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Welcome note

Our online digital review, ***Opus et Educatio***, published first in November 2014 in Hungarian and then in English at the beginning of 2015, has entered its third volume, and this year's second issue is again published in English. The founder's intention is still the same: deal with problems engaging many, especially those involved as professionals in the world of work, of the human factor and its development. In the spirit of this endeavour, ***Opus et Educatio*** has been extended both in terms of content and structure this year. Our new columns are *Labour Review* and ***Projects*** which is to offer a series introducing the results of development projects standing close to our fields of subject.

Our volumes titled **Papers, Labour Review** and **Recognition** publish works supervised by two referees. The first two columns indicate the improvement in our background of international authors since the questions of the change in the scientific paradigm, the effects of feed-back on learning and the human factors in the educational system, with special respect to the leaders' roles, and the possibilities hiding in labour division between institutions, are examined by English, Czech, Finnish and Israeli authors. The analysis focused at workplace learning gives an overview of the formation of the European framework of the more and more diverse professional policies. It is really fortunate that several articles represent international cooperation through the fact that they are published by author partners who, exactly on the basis of institutional differences, sketch the frames of the various approaches.

In our column titled ***Recognition*** we publish an article summarizing the lectures held by talented young researchers at the international Visual Learning Conference organized in November 2015. In his preface written for this section professor Kristóf Nyíri draws a frame of the works that are all connected to the topic of visual learning but are diverse in terms of their thematic and methodological structure and which are common in having career starter doctoral candidates and young postdoctoral researchers as their authors.

*In our column titled **Projects** we present a complete report on the teacher training project implemented at the Teacher Training Centre of BME. Finally, let me mention it here that we strive to offer information on new researches and books in each issue. This time we release a recension on a work more than just a handbook – The Study Skills Handbook (*Cottrell, Stella 2008).

We hope that the Reader will perceive the extension in our thematic fields which also means an increase in size; at the same time, in line with the century-long traditions of the Technical University, our editors remain dedicated to quality, and are resolute to fully meet the requirements of scientificity while keeping the basic norms of providing information in evidence. We hope to have more feedbacks from the Readers, and will be happy to get proposals in relation to interesting and valuable articles written in English so that our review can become more and more engaged in the international scientific flow of information.

Editor in chief of ***Opus et Educatio***

Kálmán, Anikó

THE MEANING AND IMPORTANCE OF THOMAS KUHN'S CONCEPT OF 'PARADIGM SHIFT'. HOW DOES IT APPLY IN EDUCATION?

Introduction

In order to understand the meaning and importance of Thomas Kuhn's concept of 'paradigm shift', I started with an extensive bibliographical and web research, from which I compiled what I thought to be the most relevant points.

"In *The Structure of Scientific Revolutions* Kuhn asserts that there are important shifts in the meanings of key terms as a consequence of a scientific revolution" (Bird, 2004).

Thomas Kuhn

"Of the five books and countless articles Thomas Kuhn published, his most renowned work is *The Structure of Scientific Revolutions*" *(*Wade, 2004).

Throughout thirteen succinct but thought-provoking chapters, Kuhn argued that science is not a steady, cumulative acquisition of knowledge, but "a series of peaceful interludes punctuated by intellectually violent revolutions" [Nicholas Wade, writing for *Science*], which he described as "the tradition-shattering complements to the tradition-bound activity of normal science." After such revolutions, "one conceptual world view is replaced by another" [Wade].

Although critics chided him for his imprecise use of the expression, Kuhn was responsible for popularizing the term *paradigm*, which he described as essentially a collection of beliefs shared by scientists, a set of agreements about how problems are to be understood. According to Kuhn, paradigms are essential to scientific inquiry, for "no natural history can be interpreted in the absence of at least some implicit body of intertwined theoretical and methodological belief that permits selection, evaluation, and criticism." Indeed, a paradigm guides the research efforts of scientific communities, and it is this criterion that most clearly identifies a field as a science. A fundamental theme of Kuhn's argument is that the typical developmental pattern of a mature science is the successive transition from one paradigm to another through a process of revolution. When a paradigm shift takes place, "a scientist's world is qualitatively transformed [and] quantitatively enriched by fundamental novelties of either fact or theory."

Kuhn argued that a scientific revolution is a non-cumulative developmental episode in which an older paradigm is replaced in whole or in part by an incompatible new one. But the new paradigm cannot build on the preceding one. Rather, it can only supplant it, for "the normal-scientific tradition that emerges from a scientific revolution is not only incompatible but actually incommensurable with that which has gone before." Revolutions conclude with total victory for one of the two opposing camps.

Kuhn also took issue with Karl Popper's view of theory-testing through falsification. According to Kuhn, it is the incompleteness and imperfection of the existing data-theory fit that define the puzzles that characterize normal science. If, as Popper suggested, failure to fit were grounds for theory rejection, all theories would be rejected at all times.

As to whether progress consists in science discovering ultimate truths, Kuhn observed that "we may have to relinquish the notion, explicit or implicit, that changes of paradigm carry scientists and those who learn from them closer and closer to the truth." Instead, the developmental process of science is one of evolution from primitive beginnings through successive stages that are characterized by an increasingly detailed and refined understanding of nature. Kuhn argued that this is not a process of evolution toward anything, and he questioned whether it really helps to imagine that there is one, full, objective, true account of nature. He likened his conception of the evolution of scientific ideas to Darwin's conception of the evolution of organisms.

The Kuhnian argument that a scientific community is defined by its allegiance to a single paradigm has especially resonated throughout the multiparadigmatic (or preparadigmatic) social sciences, the members of whose communities are often accused of paradigmatic physics envy. Kuhn suggested that questions about whether a discipline is or is not a science can be answered only when members of a scholarly community who doubt their status achieve consensus about their past and present accomplishments.

As Frank Pajares (2004a) writes, "a scientific community cannot practice its trade without some set of received beliefs. These beliefs form the foundation of the "educational initiation that prepares and licenses the student for professional practice." The nature of the "rigorous and rigid" preparation helps ensure that the received beliefs are firmly fixed in the student's mind. Scientists take great pains to defend the assumption that scientists know what the world is like. To this end, "normal science" will often suppress novelties which undermine its foundations. Research is therefore not about discovering the unknown, but rather "a strenuous and devoted attempt to force nature into the conceptual boxes supplied by professional education."

A shift in professional commitment to shared assumptions takes place when an anomaly undermines the basic tenets of the current scientific practice. These shifts are what Kuhn describes as scientific revolutions – "the tradition-shattering complements to the tradition-bound activity of normal science." New assumptions –"paradigms" - require the reconstruction of prior assumptions and the re-evaluation of prior facts. This is difficult and time consuming. It is also strongly resisted by the established community.

So how are paradigms created, and what do they contribute to scientific inquiry?

