



UNIVERSITY of TARTU

# Learning outcomes for undergraduate and postgraduate pharmacy studies

PEEP VESKI  
UNIVERSITY OF TARTU  
ESTONIA  
Ankara, 2013

[peep.veski@ut.ee](mailto:peep.veski@ut.ee)



Google:

Learning outcomes

517 000 000

Learning outcomes in  
pharmacy studies

7 440 000

Learning outcomes in  
pharmacy studies in Europe

4 590 000



# Learning outcomes...

...are statements of **learning achievements** and are expected in terms of what the learner is expected to **know, understand** and be **able to do** on completion of the award or module.

They may also include attitudes, behaviours, ethics etc.



The **learning outcomes** are different from **aims**, in that they are concerned with the achievements of **learner**, rather than intentions of **tutor**



- The Directive 2005/36/EC in the Article 44 provides the knowledge and skills expected from a pharmacy graduate
- The Article 45 of the same Directive describes the fields, where a pharmacist graduated from the university, should be able to work
- Directive shows that after the Master Studies a graduate pharmacist must be able to work in different fields of pharmacy

**VERY HIGH DEMANDS**





## There will be 3 more fields added to the Article 45

- Reporting of adverse reactions of pharmaceutical products to the competent authorities
- Personalised support to patients who administer their own medication
- Contributions to local or national public health campaigns



- Would it mean changes in pharmacy studies, including whole curriculum in learning outcomes?

Defenitely not any significant changes – the backlog of the directive was elliminated, it was more in line with actual needs and what is happening

Additions draw attention to these fields

**Question is – why these?**



**Could the learning outcomes of the *pharmacy curriculum* be formulated by the Articles 44 and 45 of the Directive?**

**Could the learning outcomes be standardised and/or harmonised?**





The pharmacist today more than ever before is called upon to demonstrate a sound knowledge of biopharmaceutics, biochemistry, pharmacology and physiology and an intelligent understanding of the physical, chemical and biopharmaceutical properties of the medicinal products that she or he prepares and dispenses in the delivery of pharmaceutical care in community or institutional pharmacy practice

P. J. Sinko



- Pharmacy as applied science has passed through a descriptive and empirical era
- From “art” to science based profession
- Also the character of the work done in the different fields of pharmacy has changed/is changing. So has changed the knowledge necessary for successful working – we have to change the learning outcomes
- Pharmacy is not the same everywhere, different countries(regions) have different priorities



UNIVERSITY of TARTU

# The aim of the pharmacy studies

To prepare competent specialists

- for your own country
- in European dimension



# **EDUCATIONAL OUTCOME SHOULD REFLECT THE NEEDS OF THE SOCIETY**

- **Pharmacy policy**
- **Present situation**
- **Traditions**



UNIVERSITY of TARTU

**Training of pharmacists takes place at universities or higher institutes of a level recognised as equivalent**

Directive 2005/36/EC





UNIVERSITY of TARTU

## ***MAGNA CHARTA UNIVERSITATUM, BOLOGNA 1988***

Universities` task of spreading knowledge among the younger generation implies that in today`s world they must serve the society as a whole



UNIVERSITY of TARTU

# WHAT DOES THE PHARMACEUTICAL COMMUNITY EXPECT FROM THE GRADUATES OF THE PHARMACY STUDIES IN THE UNIVERSITY?

- professional skills



# WHAT DOES THE SOCIETY EXPECT FROM THE GRADUATES OF THE PHARMACY STUDIES FROM THE UNIVERSITY?

- the graduate of the university should be harmoniously educated and competent on his/her speciality



UNIVERSITY of TARTU

# WHAT IS THE MISSION OF THE UNIVERSITY?

The mission is to train versatile and highly educated specialists for preserving and furthering the country



- This goal cannot be achieved with the curriculum consisting of speciality subjects only
- In order to find a place in the society, feel secure and contribute to the development of society with one`s professional competence, a pharmacist graduated from the university must be familiar with the culture, social and economic situation, and possible developments of both the micro-society and the macro-society





The learning outcomes of the curriculum should not be strictly professional

The more one speciality is regulated by the directives, the more the speciality loses its specificity to a certain country (region).



