

1.5 REPORT ON AGREED METHODOLOGICAL APPROACHES IN CREATION OF CURRICULA, SYLLABI AND TRAINING PROGRAMMES

Belgrade, January 2016.

1. INTRODUCTION

In relation to the activity “1.5 Discuss upon methodological approaches in creation of curricula and training programmes” (WP1), by completed this paper POLYBG has tried to achieve a contribution in the realization of this activity. In the text below we have presented some findings, views from our experience and we have made an effort to propose possible methodological approach in the process of creating curriculum and training program.

We have collected existing materials in the field of curriculum development, using experience of European HE area, own procedures and experience and Serbian legislation in the area of HE. In this sense, we have used Tuning methodology¹ as a framework as well as Rules and Regulations on accreditation standards and procedures of higher education institutions and study programs. Tuning methodology has been chosen because it “*allows universities to ‘tune’ their curricula without losing their autonomy and at the same time stimulate their capacity to innovate.*”²

Collected materials we have summarized in one logical form adapted to both European recommendations and national interests.

2. THE METHODOLOGICAL APPROACH IN CREATING CURRICULUM AND PROGRAM OF TRAINING

2.1. Creating curriculum

According to adapted model (Chart 1) there are eight steps in the process of curriculum development.

1. Step – Meeting the basic conditions. The first step includes consideration of social and academic needs for specific study programme, as well as necessary resources. The social needs have to be done by consultation of stakeholders: employers, professionals and professional bodies. The academic needs imply to existing interests from academic point of view. Also, the basic conditions include the availability of necessary resources (inside or outside). The most of answers on these questions already exist in the document Detailed Description of the Project.

2. Step – Definition of degree profile. Firstly, it is necessary to define the level of study programme, taking into account European and National level descriptors. This step also includes defining the purpose of study programme, i.e. obtaining the answers on questions - “what is profession of graduated student?” and “what type of organization is where graduate could to work?”.

3. Step – Definition of objectives. This step includes the activity of describing the objectives of the programme that have to be met.

¹ More about Tuning project is available on the next link <http://www.unideusto.org/tuningeu/>

² Ibid.

4. Step – *Definition of generic and subject-specific competences* which should be obtained in the programme. In order to properly define the related competencies it is necessary to take into account the following: European qualification framework (The National qualification framework not yet adopted); opinions of stakeholders (employers, professionals, and associations); study programmes from PR countries and their experiences; study programmes in the related field from other European HEIs. Some data will be obtained in the activity of Comparative analysis of study programmes in Serbia and EU, and they could be inputs in the process of preparing questionnaire for stakeholders. The questionnaire has to obtain related competences for both – first and second level of professional studies (bachelor, specialization and master).

