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Prerequisites to Interdisciplinary Communication

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Abstract

The readiness of experts of various professions for modern communication methods with experts of other professions is one of the main tasks of university education. The interdisciplinary contacts and the interdisciplinary communication in scientific cognition is an essential prerequisite of the science development. There is an important role of connection of scientific, technical and social dimensions of education. Technological possibilities of ICT in language education.

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1. The Concept of Education

University education of specialists in individual professions is primarily aimed at achieving significant contents of the discipline, at developing skills in order to utilize these contents in application at concrete tasks. The development of creativity and communicative rationality are among other relevant objectives. The teacher should be able to understand the human situation in the new millennium in relation to fundamental socio-cultural changes. They should understand the antinomy of upbringing and education and should accept responsibility for educational attempts to mediate essential contents of education in the context of natural and cultural processes.

Culture (which is at technical universities mediated mainly in subjects labeled as the humanities, including language teaching) maintains communication across centuries, continents and disciplines and contains ciphers of human knowledge and experience, which one must come to terms with. The teacher should be ready for cultural and cultivating pilgrimage with their students. It is clear that the teacher's education and knowledge of the discipline should be not only wide and deep enough, but also philosophically and pedagogically well-founded if the teacher should meet the objectives of university education. Education – run not only as a necessarily lifelong process, but also in relation to students – is sure to have some random features of unintentional grasping various fragments from the collage of the world but, generally speaking, it must have the character of a systematic purposeful rational behaviour, which is reflected in the teacher's pedagogical activity.

In this behaviour we may discern three basic levels: intentionality, instrumentality and application. The term intentionality denotes intentions, objectives and purposes of behaviour, instrumentality is the level of means which may be, and eventually are, chosen to achieve the goal. Application in a concrete situational context and assessing

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its success rate in view of achieving the goal – that is ex post reflection – are prerequisites to interconnected contents of education, which make both the teacher's and students' work meaningful. Essential is to refer to the context (e.g. interdisciplinary and trans-disciplinary relations linked with students' personal experience and experiences, justification of the choice of methods and urging students to reflect on the new knowledge, feedback mechanisms not only in order to check their knowledge and understanding, but also to its integration into the whole acculturation and education process of an individual and an individual in a team – i.e. an involved individual, cooperating and communicating individual asking and actively looking for answers).

It means to practice – with students – skills like self-monitoring, self-control, self-determination and self-regulation. Only in this way can we help our students satisfy their needs and reach the top of A.H. Maslow's pyramid or hierarchy of needs, where a terse label – SELF-ACTUALIZATION is. This top goal has to do with students as well as all those who take care of them at schools and elsewhere.

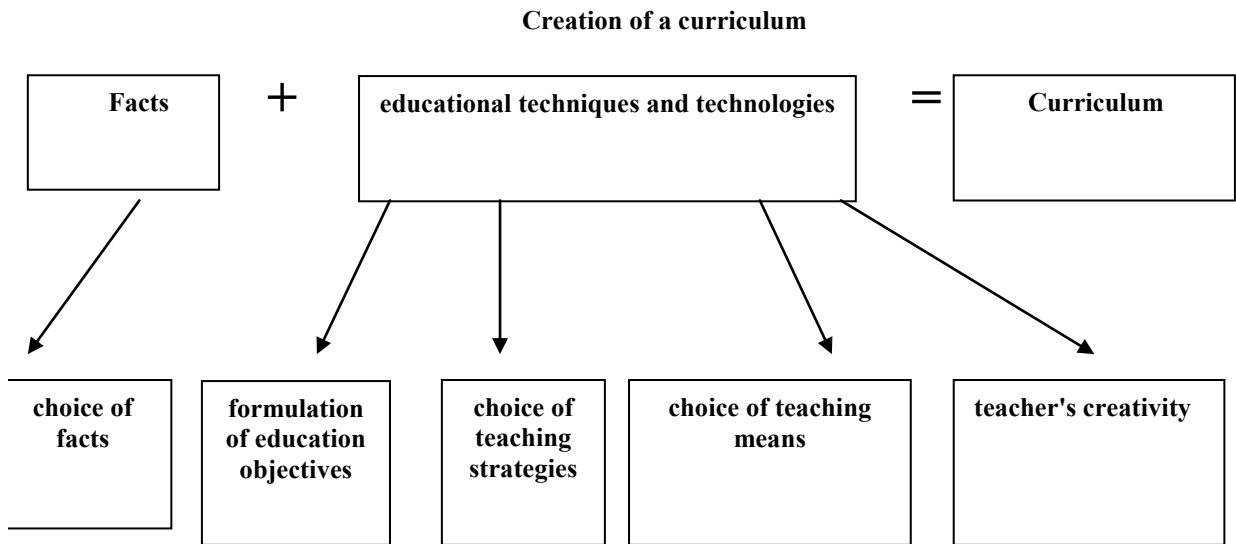
The educational process integrated in the concrete context should be derived from a well-founded curriculum. Whereas in our pedagogic theory the term curriculum is not common, in west-European countries it belongs to the most frequently used ones. Its interpretation includes an older, narrower conception, related to the content of school-teaching, its choice and arrangement in a given institutional frame (in a given level of education or a given subject). In a wider conception, curriculum is understood as total programme of educational institutions. It includes answering the following questions:

- What to teach?
- Whom to teach?
- How to teach?

It concerns planning and it is a synonym to the term “teaching programme”. It defines objectives, contents, methods and organization of teaching. In our country, the equivalent to this conception of curriculum is the term “Teaching project”.

2. Creation of a Curriculum

Creation of a curriculum is a very demanding task, which can be explained in this diagram:



Possible approaches – meeting the objectives of education

<u>Concrete</u> Knowledge Skills Habits Object products Art products Changes in behaviour	<u>Abstract</u> Cognitive structures Problem solving Strategies Values Recognition Self-actualization
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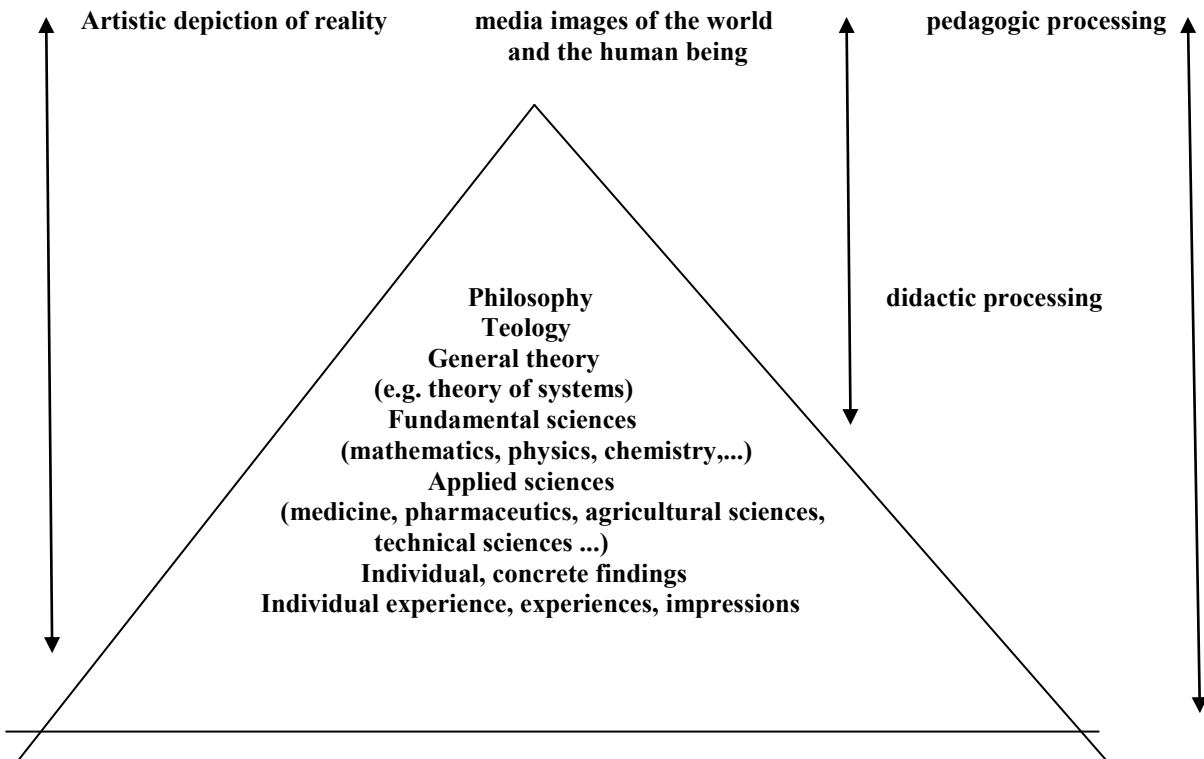
In order to create a quality curriculum in the narrower sense, it is necessary to be equipped with knowledge of concrete situation context on the one hand, and on the other one to be aware of the above mentioned wider and deeper context.