Normal science "means research firmly based upon one or more past scientific achievements, achievements that some particular scientific community acknowledges for a time as supplying the foundation for its further practice." These achievements must be sufficiently unprecedented to attract an enduring group of adherents away from competing modes of scientific activity and sufficiently open-ended to leave all sorts of problems for the redefined group of practitioners (and their students) to resolve. These achievements can be called paradigms. Students study these paradigms in order to become members of the particular scientific community in which they will later practice.

James Franklin (2000) claims that the basic content of Kuhn's book can be inferred simply by asking: what would the humanities crowd *want* said about science? Once the question is asked, the answer is obvious. Kuhn's thesis is that scientific theories are no better than those found in the humanities. The idea that science is all theoretical talk and negotiation, which never really establishes anything, is one that caused trouble long ago for Galileo, who wrote:

> *If what we are discussing were a point of law or of the humanities, in which neither true nor false exists, one might trust in subtlety of mind and readiness of tongue and in the greater experience of the writers, and expect him who excelled in those things to make his reasoning more plausible, and one might judge it to be the best.*

Kuhn's "achievement" was to put the view of Galileo's scholastic opponents back on the agenda. Up to his time, philosophy of science had concentrated on such questions as how evidence confirms theories and what the difference is between science and pseudo-science; that is, questions about the logic of science. Kuhn declared logic outmoded and replaced it with history.

At a more logical level, Kuhn's success depended on certain ambiguities. Even in the caricature above, it is clear how some were essential to Kuhn's plan. What does "unsustainable" mean when said of a scientific theory? In particular, is it a matter of logic or of psychology? If it means that there are a number of observed results that would be unlikely if the theory were true, then one is back in the realm of logic, of the bad old philosophy of science that studied the relation of evidence to hypothesis. Naturally, Kuhn is not keen to emphasize that direction. But if "unsustainable" is a purely psychological matter, a kind of collective disgust felt by a *salon des refusés* of younger scientists who simply think their elders are too smug, then it is impossible to see why it should have any standing as science. If the old theory ain't broke—if its predictions are true, for example, and its explanations coherent—why fix it?

It is clear why Fuller's argument is a similar version when he says "We can know things only via causal (social) processes acting on the brains of real scientists, therefore the content of our theories is fully explained by the social factors causing them; that is, we cannot know things as they are in themselves. Scientists are people, after all, and as such are responsive only to social or similar causes."

What is a Paradigm?

Imran Javaid (1997) looks specifically at the question: What is a Paradigm? At the core of Kuhn's thoughts is the notion of "paradigms." While Kuhn cannot claim exclusive credit for coining the word, no intellectual work popularized the word as his *Structure* did. Though one source claims that Kuhn utilizes twenty-one implicit meanings for the word during the course of his long essay, Kuhn offers an initial definition that readers can easily hold on to as legitimate. Paradigms are essentially scientific theories or ways of looking at the world that fulfil two requirements: they must be "sufficiently unprecedented to attract an enduring group of adherents away from competing modes of scientific activity," and they must be "sufficiently open-ended to leave all sorts of problems for the redefined group of practitioners to resolve."

Indeed, even in this initial definition, readers can already detect, through words such as "adherents," the manner in which Kuhn often presents his arguments. While his ideas may not be totally revolutionary in and of themselves, his language often portrays paradigms as cults and the battle between paradigms as quasi-religious wars.

The breakdown of old paradigms and emergence of new ones is often assisted by social forces. For evidence, Kuhn looks briefly at the sixteenth century debate over Copernicus' ideas.

One important aspect of Kuhn's philosophy involves the idea that “the decision to reject one paradigm is always simultaneously the decision to accept another, and the judgment leading to that decision involves the comparison of both paradigms with nature and with each other.” Why is this the case? Kuhn points partly to social reasons: “To reject one paradigm without simultaneously substituting another is to reject science itself.”

In The Development of Science *Bird (2000) tells us that “in* The Structure of Scientific Revolutions *Kuhn paints a picture of the development of science quite unlike any that had gone before. Indeed, before Kuhn, there was little by way of a carefully considered, theoretically explained account of scientific change. Instead, there was a conception of how science ought to develop that was a by-product of the prevailing philosophy of science, as well as a popular, heroic view of scientific progress.”*

According to Kuhn the development of a science is not uniform but has alternating “normal” and “revolutionary” (or “extraordinary”) phases.

This conservative resistance to the attempted refutation of key theories means that revolutions are not sought for except under extreme circumstances. Popper's philosophy requires that a single reproducible, anomalous phenomenon be enough to result in the rejection of a theory (Popper 1959, 86-7). Kuhn's view is that during normal science scientists neither test nor seek to confirm the guiding theories of their disciplinary matrix. Nor do they regard anomalous results as falsifying those theories. It is only speculative puzzle-solutions that can be falsified in a Popperian fashion during normal science (1970b, 19). Rather, anomalies are ignored or explained away if at all possible. It is only the accumulation of particularly troublesome anomalies that poses a serious problem for the existing disciplinary matrix.

The most interesting response to crisis will be the search for a revised disciplinary matrix, a revision that will allow for the elimination of at least the most pressing anomalies and optimally the solution of many outstanding and unsolved puzzles. Such a revision will be a scientific revolution. According to Popper the revolutionary overthrow of a theory is one that is logically required by an anomaly. According to Kuhn however, there are no rules for deciding on the significance of a puzzle and for weighing puzzles and their solutions against one another. The decision to opt for a revision of a disciplinary matrix is not one that is rationally compelled; nor is the particular choice of revision rationally compelled. For this reason the revolutionary phase is particularly open to competition among differing ideas and to rational disagreement about their relative merits. Kuhn does briefly mention that extra-scientific factors might help decide the outcome of a scientific revolution – the nationalities and personalities of leading protagonists, for example (1962/1970a, 152-3). This suggestion grew in the hands of some sociologists and historians of science into the thesis that the outcome of a scientific revolution, indeed of any step in the development of science, is always determined by socio-political factors. Kuhn himself repudiated such ideas and his work makes it clear that the factors determining the outcome of a scientific dispute, particularly in modern science, are almost always to be found within science, specifically in connexion with the puzzle-solving power of the competing ideas.

According to Bird (2004) the Paradigm Concept is that

> *… a mature science, according to Kuhn, experiences alternating phases of normal science and revolutions. In normal science the key theories, instruments, values and metaphysical assumptions that comprise the disciplinary matrix are kept fixed, permitting the cumulative generation of puzzle-solutions, whereas in a scientific revolution the disciplinary matrix undergoes revision, in order to permit the solution of the more serious anomalous puzzles that disturbed the preceding period of normal science.*

Kuhn rejected the distinction between the context of discovery and the context of justification (1962/1970a, 8), and correspondingly rejected the standard account of each. As regards the context of discovery, the standard view held that the philosophy of science had nothing to say on the issue of the functioning of the creative imagination. But Kuhn's paradigms do provide a partial explanation, since training with exemplars enables scientists to see new puzzle-situations in terms of familiar puzzles and thus enables them to see potential solutions to their new puzzles.

