

GOCE DELCEV UNIVERSITY IN STIP, REPUBLIC OF NORTH MACEDONIA

FACULTY OF COMPUTER SCIENCES

QUALITY ASSURANCE IN HIGHER EDUCATION TOWARDS STANDARDIZATION OF NQF

PROJECT EFFECTIVE PARTNERSHIP FOR ENHANCED RECOGNITION - EPER

ONLINE PEER LEARNING ACTIVITY “QUALIFICATIONS FRAMEWORK IN THE
RECOGNITION OF FOREIGN EDUCATIONAL QUALIFICATIONS”

Riste Timovski

Head of E-Index department

Goce Delcev University in Stip, Republic of North Macedonia

Introduction

Higher education is the main determination factor regarding the individual status in the society in terms of social, economical, professional and industrial achievement and position.

There are a lot of public and private higher education institutions

Increased competitiveness

Higher education as a service

Higher education as a commodity - we produce educated people (staff)

Introduction (2)

It is essential to increase quality towards making Universities:

- More attractive to the prospective students;
- Producing bigger value in terms of educated people / staff that will easily be recognized from the academic environment and labor market
- Producing quality output that will be recognized easily through the process of migration of knowledge in domestic or foreign countries

Universities and national education systems need improvement of the **Education value**, that depends on several factors that define the quality:

- Resources available
- Essential interests of all the stakeholders, during and post educational process
- KPI indicators regarding the stakeholders

What we deliver in higher education?

Universities

Faculties

Modules

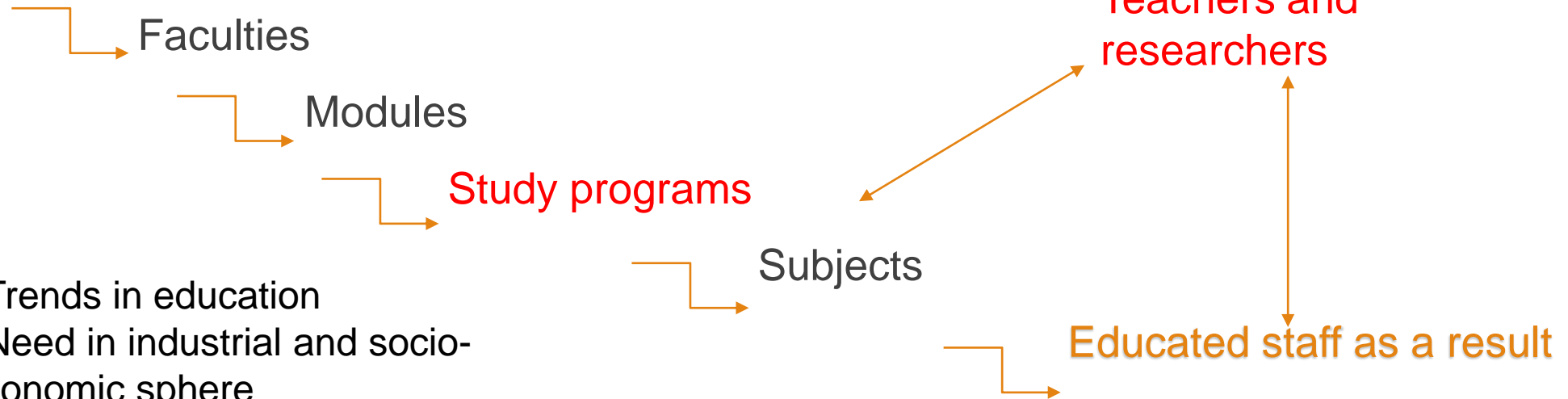
Study programs

Subjects

Teachers and
researchers

Educated staff as a result

- Trends in education
- Need in industrial and socio-economic sphere
- Conditions
- Finances
- Teachers and researchers available



Learning outcomes

European Union: *Learning Outcomes are defined as statements of what a learner is expected to know, understand and/or be able to do at the end of a period of learning.*

Accreditation elaborates contains two categories of knowledges, skills and competences:

- **General** skills, knowledges and competences, and
- **Specific** skills, knowledges and competences

LO – one of the key factors that define higher education institution (HEI) quality (related to the students, labor market, management and other stakeholders)

We need stronger specification of LO

We need better compliance between NQF and with the EQF, that will lead to better knowledge recognition in case of knowledge migration

UNESCO WRL – World Reference Level – strong example

Learning outcomes and quality assurance

Accreditation organizations confirm that HEIs are responsible for the quality assurance of their study programs

Main accountability in the process of setting and defining the Learning Outcomes are in the hand of HEIs

Accreditation organizations consider the aspect of LO in the external quality assurance procedures towards greater effectiveness of LO assessment as an integral part of student's learning

Challenge: How to build QA management system in HE integrating the aspect of LO assessment, together with the other factors?