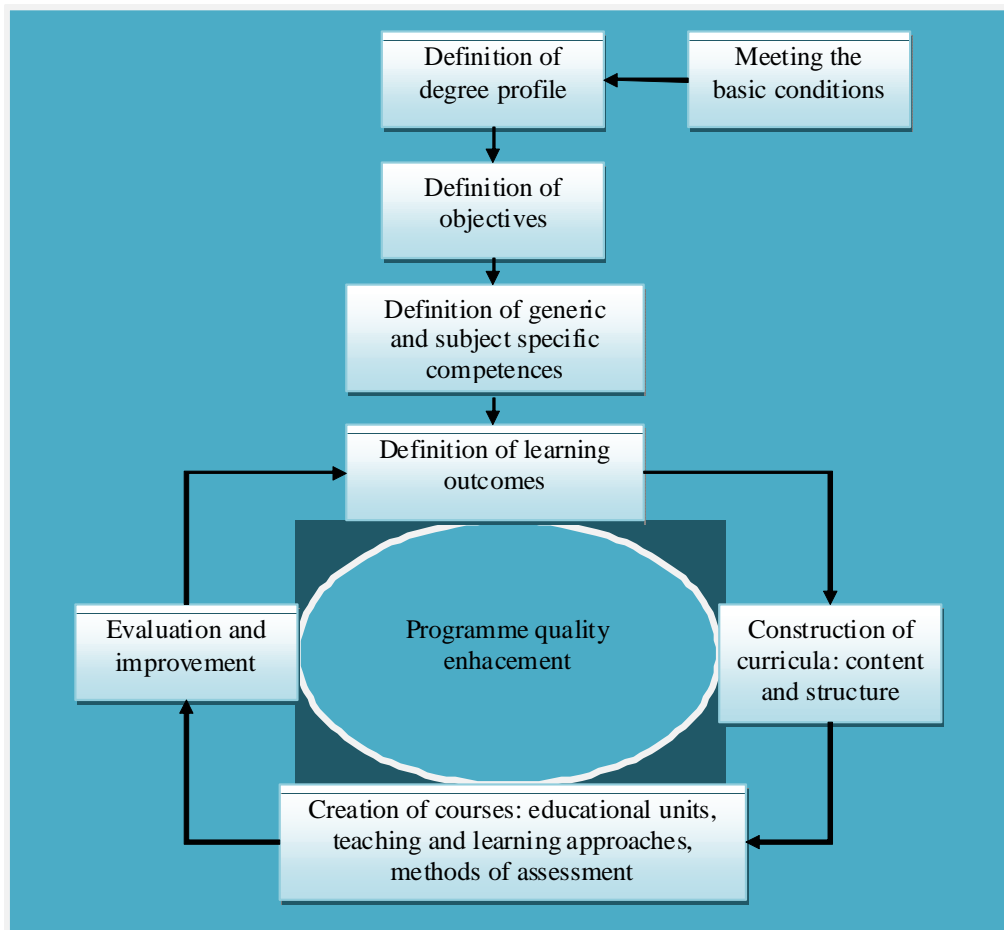


Chart 1. The proposal of methodological approach in the process of creating curriculum³

5. Step – *Definition of learning outcomes*. While “*competences represent a dynamic combination of knowledge, understanding, skills and abilities, learning outcomes are statements of what a student is expected to know, understand and/or be able to demonstrate after completion of learning.*”⁴ Achieving the learning outcomes consequently contribute on achieving the competences. Accordingly, the student has to achieve more than one learning

³ Ibid.

⁴ Ibid.

Waste management curricula development through partnership with public and private sector www.wamppp.vtsnis.edu.rs
outcomes in order to accomplish one competence. In the process of defining learning outcomes could be helpful Bloom`s taxonomy.

6. *Step – Construction of curriculum* includes defining content and structure. In relation to learning outcomes the map of courses (modules) has to be developed. Also, this step involves the process of creating the curriculum structure (entry requirements, course prerequisites, number of classes, ECTS, ect.).

7. *Step – Creation of courses.* This step covers the activity of defining the courses` descriptions – in terms of educational units and activities that are necessary for achieving the defined learning outcomes; teaching and learning approaches; as well as method of assessments.

8. *Step – Evaluation and improvement* involves development of an evaluation system intended to enhance its quality constantly. This system has to be based on internal institutional quality culture. Some mechanisms of monitoring already exist at institutional level – systematic collection and analysis of statistical information on key indicators such as examination success rates, progression of students to employment or higher degrees, student recruitment numbers, response to evaluative questionnaires, etc. According to actual practice and project objective of creating WM network among stakeholders, should not be expected problems in providing feedback from various stakeholders (students, academic staff, employers, professionals and professional bodies). As usual, the programmes will be enhanced on the basis not only of feedback but also of feed forward by taking into account developments in society as well as the academic field concerned.

2.2. Construction of curriculum and creating the programme of training

The most study programmes in Serbia suffer from a lack of modularity and consequently flexibility. According to Rules and Regulations on accreditation standards and procedures of higher education institutions and study programs, module is recognized as set of compulsory and elective courses, with the possibility of existence more modules under the one study programme. According to meaning of word, module is ‘‘a unit of education or instruction with a relatively low student-to-teacher ratio, in which a single topic or a small section of a broad topic is studied for a given period of time’’.⁵ Under lack of flexibility we meant on lowered ability (or inability) for easy and simply creating training programmes under existing study programmes. In the most cases the training programmes are separated from curriculum, and sometimes that requires the preparation of additional contents, additional time and additional cost. Also, the evaluation and improvement have to run separately.