More important for Kuhn was the way his account of the context of justification diverged from the standard picture. The functioning of exemplars is intended explicitly to contrast with the operation of rules. The key determinant in the acceptability of a proposed puzzle-solution is its similarity to the paradigmatic puzzle-solutions. Perception of similarity cannot be reduced to rules, and a fortiori cannot be reduced to rules of rationality. This rejection of rules of rationality was one of the factors that led Kuhn's critics to accuse him of irrationalism. In this respect at least the accusation is wide of the mark: it is perfectly reasonable to claim that perceiving similarity in appearance between two members of the same family cannot be reduced to the application of rules of rationality. Kuhn's innovation in *The Structure of Scientific Revolutions* was to suggest that "a key element in cognition in science operates in the same fashion."

Shifts in the meanings of key terms

"In *The Structure of Scientific Revolutions* Kuhn asserts that there are important shifts in the meanings of key terms as a consequence of a scientific revolution (Bird, A., 2004).

Kuhn's view as expressed in the passage quoted above depends upon meaning holism – the claim that the meanings of terms are interrelated in such a way that changing the meaning of one term results in changes in the meanings of related terms. Another not unrelated source is the assumption of holism in the philosophy of science that is consequent upon the positivist conception of theoretical meaning. According to the latter, it is not the function of the theoretical part of scientific language to refer to and describe unobserved entities. Only observational sentences directly describe the world, and this explains why they have the meaning that they do. Theories permit the deduction of observational sentences. This is what gives theoretical expressions their meaning. Theoretical statements cannot, however, be reduced to observational ones. This is because, first, theoretical propositions are involved collectively in the deduction of observational statements, rather than singly. Consequently, the meaning of a theoretical sentence is not equivalent to the meaning of any observational sentence or combination of observational sentences. The meaning of a theoretical term is a product of two factors: the relationship of the theory or theories of which it is a part to its

observational consequences and the role that particular term plays within those theories. This is the double-language model of the language of science and was the standard picture of the relationship of a scientific theory to the world when Kuhn wrote *The Structure of Scientific Revolutions*. Kuhn's challenge to it lay not in rejecting the anti-realism implicit in the view that theories do not refer to the world but rather in undermining the assumption that the relationship between observation and the world is unproblematic.

Although Kuhn asserted a semantic incommensurability thesis in *The Structure of Scientific Revolutions* he did not articulate or argue for the thesis in detail there. He attempted to do this in his subsequent work, with the result that the nature of the thesis changed over time. At the heart of the incommensurability thesis after *The Structure of Scientific Revolutions* is the idea that certain kinds of translation are impossible. Early on Kuhn drew a parallel with Quine's thesis of the indeterminacy of translation (1970a, 202; 1970c, 268). According to the latter, if we are translating one language into another, there are inevitably a multitude of ways of providing a translation that are adequate to the behaviour of the speakers. None of the translations is the correct one, and in Quine's view there is no such thing as the meaning of the words to be translated. It was nonetheless clear that Quine's thesis was rather far from Kuhn's thesis, indeed that they are incompatible. First, Kuhn thought that incommensurability was a matter of there being no fully adequate translation whereas Quine's thesis involved the availability of multiple translations. Secondly, Kuhn does believe that the translated expressions do have a meaning, whereas Quine denies this. Thirdly, Kuhn later went on to say that unlike Quine he does not think that reference is inscrutable—it is just very difficult to recover (1976, 191).

The problematic nature of translation arises from two assumptions. First, as we have seen, Kuhn assumes that meaning is (locally) holistic. A change in the meaning of one part of the lexical structure will result in a change to all its parts. This would rule out preservation of the translatability of taxonomies by redefining the changed part in terms of the unchanged part. Secondly, Kuhn adopts the 'no-overlap' principle which states that either categories in a taxonomy must be disjoint or one must be a subset of the other. They cannot simply overlap. This rules out the possibility of an all-encompassing taxonomy that incorporates both the original and the changed taxonomies.

Conclusions

Kuhn's influence outside professional philosophy of science may have been even greater than it was within it. The social sciences in particular took up Kuhn with enthusiasm. There are two main reasons for this. First, Kuhn's picture of science appeared to permit a more liberal conception of what science is than hitherto: one that could be taken to include disciplines such as sociology and psychoanalysis. Secondly, Kuhn's rejection of rules as determining scientific outcomes appeared to permit appeal to other factors, external to science, in explaining why a scientific revolution took the course that it did.

However, the incommensurability thesis is not Kuhn's only positive philosophical thesis. Kuhn himself tells us that "the paradigm as shared example is the central element of what I now take to be the most novel and least understood aspect of this book" (1970a, 187). Nonetheless, he failed to develop the paradigm concept in his later work beyond an early application of its semantic aspects to the explanation of incommensurability. The explanation of scientific development in terms of paradigms was not only novel but radical

too, insofar as it gives a naturalistic explanation of belief-change. Naturalism was not in the early 1960s the familiar part of the philosophical landscape that it has subsequently become. Kuhn's explanation contrasted with explanations in terms of rules of method (or confirmation, falsification etc.) that most philosophers of science took to be constitutive of rationality. Furthermore, the relevant disciplines (psychology, cognitive science, artificial intelligence) were either insufficiently advanced to support Kuhn's contentions concerning paradigms, or were antithetical to them (in the case of classical AI). Now that naturalism has become an accepted component of philosophy, there has recently been interest in reassessing Kuhn's work in the light of developments in the relevant sciences, many of which provide corroboration for Kuhn's claim that science is driven by relations of perceived similarity and analogy to existing problems and their solutions (Nickles 2003b, Nersessian 2003). It may yet be that a characteristically Kuhnian thesis will play a prominent part in our understanding of science.

“The first edition of Thomas Kuhn's *The Structure of Scientific Revolutions* appeared just over 30 years ago, in 1962. His vision has revolutionized the way we think about science, and has given us as well a new way to look at change in all of life.” (Healy, 1992).

A vision of science that preceded Kuhn saw science as an accumulation of all that had been learned over history, each new law adding its weight to the mass of knowledge. Kuhn saw something else. He saw a science profoundly altered by a major new law, so that all of that science might be affected. Kuhn envisioned a science as having, at any one time, a world view, or “paradigm”, of its environment. This scientific paradigm describes everything that the science holds, all of its laws, beliefs, procedures and methods, everything upon which it bases its life. Kuhn felt that most scientists participate in “normal science”, which is any activity consistent with the existing paradigm, with relatively small gains as the rule. Eventually, anomalies arise which the paradigm cannot resolve. Then some individual(s) may step out of the paradigm, and propose some new principle or law. If the scientific community accepts the proposed change, the science experiences a “paradigm shift”, and the new science proceeds with a new paradigm. (Benedek and Molnár 2013, Molnár 2010, Szűts 2012)

Whether in the sciences, or in other aspects of our lives, paradigm shifts seem to have some common characteristics.