What is Quality in HE?

A lot of different perception, definitions and interests

Quality in HE is multidimensional construct, simultaneously dynamic and contextual, differently perceived from all the different categories of stakeholders in HE.

Legislative in our country obliges to implementation of quality assurance / control mechanism in the Universities across the country and promotes it as one of the key responsibilities of HEIs.

EU legislative – „Quality assurance involves the systematic review of educational provision to maintain and improve its quality, equity and efficiency. It encompasses school self-evaluation, external evaluation (including inspection), the evaluation of teachers and school leaders, and student assessments. “

What we need is unified and integral approach in QA!

New model for QA

Transition quality → quantity → enables easier mathematical manipulations with the data – new perception in quality control

It will follow all the QA standards and propositions:

- Integrating policies and procedures for QA
- Monitoring and periodical (or when prompted) control will be possible, regarding the study programs
- Students rating and assessment will be included
- Assessment and quality assurance towards teaching staff and researchers
- Using ICT
- Transparent and publicly available data

Methods and resources

Operational research – mathematical discipline dealing with the problem of finding the optimal (or close to the optimal) solutions of complex problems, using mathematical modeling, statistics and mathematical programming (optimization)

The new proposed model will be based on:

- DEA – Data Envelopment Analysis (Frontier Analysis)
- AHP – Analytic Hierarchy Process (MCDM)
- AHP + DEA because we are interested in both:
 - Efficiency, and
 - User preferences

Data from Goce Delcev University will be used, but the model will be **strongly scalable**

Data Envelopment Analysis

Frontier analysis with broad and specific use in service sector

Application is possible in situations when something is produced (knowledge in our case)

DEA estimates the maximum potential output for a given set of inputs

As a result, DEA produces technical efficiency of the subject being measured, calculating weighted output/input ratio

Model is strictly depended on the user's perspective

Integrates parameters from different nature

Analytic Hierarchy Process

Structured space technique for organizing and analysis of problems where complex decisions are need to be taken

MCDM (Multi Criteria Decision Making) technique for making choice of preferences, based on the criteria available.

Determines the importance of the criteria (bias is strongly excluded)

Important in sectors when group decisions are to be taken into account

Objectivity increased

Why AHP and DEA?

Two bearing components of the HE system will be measured through the new system:

- Study programs, and
- Teachers/researchers (teaching staff)

AHP – for determination of the relative weight/importance of the criteria and sub criteria when assessing the quality of the study programs and teachers