3. Education Objectives from the student's point of view

In general, education objectives from the student's point of view are seen as goals, whose reaching means achieving ideas of the world and society which enable one to orientate. Furthermore, they are seen as knowledge, skills and habits, which manifest themselves as social competences (making and maintaining relationships, respect to oneself and others) and as a specific part of social competences, professional competences – qualifications. Other parts of these objectives are the development of all types of intelligence, alertness, dynamism and creativity, development of strategic thinking and strengthening the ability to decide and act independently, founding a need of lifelong education.

How to found the content of education in individual subjects in order to contribute to meeting the education objectives from the student's point of view?

What fields of knowledge – and how general or concrete, how wide or deep – should be perceived in context in an interdisciplinary or trans-disciplinary way so that adequate inter-disciplinary contacts would be possible and inter-disciplinary communication could be successfully developed? Let us start with a diagram, which is based on the level of generality.



In the pyramid of knowledge base, there should be captured the structure, dimension and mutual relations among individual levels of knowledge, which are further related to the aesthetic and ethical ways of grasping the world and accompanied by media-, pedagogically- and didactically-processed pictures of the world, human being, but also by partial discipline-based pictures of the world and human being. Pedagogic and didactic approaches should not forget their mutual horizontal and vertical interconnectedness as well as other interrelations which we may encounter unwittingly or which we can intentionally plan.

This schema represents a possibility to achieve above mentioned objectives of orientation in the world and in relations between the human being and the world, when the most important things are unique experience, experiences and impressions connected with concrete, individual knowledge, which are well-founded by scientific results and always accepting the dimension of MEANING and MEANINGFULNESS.

4. Communicative rationality

Communicative skills, which may be improved by LPP (language for professional purposes) learning, may be cultivated in both face-to-face as well as ICT-aided teaching. The latter is proved by all well-prepared e-learning courses focused on languages at our faculty (as of today, the total number of these language courses is 45).

We understand communication as a process both interpersonal as well as one of getting a message from other ages, cultures, as a process of linking by means of ICT and a process of inner dialogue, which may make us start doubting what we usually take for granted, stop for a while and look at the given problem from a different angle. Thus, we may overcome the original (e.g. banal) understanding, put together simple and unique with higher wholes, to transcend the utility.

The quality of communicative processes is demonstrated by means of feedback reflexive mechanisms. In this respect, possibilities of individualization of communication (also by means and by adequate use of ICT) in teaching process are still insufficiently used. The way to sharing the analogical communication output is linked to permanent development of dialogues, where passive, uninvolved information consumers become active recipients, who will place their versions of understanding at disposal to further development and reflection. Reflection allows creating knowledge, building links in cognitive as well as experiential and application spheres. Reception then is not understood as taking over clear contents but as an active (selective, interpretational, contextually conditioned) performance. Pedagogic disposition is developed by willingness, ability and possibility of articulation and other modalities of relation to the discussed topic.

Communicative rationality does not belong to the signs of language and the activity of speaking per se. It manifests itself in the unifying power of speech, which is orientated at understanding. This understanding means at the same time to all involved speakers an inter-subjectively shared world. In this way it provides a horizon in whose frame all of them can refer to the same objective world. Therefore, it is without any fundamental problems possible for experts from different fields to find a common language.

At LPP seminars at our faculty students of various study programmes, namely financial management, information management, applied informatics, management of travel and tourism and sports management, meet each other. Study texts and e-learning courses encompass relevant contents of all these study programmes and they are at disposal of all students who in classes and during their work at projects cooperate across the borders of their fields of study. In this way they prove their ability to communicate across disciplines, which is a base on which they can build in the future.

Conclusion

In connection with the change of paradigms from the instructive to constructive conception of undergraduate education, we develop critical thinking, media literacy and creativity. Modern ICT may increase the potential of

communication, including interdisciplinary and even trans-disciplinary communication, where we switch from one configuration of rationality to another.

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