- Paradigm shifts are a necessary part of life. Things do change, and we have to adjust to that change.
- Paradigm shifts can be bad. Society needs quite a bit of stability, so that it can depend on its view of the world. Constant shifts in major elements of our paradigm would make our lives very difficult.

  Paradigm shifts often come from the young. Older people have more to conserve. They have more invested, financially and psychologically, in their paradigm. Winston Churchill is reported to have said that any man who is not a liberal at 20 has no heart, and any man who is not a conservative at 40 has no mind.
- You cannot abandon a paradigm until you have one to put in its place, because our paradigm is that which allows us to function. Without a paradigm, good or bad, we cannot function.
- It usually takes a long time to effect a paradigm shift - often as much as 20 years, about the life of a generation. (See above, and for an example, see also Hunt, 1991)

As Malcolm Gladwell wrote in The New Yorker, “That [Kuhn's] idea was intended to apply only to the natural sciences did not matter. It was so novel, so persuasive, and – upon the monograph's publication as a book, in 1970 – so perfectly in the rebellious spirit of the times that it quickly became adopted as a kind of general theory of everything.”

Kuhn's ideas were indeed truly pervasive. In philosophy, history, sociology, economics, politics, and even religion, Kuhn's theory of paradigms changed the nature of the fields.

Perhaps Gladwell summed up Kuhn's legacy best when he wrote “Kuhn will be remembered because he taught that the process of science was fundamentally human, that discoveries were the product not of some plodding, rational process but of human ingenuity intermingled with politics and personality--that science was, in the end, a social process.”

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ZORMAN, Rachel

FORMATIVE FEEDBACK AS A TOOL FOR LEARNING AND GROWING

In this article, the importance of formative feedback for learning and self growth will be examined. Principles of providing formative feedback will be delineated. Practical examples of elements of formative feedback, such as feedback for success and for challenges, will be presented. Finally, steps in providing feedback will be suggested and implemented in student-parent-teacher conferences.

The importance of formative feedback for learning and growth

In their seminal article about effective methods of raising achievement among students, "Inside the black box: Raising standards through classroom assessment", Black and Wiliam (1998) presented results of a meta-analysis of research in this area. They found that formative feedback which directs classroom teaching and learning increases achievement among all students and decreases the gap between strong and weak students. Thus, according to Black and Wiliam (1998), the role of formative feedback is threefold:

1. It increases student involvement in learning processes and in self evaluations.
2. It enhances student motivation and self-concept.
3. It leads to changes in teaching strategies.

In her book summarizing research about the power of beliefs and how to change them, "Mindset: The new psychology of success", Dweck (2006) discussed the differences between two mindsets or beliefs about one's intelligence and abilities: fixed and growth. These mindsets develop as a result of one's interaction with the environment. A person with a fixed mindset regards intelligence and abilities as static and unchanging in nature. In contrast, a person with a growth mindset relates to intelligence and abilities as ever-growing and developing. These mindsets lead to a process which may enhance or decrease achievement. A fixed mindset leads to a desire to look smart at all costs. Consequently, one avoids challenges, viewed as potential failures. One may give up easily on hard tasks, steers clear from hard effort, and ignores feedback for mistakes. This process may result, ultimately, in decreased achievement. A growth mindset leads to a willingness to learn from challenges. Consequently, one persists in facing obstacles. One exerts effort, and learns from feedback, culminating in enhanced achievement. Thus, feedback is regarded as crucial in the process of learning from one's actions. Moreover, it also promotes beliefs shaping a world view about one's intelligence and abilities.

Specific elements of formative feedback

How can we provide formative feedback to enhance student motivation, self- concept and a growth mindset?

Based on their research and work with school systems in the United States and in England, Black et al. (2003) and Stiggins & Chappuis (2005) proposed several key components of an effective system of feedback in the classroom. These include:

- Establishing clear goals for assessing students and providing feedback to all relevant stakeholders.
- Selecting or developing assessments that can provide accurate feedback on student performance and behavior.
- Involving students in the assessment and feedback process in order to enhance their responsibility for learning.
- Designing instruction and assessment based on clear learning targets.
- Communicating summative and formative results effectively.

As a result of our extensive experience in working with teachers and schools in Israel, and in line with Dweck's (2006) suggestions, the following table provides examples of particular formative feedback for success, as well as for challenges.

Several types of teacher and self- report feedback are presented, with specific illustrations for each of them.

Table 1 – Examples of specific types of feedback for success and for challenges

Type of Performance	**Type of Feedback**	**Example**
Success	Description of behavior relating to effort and its results	Teacher feedback: You put a lot of effort in this work, as shown by the in depth analysis of this phenomenon and by drawing well supported conclusions
Success	Reinforcing originality and persistence	Teacher feedback: You faced the challenge in an original and interesting manner, just as you did in previous times.
Success	Reinforcing the belief in the ability to grow	Student self- report: I improved significantly in stating the problem and in finding appropriate solutions to it
Challenge	The problem is specific to this task, not a general problems	Teacher feedback: Unlike other tasks, in this task, you did not apply your knowledge about causality
Challenge	Focusing on improvement	Student self- report: I need to think of a better example that illustrates the causal relationship between the phenomena
Challenge	Providing normative information – you are not the only one with the problem	Teacher feedback: You chose a good example for the principle, but just like many students, it's hard to understand from the example the causal relationship between the phenomena

Steps in providing formative feedback

In line with our extensive field experience, we would like to present several steps in providing effective feedback, with the intent of empowering the person to continue the process of constant improvement.

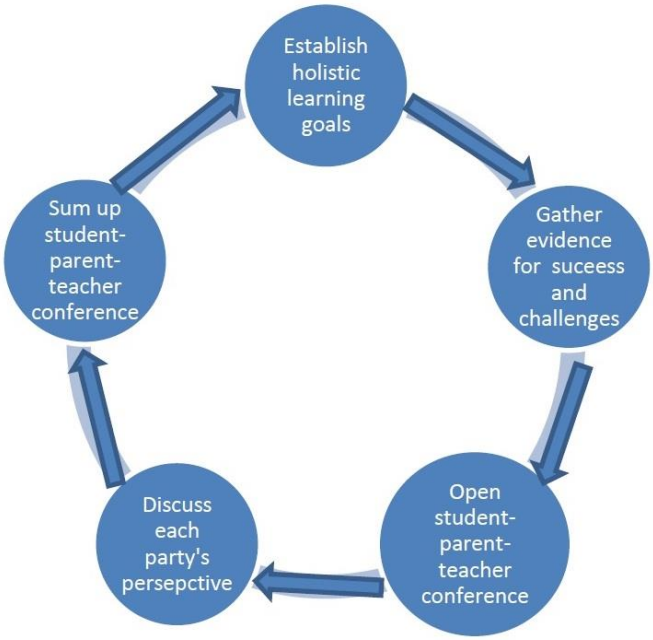
1. Clarifying expectations – it is important to clarify initially that the goal is to improve, not to put down. Moreover, the focus will be on behaviors that can be
2. Opening positive feedback – it is suggested to begin with positive feedback on success, no matter how small it is, in order to establish trust and willingness to continue the process.
3. Feedback relating to challenges – it is important to describe problems as challenges, not as weaknesses and failures, which have a fixed connotation of traits which cannot be Moreover, it is advisable to begin to think together how to deal with them. This may enhance a 'can do' attitude of improvement.
4. Culminating positive feedback – it is recommended to end with positive feedback relating to some kind of success, of overcoming a challenge, and/or to the process that both parties experienced in discussing the feedback. This may boost the belief that one can continue to improve.