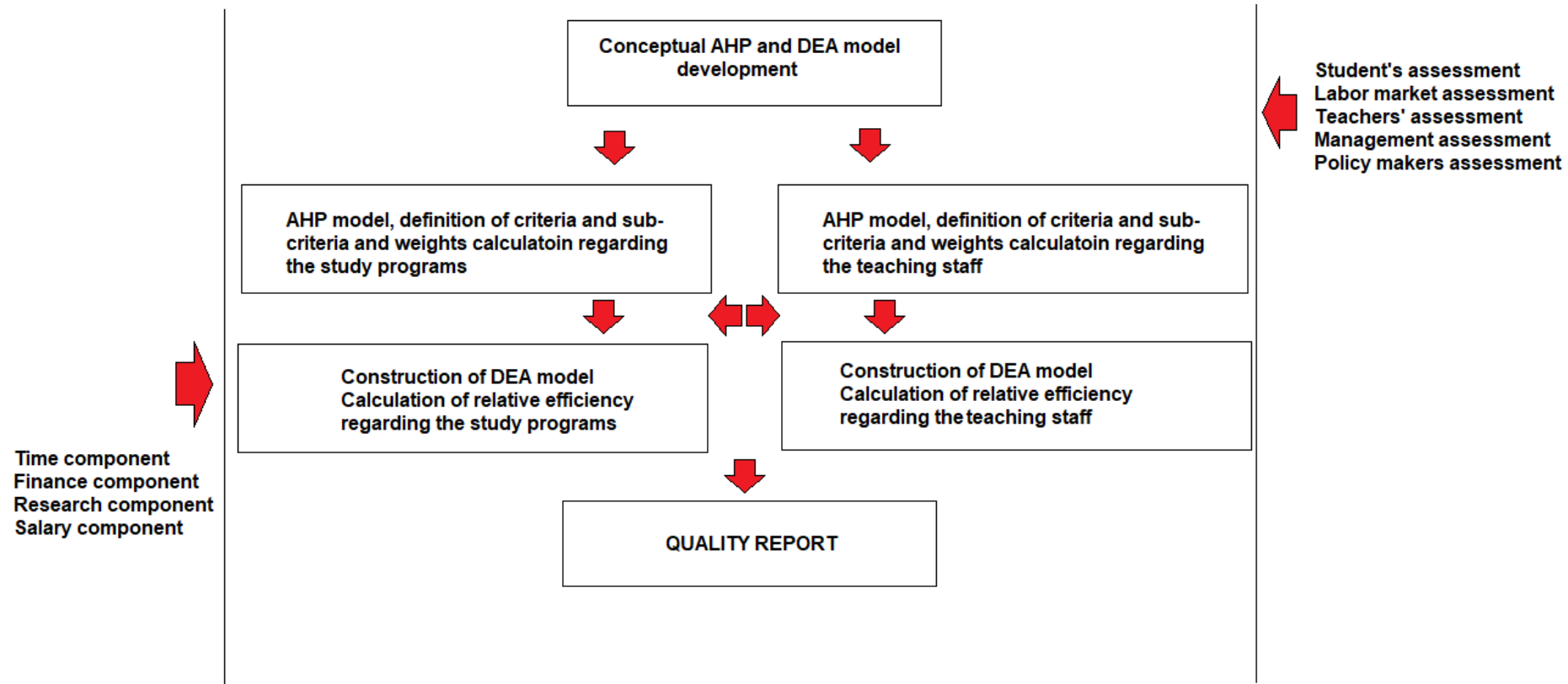
DEA – for determination of the efficient and low-efficient parts of the HE system, regarding the study programs and the teachers/researchers.

Example of parameters defining the quality of HE process

Параметри кои го дефинираат квалитетот на образовниот процес
Број на вработени наставници (академски кадар)
Број на вработени - неакадемски кадар
Материјални трошоци
Останати оперативни трошоци
Број на студенти
Финансирање по студент
Трошоци по студент (материјална компонента)
Вкупен приход
Вкупен расход
Број на научни проекти, публикации, конференции и други форми на научна работа (во генерална смисла)
Запишување, drop-out и отпишување на студенти (во генерална смисла)
Временска компонента на студии
Постигнат успех (студенти)
Форми на евалуација / оценување за наставен кадар
Форми на евалуација / оценување за студенти
Форми на евалуација / оценување за претставници од пазар на труд
Висина на добиени средства за научни проекти (во генерална смисла)
Проодност (во генерална смисла)
Вкупен број на дипломирани студенти (од сите циклуси на студии, во генерална смисла)
Вработување на дипломирани студенти (во генерална смисла)
Други или претходните, суштински разделени

Параметри кои го дефинираат квалитетот на наставникот
Квалитет на презентација на наставен материјал
Методолошки и систематски пристап
Темпо на предавања
Претходна подготовка
Комуникација со студенти (прогрес, охрабрување, интерактивност) / редовност / професионализам
Плата / хонорар
Број на студенти кои го избираат неговиот предмет
Број на студенти кои го полагаат испитот
Просечна оценка
Број на објавени научни трудови
Број на цитирања
Останати параметри...

Model scheme



Benefits of the model

- Will detect efficient parts of the system (high quality)
- Will detect inefficient parts of the system (not so high quality)
- Will detect inter-relations between the high quality parts and others
- Will propose measures and steps to be taken in order to improve the overall quality

Thank you for the attention

Contact:

riste.timovski@ugd.edu.mk