In the sense of this proposal, the module has viewed as part of course. In creating this proposal we have taken in mind Rules and Regulations on accreditation standards and procedures of higher education institutions and study programs, distinctions among potential target groups and wider objectives of the project. We have tried to design approach with enough flexibility and modularity to respond different needs of potential participants in every moment.

⁵ American Heritage® Dictionary of the English Language, Fifth Edition. Copyright © 2011 by Houghton Mifflin Harcourt Publishing Company. Published by Houghton Mifflin Harcourt Publishing Company. - <http://www.thefreedictionary.com/module>

In the process of creating curriculum, under step 6. (Construction of curriculum) the content and structure should be designed to include not only courses, but the parts of courses (modules). In the following table we have tried to illustrate our proposal.

Table 1 Example of possible approach in creating structure of curriculum

Course	Lecture*	Practical work*	Prerequisites	Semester	Duration	ECTS
Solid Waste Management	1	2	/	1	15 weeks	8
<i>Module:</i>						
<i>Waste collection and separation</i>	1	2	/	1	3 weeks	2
<i>Waste characterization</i>	1	2	/	1	4 weeks	3
<i>Waste processing</i>	1	2	/	1	3 week	1
<i>Waste disposal</i>	1	2	/	1	5 weeks	2

* - number of classes per week

In our example the total duration of course is 15 weeks, the total number of ECTS is 8, the number of lectures per week is 1, and number of practical work per week is 2. This course contains four modules, and each should be viewed as separated entity, but at the same time it is part of the course. Each module has number of classes, ECTS, duration and for each of them could be engaged another teacher, i.e. for the process of accreditation could be represent more than one teacher per course. This approach couldn't be applied for all courses in the programme, but it will be useful for courses that are related to WM field and could be interesting for the training programme.

There are few advantages of this approach:

- ☞ **Flexibility for different groups of students.** At the same time the one module could be compulsory, but also elective depends on needs of particular study programme. For example, the students from department in the field of WM should to attend all modules, what is not the case of students from other departments. May be these students need to attend only one module. In the traditional approach all students need to attend entire course.
- ☞ **Flexibility in creating the training programme.** According to this approach it is possible to create different training programmes for particular organizations in relation to their needs and requirements. For example, at the same time it is possible to realize two independent trainings for different organizations.
- ☞ **Reducing time in preparing teaching and learning materials.** For each module should prepare teaching and learning materials that could be used not only for studying, but also for training.
- ☞ **Better visibility.** This approach makes content of the curriculum more visible what could be important for stakeholders (students, organizations, society, etc.). It should assumed that different stakeholders don't have the same level of knowledge in the

Waste management curricula development through partnership with public and private sector www.wamppp.vtsnis.edu.rs
field of WM. In this way everyone could have clear direction about a programme and possibilities of training courses.

- ☞ **Ability to create training for an ‘unknown’ user.** In relation to the content of curriculum, this approach enables creating training programme for ‘unknown’ user by combining different modules.
- ☞ **Recognition of competences.** Under the assumption that the institutions will issue certificates upon completion of training, if participant decide to continue studying the process of recognition of acquired competences will be more simply.

3. CONSLUSION

The mentioned approach has to be seen just as proposal. It isn't an ideal solution, it is one possible way in creating curriculum and training programmes, which obtained European practice and National rules. The main feature of this approach is the flexibility, which creates the possibility of designing training programs for different users. According to this approach a developed curriculum would be enough flexible for students from different departments. It should not ignore the advantages such as reducing time in preparing teaching and learning materials, better visibility, possibilities for creating training for ‘unknown’ user, and possibilities of recognition of acquired competences. Finally, the process of evaluation and improvement could be done simultaneously for curriculum and training programmes.

4. REFERENCES

1. Tuning Methodology, <http://www.unideusto.org/tuningeu/> - January, 2016.;
2. Quality Enhancement at Programme Level: The Tuning Approach, <http://www.unideusto.org/tuningeu/>, January, 2016.;
3. Rules and Regulations on accreditation standards and procedures of higher education institutions and study programs, http://www.kapk.org/index.php?option=com_content&task=view&id=15&Itemid=27 January, 2016.