An example of formative feedback – Student-Parent – Teacher Conference

In their work with schools, Stiggins and Chappuis (2005), capitalized on student-parent-teacher conferences as one of the ways to enhance student involvement and performance. Thus, they implemented the key components of the effective system of feedback which was detailed above. This system was implemented successfully by Israeli teachers trained by the Henrietta Szold Institute staff.

One may view this system as a cycle with several phases that feed into one another, as presented in figure 1 below.

Figure 1 – The cycle of feedback in student-parent-teacher conference



Each of the phases shown above contains the following elements:

- **Establishing holistic learning goals**
  Students establish their individual learning goals in various subject areas, as well as in social and emotional realms with the help and guidance of their teacher.
- **Gathering evidence for areas of strengths and improvement**
  Students prepare evidence for their strengths and areas needing improvement by gathering data from various formative and summative assessments, such as tests, projects, and essays which relate to their learning goals, detailing their success and challenges.
- **Opening student-parent-teacher conference**
  Students open the student-parent- teacher conference by presenting their self-assessment of their attitudes, knowledge and behavior from cognitive, social and emotional perspectives along with the relevant data which they gathered.
- **Discussion of each party's perspective**
  Teachers and parents provide their feedback relating to strengths and challenges, relating to the students' self- assessment and adding their perspectives.
- **Summing up student-parent-teacher conference**
  Students, teachers and parents choose learning goals in the cognitive, social and emotional realm for the students to work on, specifying what students may do to improve and how parents and teachers may assist them to reach their goals and improve.

In conclusion, continuous systematic feedback focusing on success in overcoming challenges, provided and discussed by all parties relating to students may cultivate a growth mindset. This growth mindset, in turn, may promote enhanced achievement and fulfillment of potential.

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TROJAN, Vaclav

THE ISSUES OF PROFESSIONAL PREPARATION OF SCHOOL HEADMASTERS IN THE CZECH REPUBLIC

Introduction

The headmaster is a crucial and irreplaceable person of each school. (*Translator's note: For the sake of clearness, "he" will be used when "headmaster" is replaced by a pronoun in the text below, but it will mean both genders.*) The role of that person is still undervalued not only in the current process of curricular reform, but primarily in everyday life of the school; the consequences of his decision making often affect many people for a long time. Not only Czech, but also international references put stress on professional preparation (Schratz, 2010), on his education and cultivation of competences (Lhotková, Trojan, & Kitzberger, 2012). But the preparation is not further specified.

In the present situation, the position of school headmaster is assumed by a fully qualified teacher with prescribed duration of teaching experience. Studies start revealing that the headmaster is not merely a specific case of a teacher, but that it is a peculiar, specific position, irreplaceable for the school and requiring exceptional and comprehensive preparation. It turns out that a lot of headmasters equipped only with teaching qualification and experience fail in their function or manage the challenging job only with great difficulties. Therefore the article will deal with the issues of their professional preparation.

If perceiving the teacher as a key actor of transformation of the school, the headmaster plays a completely crucial role in that process. It is therefore necessary to analyze also the concept of the headmaster profession in new conditions and to seek innovated approaches to their education and lifelong professional development. The branch of School Management (Everard & Morris, 1996) researches different aspects of management of school in changing conditions (Trunda, 2012) and, as such, it must reflect the development, the current status and the trends of the branch, as well as the trends of the development (Covey, 1991) of the society and of the educational system of neighbouring countries. Of course, the headmaster as the fundamental agent (Pisoňová, 2008) and crucial factor of the development of the school constitutes one of the primary spheres of interest, as well as the holistic development of that irreplaceable person.

A considerable part of foreign references from the area of pedagogical leadership works on the assumption that the school has the main and unique task: teaching and learning of all pupils (Bush, Bell, & Middlewood, 2010). According to foreign studies, school management is the second most important factor influencing the pupils' learning; the first factor consists in the form of teaching (Leithwood, Day, Sammons, Harris, & Hopkins, 2006).

Points of departure

- The school headmaster has been paid low level of systematic scientific attention and care so far
- There is a number of partial studies; however, they are not linked by any unifying idea and methodology
- The concept of the headmaster position undergoes a dynamic development both in the Czech Republic and abroad
- Expert reports repeatedly point out the drawbacks of headmasters in the area of management of teaching quality
- The system of headmaster education evidently gets obsolete, and so the professionalization of the headmasters lags behind the professionalization of the teachers
- No career model of the teacher and of the headmaster has not been created and adopted so far

When comparing the situations in individual OECD countries, the Czech school has one of the highest values of autonomy both from the curricular and from the economic perspective (Trojan, 2011). The headmaster is burdened with fulfilling tasks from many areas (law, economics, school operation), and therefore has demonstrably less and less time for the management of the pedagogical process. The assessment report (McKinsey@Company, 2010) sees one of the key measures for a turn of the negative trends in the Czech education in releasing the headmaster's capacity for the area of the pedagogical issues. The OECD assessment report (Santiago, 2012) has the same result. The school headmaster is overloaded by lots of formal work and devotes approximately a fifth of his worktime to the educational process and to the management of the school quality (Trojanová, 2014). The administrative burden, constituting probably not only a Czech phenomenon, detracts the headmaster not only from the management of the pedagogical work of the school but also from the contact with the development of teaching theory and practice. That creates the risk of obsolescence of the headmaster's pedagogical expertness, resulting in his not being able to act as a pedagogical leader any more (Dvořák, 2011).

The headmaster's job has been experiencing essential changes in the course of recent years. When comparing the structure of the headmaster's work and the level of his responsibility twenty years ago and at present, we can state that we are facing two different professions. The traditional conflict of his profession is based on the tripersonality of the concept of roles. The theoretically described and accepted roles of leader, manager and executor of process (Lhotková et al., 2012) mean that the headmaster carries out all above stated roles and often switches from one role to another in the course of one day. Particularly in the area of management of pedagogical process and factual subordination to the leader of the subject team at the time of direct teaching duty, such systematic ambiguousness brings about difficult managerial situations. The headmaster must be comprehensively educated (with stress on andragogical principles and branch overlaps); he must be an expert on the

management of school and on the management of teaching quality, with ability to reflect external influences affecting the educational system (Liesman, 2011).

