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# **EVALUATION MODEL FOR THE QUALIFICATION STANDARD: TEACHER IN HIGHER EDUCATION RELATED TO BOTH THE ACADEMIC TITLE AND SCIENTIFIC FIELD OF THE TEACHER**

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1. December, 2022



# Introduction

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What does Teacher in higher education means:

Essential – completed third cycle of studies in a relevant field, but there is something more, equally important for the academic career progress:

Researcher

Manager

Contributor

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**Pedagogical / didactical aspect** of the profession: Teacher in higher education

First thought: communication, (active) listening, collaboration, adaptability, empathy, patience, exchange of best practices, lifelong learning approach, engaging classroom presence, value in real-world learning, individual work with students etc.



# Introduction (2)

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Teacher in higher education – definition?

**Higher education teacher** means any individual who is employed in a teaching capacity in an institution of higher education, approved or accredited by the Commission for the preparation of education personnel and resources, providing knowledge delivery to the students in greater aspect (both content and **pedagogical/didactical** aspect).

**Teaching capacity**: employees employed in schools who have a teaching load, work with students and are responsible for the **delivery of an educational program in high quality content and pedagogical manner**, assessment of individual student progress and associated school reports required as part that program.



# Qualification standard: Teacher in higher education in Republic of North Macedonia

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Professionalization of the profession!

Related to:

- Needs of the labor market
- Life long learning
- Individual and/or society needs

Qualification title: **Teacher in higher education:**

- Teacher in HE – assistant professor
- Teacher in HE – associate professor
- Teacher in HE – full professor

Qualification level: VIII



# Qualification standard: Teacher in higher education in Republic of North Macedonia (2)

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Defines 10 key job tasks with multiple learning outcomes:

**Has knowledge in the scientific field;**

**Realizes scientific and professional research and their application in the teaching process;**

**Realizes and supports teaching, learning and studying;**

**Values students;**

**Mentors students;**

**Applies new technologies in teaching, learning and studying;**

**Communicates and cooperates with all participants in the teaching process;**

**Permanently and life-long improves professionally and collaboratively;**

**Acts entrepreneurial, and**

**Practices and creates media and critical literacy.**



# Evaluation for improvement

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We need mechanism to detect the current condition for further improvement of the proposed key job tasks and their learning outcomes.

Categories of teachers in higher education evaluated:

- By scientific field (Biotechnical sciences, Medical science and health, Social sciences, Natural sciences and mathematics, Technical technological sciences and Humanities)
- By academic title (Full professor, Associate professor, Assistant professor, Senior lecturer, Lecturer, Senior lector, Professor of a higher vocational school, Assistant doctoral student)



# Mathematical modeling techniques

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Surveys with multiple questionnaires was conducted to:

- 8 Universities
- 160 surveys fulfilled
- Period: 15.2.2022 – 5.3.2022

Mathematical model using AHP (Analytic Hierarchy Process) and DEA (Data Envelopment Analysis) was applied.

AHP – Multi Criteria Decision Making technique, multiple judgments, bias excluded.

DEA – Data Envelopment Analysis, finds relatively most efficient unit (best resources usage)



# Questionnaires

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Questionnaire 1: Evaluation of current qualitative level of possession of each key job task (1-4)

Questionnaire 2: Evaluation of the level of need for improvement related to each key job task (1-4)

Questionnaire 3: Level of readiness to contribute as an educator (1-4)

