs		

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INDICATORS BY UNESCO AND OECD

In 2001, **UNESCO** produced a major study on higher education performance indicators, in the follow-up to the World Conference on Higher Education in October 1998. Carried out by John Fielden and Karen Abercromby of the Commonwealth Higher Education Management Service (CHEMS), this study sought to provide member states with an analytical and statistical framework to help them in developing and monitoring their higher education policies.

The study sets out a fairly comprehensive list of indicators that may be taken into consideration by both state and institutional levels. It also cites the sources of primary indicators, essentially from UNESCO and the OECD, which may be used for purposes of international comparison.

OECD has published an annual compendium of indicators concerning activities in education, higher education and research in its member countries. These indicators relate to the entire education system of the various countries concerned, and set out to express four major topics in quantitative terms: graduate output and the impact of education; the financial and human resources earmarked for education; participation by the population in educational activity; and school organisation. University level activities are covered by some of the indicators but the data is aggregated to such an extent that only information of a very overall nature can be derived from it for the purpose of inter-state comparison.

OECD indicators, however, are the only ones currently available that provide for inter-state comparisons regarding university attendance and the financing of higher education.

INDICATORS BY THE EUROPEAN UNIVERSITY ASSOCIATION (EUA)

Possible types of performance indicators

1. **The quality of students and their performance**
   - ***Quality of students on admission*** (1. Marks on admission, 2. Social origin of students, 3. The proportion of students from outside the natural catchment area, 4. Admission rates, 5. Enrolment rates)
   - ***Student performance*** (6. Retention rate in the first year, 7. Measures for the integration and supervision of new students, 8. The graduation rate, 9. Average time to graduation, 10. Rate of transfer to employment after graduation)
2. **The quality of research**
   - ***Level of research activity*** (11. Proportion of teachers actively engaged in research, 12. The doctoral student/teacher ratio, 13. The research funding/teacher ratio, 14. Number or proportion of full-time researchers, 15. The average research contract grant per teacher)
   - ***Productivity of research activity*** (16. The doctorate/teacher ratio, 17. The publications/teacher ratio, 18. Citation Index, 19. The number of patents/teacher ratio, 20. Prizes and honours)
3. **Indicators of the level of resources earmarked for teaching and research** (21. The student/teacher ratio, 22.The student/auxiliary teaching staff ratio, 23. The technical and support staff/teacher ratio, 24. The operating budget/student ratio, 25. The material resources/student ratio)
4. **Indicators relating to governance and management** (26. The make-up of decision-making bodies, 27. Mechanisms for the recognition of student participation, 28. Mechanisms for allocating budgetary resources, 29. The diversity of sources of financing, 30. Institutional planning mechanisms, 31. Rate of academic staff turnover, 32. Mechanisms for the development of inter-disciplinary programmes, 33. Institutional adaptability, 34. The quality of teaching and evaluation policy, 35. The openness of universities to their surrounding environment, 36. The openness of universities to the world at large)

PESHES Results
need to be delivered until April 14th 2018

ABOUT THE PROJECT: WORK PACKAGES 1/2

PREPARATION: Establishment of infrastructure for the development of system for performance based evaluation

1.1 Report on analysis of the needs and priorities society and local economy ✓

1.2 Report on Students' and academics' needs and priorities ✓

1.3 Improved Universities capacity Public Call for the procurement of the equipment and software lunched

1.4 Report on analysis of performance based evaluation in EU ✓

All 3 report will be published till April 14th as a parts of one PESHES publication.

DEVELOPMENT: Development of system for performance evaluation, profiling and multi-raking

2.1 Report on key processes and selected fields at HEI in Serbia ✓

2.2 Set of KPI at selected fields – National Working group prepared a wider set of KPIs and now is working on optimization

2.3 Report on optimization of the set of performance indicators

2.4 Model for profiling and multi-ranking

All Reports will be published until April 14th

~~DEVELOPMENT: Development of ICT for support~~

~~3.1 ICT solution for data acquisition and multidimensional ranking of study programs and institutions~~

~~3.2 Training, organization and implementation of the ICT system at national level~~

~~3.3 Presentation of the tools that will meet needs of students, labour market and society~~

~~3.4 Report on pilot testing, verification and validation of the system~~

~~DEVELOPMENT: Institutionalisation of results and development of basis for value based management~~

~~4.1 Report on development and adoption of results at institutional and national level~~

~~4.2 Changed accreditation standards~~

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ABOUT THE PROJECT: WORK PACKAGES 2/2

QUALITY PLAN: Quality planning, control and monitoring
5.1 Established working group for quality assurance
5.2 Report on external quality audit
5.3 Reports on regular quality control and monitoring – Quality Control and Monitoring Plan
5.4 Inter-project coaching activities
DISSEMINATION & EXPLOITATION: Dissemination and exploitation of results
6.1 Organized of seminars, meetings and symposia – Dissemination and Exploitation Plan published
Presentation of the project PESHES presentation at the Workshop "Global University Rankings and their Impact", 7 November 2017, Belgrade, organized by Serbian HERE Team
6.2 Realized promotional activities
6.3 Developed project web-site – Web site will be redesigned till April 14th 2018
6.4 Awareness campaign realized
MANAGEMENT: Project management
7.1 Reports on daily management – Institutional and Financial Sustainability Plan published
Project Management and Risk Plan published
7.2 SC meetings organized
7.3 Prepared reporting and audit control

PROJECT OUTPUTS

1. Defined **the Set of Key Performance Indicators (KPI)** for study programs and institutions – PUBLIC
   - At the moment we have draft version of the set with 42 indicators. List of indicators will be cuted to 15-20 keyperformance indicators
2. Developed Mathematical **Model for profiling and multi-ranking** - PUBLIC
3. Developed **ICT solution for data acquisition and multidimensional ranking of study programs and institutions** - PUBLIC
4. Pilot testing of selected study programs and institutions (6 study programs and 6 institutions) - INTERNAL
5. Provide **feedback analysis for improvement of the system** (1 for study programs and 1 for Faculty per each University in Serbia) - INTERNAL
6. Changed **Accreditation Standards** - PUBLIC
7. Input for development of **directive (bylaw) for financing of HEIs** - PUBLIC

Specific features of HE in Serbia and its consequences to selection of indicators

- We do not have Qualification framework for HE (employability as an indicator vulnerable, also due to short term employment)
- Some usual indicators are problematic (graduation rate, time to degree, student's average marks) due to a number of, mostly profit oriented private universities, with very law demands and criteria
- Many indicators are suitable to be artificially manufactured (false data) – e.g. relation between number of teaching staff and students (temporarily engagement of professors due the process of accreditation process)
- Sources (existing once not so rich, problems in ad hoc created data basis)
- General indicators and optional indicators selected by HE institutions themselves (Croatian model)
- Total number of indicators not to big, but precise and accurate (cca 15)
- Not easy to find comparative safe indicators

Are Rankings the Appropriate Instrument for Achieving Excellence?

Depends on ranking strategy

(reasonable transplants)

WE WANT TO LEARN FROM YOU

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THANK YOU