Theoretical aspects of the issue

The topic of the teacher, his socio-professional roles, the key professional competences, the creative character of his activities, the professional autonomy, the attitude-ethical qualities and other issues constitute one of the shaping topics of the Czech and international pedagogical research. (OECD 1994; Spilková, Vašutová 2002; Vašutová 2004; Walterová 2004; EK 2007; Spilková, Vašutová 2008) The common starting point of the increased interest in the above stated areas consists in the fact that the increasing importance of education in the society is closely related to the issue of quality of the teachers and of their professionalization. The teachers are considered key players in the field of educational reforms and innovations. At the same time, it is pointed out that in the context of the changing Czech society and the education system, the demands on the teaching profession are essentially shifting. (Spilková, Vašutová 2008)

The teacher is the central and starting concept in the comprehensive reflections about the teaching profession. But it is often used at a generalized level, abstracting from the variability of many aspects of the professional activities, qualities, working conditions and variable working contexts. In spite of how frequently the concept of teacher is dealt with, "it is almost never precisely defined, as if it is automatically considered unambiguous to everybody (Průcha, 2010)." Yet the simple, but legitimate question "who is the teacher?" starts getting problematic as soon as we start reflecting on it for professional and scientific purposes. This is a key moment, as it is not divested of problems to view the headmaster through a prism of the category of teacher: at least, he is not a typical representative of the teaching profession, primarily with regard to direct teaching activities and to the character or structure of the work he carries out apart from the actual teaching. On the other side, however, there is probably no doubt that the headmaster does not deviate from the definition of the teacher, as long as he teaches pupils at least during a part of his working time (e.g., according to the OECD indicators, only the headmasters with zero teaching workload are not included among teachers[1]).

Two type-different working activities of two different professional directions overlap in the headmaster's profession. First, it is upbringing and education (the headmaster must meet the qualification preconditions of a teacher and fulfil the standard of teacher's professional qualities in his work); second, it is management, including fitness for general management and coordination of the school and assumption of responsibility for creation of development strategies of the school. We believe that the core activities of headmasters consist in the latter area. The activities of the headmaster as executor of direct pedagogical duties, i.e. teaching, is marginal with regard to the essence of his role in the school. But the present occupational and qualification specification anchors the school headmasters in two

[1] Education at a Glance: OECD Indicators, 2001, s. 309-400.

professions at the same time. It results from the traditional perception of the headmaster's position primarily as a teacher who is "the one and the first of the teaching staff", reflecting the habitual idea that "the person heading the school is primarily a teacher. (Dvořák, 2011)". However, not only abroad but also in our country, the transformation of the state administration (dissolution of branch management, new legal subjectivity of schools, curricular autonomy of schools, etc.) produced an essential change of the job contents and extension of the administration and operation paperwork the headmaster has to take care off, additionally to the management of the pedagogical process and implementation of the actual teaching (compare Novotný 2005; Prášilová 2008; Sedláček 2008). Thus the character of the headmaster's work has been transformed from the „heading **teacher**" (Dvořák, 2011), or from the "pedagogical school leader to a comprehensive manager" (Pol, Úvodní fáze profesní dráhy ředitelů základních škol, 14,1).

The starting point for formulation of scientific knowledge foundations on the headmasters, if they are to be included in the teaching profession, consists in the research of professional roles and professional competences needed for good mastering of the tasks of the leading pedagogical worker in dynamically changing conditions, in sufficient knowledge of the conditions and trends in the development of the society and of the educational system, as well as in thorough familiarity with the specific working situation of the headmasters and with the development of their professional career.

The guiding topic of the reflections on the teaching profession concerns the teachers' quality and responsibility for the quality of teaching, which are getting more and more relevant with the growing importance of education in the knowledge society. In that context, recent decades have brought numerous research or development projects dedicated to the teachers' quality, ascertainment of their professional performance, identification of the teacher's key professional competences and formulations of the professional standard as a tool for education, professional development and assessment of the teachers. Many studies have shown that the teachers' quality is the most important factor influencing the quality of school education and the pupils' results (Darling-Hammond 2000; Hanusek, Kain, Rivkin 2005).

At the same time, a lot of studies (Leithwood 2001, 2006; Mulford 2003; Waters at al. 2003; Robinson et al. 2009; Abari-Ibolya, Baráth 2010) argue that the method or level of leadership of the school also rank among the most important factors influencing the pupils' learning and thus the general quality and efficiency of the school or of the education, respectively. Therefore, when the headmasters are concerned, we believe that it is more essential to concentrate on the second area of their activities, i.e. to focus the research on their managerial and leadership competences. Thus if our discussions on the teaching professions are aimed at expressing the substance of the teacher's professionalism, roles and competences, then the preparation of headmasters and mediation of the competences needed for high-quality practice of their professional share constitute a similarly important area of the discussion.

If, within the broad spectrum of the headmaster's professional activities, we focus only on the care area, derived from the primary purpose of the school, i.e. on the area of education, or more exactly influencing of the educational results of the pupils, we can find inspiration for example in the New Zealand document (Robinson 2007), which is a meta-analysis of 26 international studies (18 of them made in the USA) showing evident correlation between the *school leadership* and the pupils' results. A different approach to the organization of the knowledge of how leadership influences the pupils' learning was offered by Leithwood, Louis, Anderson and Wahlstrom (2004) who enumerated three main areas: demarcation of direction (creation of a vision, specification of goals and priorities, postulation of high performance demands), development of people (individualized support and own example) and *redesigning* of organization in the spirit of development of cooperation and participation in decision making.

Some discontinuity can be observed in the Czech Republic, as for addressing of the issues of competences of the managers in the educational system. Their legislative competences, i.e. competences given by legal regulations, are clearly delimited, but a statement of the competence profile with regard to the specification of knowledge and skills is missing. Sporadic studies in our country (Nezvalová 2003; Rýdl 2007; Trojan 2012) do not represent the necessary comprehensive solution of the issue.

We can observe different levels of the autonomous headmaster's position across the systems of education of different countries. International comparative analyses (EURIDICE 2007, 2012, TALIS 2008, PISA 2011) have been traditionally assessing the autonomy of schools from two perspectives: management of resources (both financial and human) and management of educational matters (management of the curriculum). The extensive research of the PISA 2009 study constructed two types of indexes for the needs of statistical evaluation: the index of school responsibility for allocation of resources and the index of school responsibility for the curriculum and for the assessment (the average of both indexes equals zero; thus the indexes express standard deviation from the average of OECD countries). For example the relatively highest degree of school autonomy, as expressed by the index of responsibility for the curriculum and for the assessment, can be found in Japan, Holland, the Czech Republic, Great Britain and New Zealand. The school headmasters from the above stated countries stated to have a high level of freedom in independent decision making in the following four areas: 1/ Determination of rules for the assessment of pupils; 2/ Selection of the textbooks for the pupils to learn from; 3/ Determination of the educational contents of individual subjects; 4/ Decision making on the subjects to be offered by the school. The countries with the lowest level of the index include Greece, Turkey, Jordan and Tunisia. It is therefore evident that the OECD data reveal a broad dispersion of the level of school autonomy in individual countries.