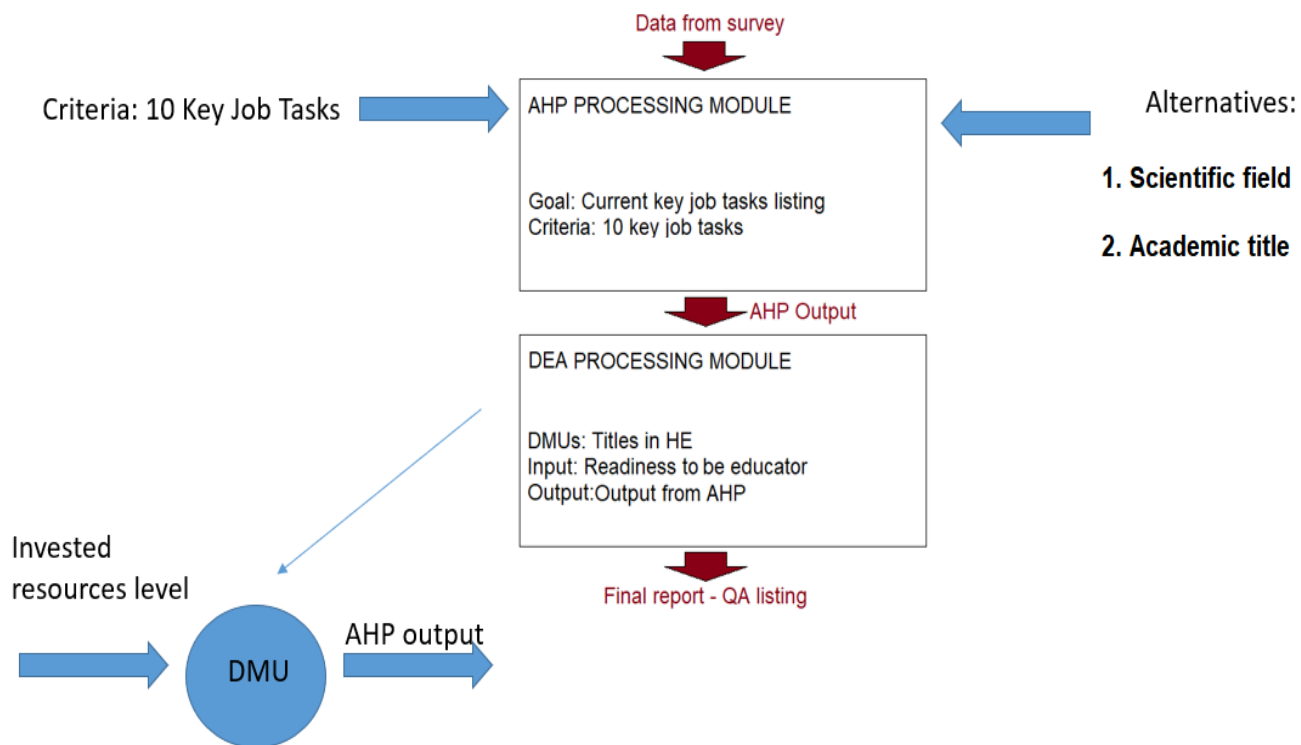
AHP – enables creation of rating showing the most and least possessed key job tasks related to academic title or scientific field

DEA – final report, pointing the relatively efficient and inefficient units (related to the academic title and / or scientific field) and spots with need for further improvement





# Evaluation model



In AHP, Q1 and Q3 results are used for pair-wise matrix. Q1 is used for model synthesis.

Q2 – invested resources / input for DEA unit



# Result report (related to academic title)

Criterion with highest priority: Mentors students (Criterion 5)

Criterion with lowest priority: Realizes scientific and professional research and their application in the teaching process (Criterion 2)

Inconsistency: 0.06030

1Criteria1		0.04499
2Criteria2		0.03809
3Criteria3		0.06961
4Criteria4		0.13807
5Criteria5		0.19387
6Criteria6		0.11501
7Criteria7		0.16467
8Criteria8		0.09810
9Criteria9		0.05559
10Criteri~		0.08201

$$R. I. = 0.06030$$

# Result report (related to academic title) (2)



AHP results:

Name	Ideals	Normals
Senior Lecturer	1	0.136864
Associate Professor	0.951581	0.130237
Full Professor	0.930628	0.127369
Assistant Professor	0.92737	0.126923
Professor of HVS	0.924684	0.126556
Assistant Doctoral Student	0.904968	0.123857
Senior Lector	0.846694	0.115882
Lecturer	0.820608	0.112312

DEA (Final) results:

DMU Name	Objective Value	Efficient
3SeniorLecturer	1	Yes
4AssociateProfessor	0,95	
8FullProfessor	0,94	
5AssistantProfessor	0,92	
7ProfessorOfHSV	0,91	
1AssisstantDoctoralStudent	0,89	



# Conclusion

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Networking the key job tasks that define this standard and their assessment from the teachers and using the proposed evaluation mechanism, reports can be generated giving precise information about their importance and present fulfillment related to different titles and/or scientific fields.

Massive surveys are needed.

Evaluation whenever there is a need to find skills and competences of the teachers defined within the standard that need improvement: trainings, educations, life-long learnings (formal, non-formal, informal) etc.



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# Thank you for the attention!

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