UNIVERSITY of TARTU

**WE ARE TRYING TO TEACH  
THE WHOLE PHARMACY  
IN 4 – 5 YEARS**



UNIVERSITY of TARTU

**Unique competence – knowledge  
that no other specialist is able to  
give to the society**



# Learning outcomes and professional thinking

1. Professional thinking
2. Theoretical knowledge and practical skills of the speciality
3. Values and attitudes, not only professional



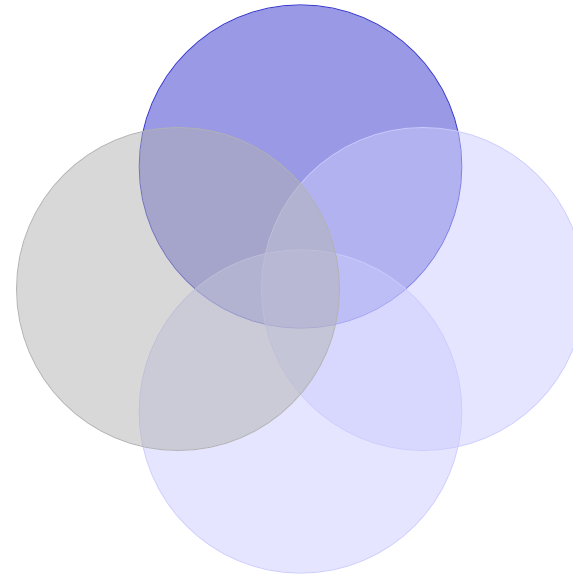
UNIVERSITY of TARTU

# Professional thinking

Natural sciences

Pharmacy

Medicine



Social sciences





1. To form the aims and outcomes of natural sciences, medicine, pharmacy and social sciences modules
2. Students must see the development of learning outcomes within one module, only then can the student understand the expediency of the sequence of subjects in the curriculum
3. In order to obtain professional thinking (competency) in the four fields, we have to apply a so-called system of prerequisite courses, where ideally the outcomes of prerequisite subject(s) would be the aims of the following subjects



## What are the benefits of learning outcomes?

- to inform students about the general and concrete knowledge and understanding requirements
- to help teaching staff to focus on meeting the requirements set for students
- to keep first contact between students and teachers in the very beginning of the teaching process
- to involve students in their own learning
- to develop the curricula and programmes of different subjects
- to create better collaboration within and between departments/chairs



# Learning outcomes of the doctoral studies

- The Directive 2005/36/EC does not set any requirements for doctoral scholars.
- By country (also by university) there are different programs and requirements for doctoral studies.
- It is difficult to find common ground in doctoral curricula in Europe, requirements to doctoral thesis are also very different, it is difficult to write down unified learning outcomes.
- The outcomes of doctoral studies are more speciality oriented, often closely related to the dissertation topic.



UNIVERSITY of TARTU

## Learning outcomes of the pharmacy doctoral programme at the University of Tartu, Estonia

After graduation on a more specialised field, a  
doctoral student has

- good professional knowledge and the ability to communicate the knowledge;
- ability to choose suitable methods for research;
- ability to defend his/her choices argumentatively and scientifically;
- ability to present the results both in speaking and in writing.





A thesis written based on the results of studies and research gives the following qualifications

- to obtain skills and techniques for professional scientific research
- to be able to establish research problems in the specific research area of and provide original solutions.
- to manage data collection and analysis methodologies.
- to have a high level of analytical and critical skills.
- to be able to write scientific articles in international level
- to be able to protect the basic research positions, both in speaking and in writing.



# Conclusions

- Learning outcomes should not be strictly professional
- A graduate of the university should be harmoniously educated and competent on his/her speciality
- Learning outcomes must be focused first of all for the development of professional thinking
- Must not forget the unique competence in the development of learning outcomes and curriculum
- ...but sometimes it seems to me, that the pharmacy is overregulated





UNIVERSITY of TARTU











UNIVERSITY of TARTU