That fact leads to the conclusion that reaching an international consensus in standardization of the headmaster profession is actually excluded. The OECD data show unambiguously that

it is not quite possible to compare the professional performance of the headmaster of a Greek and Czech school, as their characteristics are situated at the opposite poles of the spectrum, and thus the conditions of and demands on the necessary competences are not commensurable. But such postulate applies also to research projects aimed at standardization of the headmaster profession based on the adoption of foreign experience. If we are to base our further research of the issues of the standard of headmasters on comparative analyses, we must follow the system of educations by related characteristics (e.g. as expressed by both autonomy indexes according to the PISA study). In case of the Czech Republic, the demand is met by the Netherlands and Great Britain. Both countries have experience with the development of standards for headmasters, as stated above.

The above stated lists show that the common tools for evaluation of headmaster competences include catalogues of attributes of such professional performances, leadership methods, etc. that are (based on different analytic studies and research findings) identified as functional, efficient, good practice examples. But on the other hand, it is evident that quality in this context is and cannot be a static value that could be achieved once and away, particularly with respect to the constantly changing conditions in education. It is rather a lifelong path of a professional. For that reason, we consider it important to pay attention also to the dynamic components of the headmaster profession. In the process of creation of the professional standard for pedagogical managers, we consider it very important not to underestimate the job analysis of a school headmaster and to gather a sufficiently robust knowledge database on this profession subgroup, as the school headmasters will have to cope with the demands and expectations set by the professional standard. As we perceive a great potential tension "on the edge" of two standards (teacher's competences and manager's competences), we are also interested in a broader internal and external context of the school, as it determines fundamentally the conditions in which the headmaster will strive to meet the standard and which determine the professional success. The thing is that a good and competent teacher cannot be expected to be automatically a good headmaster. Nevertheless, some studies show that the prestige the headmaster has built in the course of his preceding teacher's career constitutes an important factor of his adaptation to the position of headmaster.

At present, it is unimaginable for the headmaster to practise his job well only based on intuitive processes, in spite of a great talent for the related activities. Even in case of a very massive and high-quality delegation, such job cannot be practised well without a knowledge background. Therefore the need of the demand on the study of school management even before starting to practice the headmaster job becomes more and more accentuated. The career system under preparation should consider that need; only applicants with completed education in the above stated area should be allowed to register in the competition proceedings. At the same time, similarly as with respect to teachers, a concept of compulsory further education of headmasters who are already practising their jobs should be elaborated within the system.

Education of headmasters

At present, the demands on the practice of the headmaster position in the Czech Republic are considerably obsolete already and do not correspond to the dynamic development; that applies also to the progress of further headmaster education. A starting headmaster must have the prescribed pedagogical education and teaching experience, specified by the type of school at 3-5 years, but no "headmaster" education before entering the position has been specified yet. it is therefore quite probable that we often have schools managed by teachers who are honest and pedagogically educated, but laymen who will try to manage the school by trial-and-error method at the beginning. The situation is dismal, without exaggeration. I will summarize the greatest problems resulting from the missing headmaster career-system:

- The starting headmaster is not thoroughly and holistically prepared for the practice of his job
- Any degrees of the headmaster career are not distinctively marked; the headmaster has no obligation of further development in the area of school management or employee leadership
- The school headmasters do not have any systematic support
- Uncertain position of the headmaster, resulting from strong politicization of the educational system. Particularly in small villages, the schools are managed by laymen; the assessment of the headmasters performed by the school authorities is random and disorganized (Kuchař, 2013).
- Expert headmasters are not systematically used for example as mentors, educators or assessors. The great number of school authorities and the reduced opportunities of the state in this area lead to a relatively probable departure of the headmaster after the termination of his term of office; the headmaster is endangered from labour-law perspective, as compared to other teachers
- The existing, often very sophisticated educational programs for pedagogical managers do not constitute a comprehensive system (at present, the following programs are available: Studies for school headmasters, Studies for pedagogical managers, School management (Bachelor discipline) and Education management (subsequent Master discipline))
- The present condition of completing the compulsory educational program within two years after entering the position burdens the headmaster in the most sensitive and challenging period in which he must, additionally to the development of his own school, pursue the fulfilment of the conditions of the educational program
- The compulsory educational program (Studies for school headmasters) is not sufficient for the practice of the headmaster job both with respect to its prescribed duration of 100 hours and to its contents, as it does not cover for

example the area of people leadership. The other above stated educational programs have been facultative so far.

- The educational programs often do not consider the diversity of the audience with respect to the duration of the headmaster experience and the resulting educational needs

According to the valid regulations,[2] the applicant for headmaster position must have pedagogical education and the prescribed teaching experience; but no regulation speaks about prescribed education from the school management area. Ironically, the obligation is set for the most challenging stage of starting the job, when the new headmaster must attain the prescribed education within two years from starting the position. Unfortunately, the prescribed level is relatively low; the educational program takes 100 hours and its standard does not include the area of people leadership at all. Other educational programs are implemented in the Czech Republic as well, for example within lifelong education called Studies for pedagogical managers, 350 hours, and the Bachelor studies of the School management discipline, implemented in combined form of studies, three years of basic duration. Both programs can replace the above stated managerial foundations. In recent five years, the subsequent Master discipline called Education Management has been taught in combined form in only one centre in the Czech Republic (School Management Centre of the Faculty of Education of Charles University in Prague); at present, it offers the highest education to a broad spectrum of managers from schools, offices, inspection, the Ministry of Education and, last but not least, it is intended also for school authorities.

The system of education is considerably affected also by the fact that so far, there has not been any career model to structure the headmaster education, distinguish the particularities of the individual career states and to force the headmasters to implement professional development. It is also worth considering that perhaps a specified level of managerial qualification or a demonstrable experience in the position of deputy headmaster or a crucial position with decision-making authorities at medium-management level should be set as legal condition to submit an application for the headmaster position.

The headmaster is responsible for all areas of life of the school and, at the same time, acts as a teacher. That particularity, that peculiarity of the headmaster's work that, so to say, complicates the school management, is often overlooked (Pisoňová, 2012). It has been unimaginable in the Czech educational context that a school headmaster has no teaching education, no teaching experience, and does not act as a teacher parallelly to the practice of his function (Trojan, 2012); the amount of direct teaching work depends on the number of classes of the relevant school. At the same time, the headmaster is expected to be an equally good economist, clerk, HR officer or law expert.

[2] Act 561/2004 Coll. on preschool, elementary, secondary, higher professional and other education (School Act) and Act 563/2004 Coll. on pedagogical employees, as amended

There is no obligation of preceding education in the school management area specified for the headmaster. The new school manager is under a huge strain and it may have fatal impact when combined with the obligation of starting to study immediately. The truth is that in the neighbouring countries, it is rather unusual for the headmasters to have such obligation (Pol, Norská zkušenost, 2010); but on the other hand, experts point out the advantage of knowing the relevant issues in advance, as such knowledge contributes to influence the decision-making process of the future headmaster. It is certainly better if a person not confident of his capabilities to practice the job of headmaster changes his mind before rather than after starting the job.

School regulations in general set the obligation of further education to pedagogical employees. The obligation is set in quite a vague manner; it is within the headmaster's competence, but on the other hand, paid leave for so called self-study is linked to it; pedagogical employees have 12 days of such unpaid leave per school year in the Czech Republic, including the headmaster, who is also a pedagogical employee. But the headmaster does not have the obligation of further managerial education. It has been pointed out already that the statutory education level for headmasters is low and that it cannot suit and suffice to the headmaster for the whole duration of practice of his job.

The system does not make use of experienced headmasters who could be purposefully used as initiating headmasters, mentors, coaches or educators of other headmasters. It does not mean that many educators do not cooperate with such experienced people; but the article points out systematic drawbacks. It is to be hoped that the future career model will eliminate that obstacle too.

The current educational programs are always implemented as a whole; only sporadically, there is a selective module system where the participants choose individual partial study modules due to changed situation, in order to get new information and to strengthen their competences, not due to a prescribed obligation.

The traditional areas of headmaster education - legal regulations and economics - are not accentuated as primary any more. Their importance is still pointed out, but people leadership and pedagogical process management is getting into focus. The latter area is certainly related with the estimated headmaster's responsibility for the education results of pupils in statewide comparisons.

New areas of the headmaster's responsibility are revealed - the above stated responsibility for the pupils' results, as well as the increasing importance of education of pedagogical employees. The new role of the headmaster as educator of the teachers is delimited. First and foremost, as direct educator, i.e. the role of the headmaster as instructor; the headmasters must be helped in that area. It is necessary to strive not only for strengthening of the headmasters' role and for creating their career model, but also for integrating the necessary activities into the educational programs for managers. The reflection of needs and

the analyses of the situation show that the headmaster is the crucial factor of the development of a successful school, and as such, he must be fitted with adequate skills for the practice of educational activities as well as with the corresponding andragogical and generally pedagogical knowledge.

Potential future situation

In recent two years, the framework of the career system of the teacher has been prepared within a national project, including the career development of headmasters.

The proposed model will certainly create clearly defined career degrees. I am convinced that they will not only help to set more clearly the potential development and to get better grasp of individual career stages, but that they will also, in a manner, make the headmaster profession more attractive, calm down the turbulent and uncertain headmaster field and result in creating preconditions for increasing level of the quality of education in the Czech Republic.

The existing development of the career system shows that the headmaster career will directly follow up with the teacher career; it will probably constitute the 3rd degree of the career system of the teacher that will be indispensable to assume the headmaster position. According to that system, the teacher performs work in a high quality exceeding the common standard. The teacher is perceived as an expert in his branch. He continuously develops in his subjects, branch didactics, pedagogy, psychology, special pedagogy and in the field of class management. He achieves demonstrably excellent results in his work, he is positively evaluated by the school management, by the pupils and by their parents. He is a respected advisor and helper to his colleagues at school, passing them his experience. In that way, he contributes actively to the growth of quality within his school. His work for the school is very difficultly replaceable, thanks to his qualities. He is the pedagogical leader of the school.

In compliance with the tradition and the existing development, we are not able to imagine that the school headmaster should not have teaching experience and direct teaching obligation. Although there are some opinions preferring the managerial perspective (particularly in secondary education, such arguments sound logical; the schools are often big and the possibility of a headmaster coming from company practice suggests itself), similar considerations are not relevant today, and they certainly will not be relevant for a long time.

The **first degree** will cover the period before the competition, so it will be the **preparatory period**. The future headmaster will have to pass compulsory education as precondition of the competition proceedings. The education offered by educational institutions will have to be extended, so that the future headmaster can complete the prescribed educational program out of his working hours; the program will probably have limited validity, e.g. 3-5

years. It should be completed out of the actual teaching hours, last but not least in order to eliminate the barriers created by the existing headmasters fearing future headmaster competitors.

The **second degree** will constitute the**adaptation period**; the duration of that degree will probably be approved at two complete school years. In that stage, the headmaster will start preparing thoroughly his own portfolio to document his professional development. As he has passed the compulsory education in the preceding degree, he will not be burdened by the obligation to pass another educational program during the first two years of work. An important component, particularly in that stage, will consist in the support from the introducing headmaster; this aspect is fatally missing at present. According to the existing proposals, the adaptation period will be completed by the headmaster by an interview before a commission that will assess the submitted portfolio and the headmaster's general professional progress. The introducing headmaster will act as the crucial person whose voice will be substantial for the approval of the advancement to a higher career degree. It has not been discussed yet what steps will be taken in case the conditions are not met; the opportunity of one retake of the interview is expected. The completion of the second degree will constitute a crucial moment of the headmaster career; it will be finished by the decision whether the respective employee is able to practise the school headmaster activities.

The **third degree** can be called the stage of **professional certitude**. The headmaster has demonstrated his ability to manage the school already, he has defended his competences before the commission and he is entering the deeper layers of practice of headmaster work. Most headmasters will remain in that degree. Of course, the headmaster will be able to decide at any time to improve his competences in the context of one school or to prepare for the highest career degree in which he could influence other headmasters or intervene in the system of their preparation and education.

Relatively few headmasters will decide to enter the highest degree. Not only due to the fact that it will be conditioned by high quality of the managerial work but also by educational demands that can be currently compared for example with the Master discipline of Education Management. Such headmasters will develop the whole career system, acting as mentors, introducing headmasters, members of commissions or educators of other headmasters. Therefore that degree can be called the stage of new challenges.

A sensitive point will consist in the crossovers, the advancements between the individual degrees and the persons assessing the headmaster competences. I can feel the least problem between the first and the second degree; that advancement will be decided by the competitive commission. The subsequent crossovers will have a more complicated situation and their implementation will need a clear but sensitive communication. I add one of the partial conclusions of the survey carried out among the students of the School Management discipline in January 2014 for completeness. The total number of 175 respondents included 53,7% active headmasters. One of the questions was focused on the composition of the

commission assessing the headmasters' crossover between the individual degrees. The question: "Who should not be a member of the commission that will decide about the headmaster's advancement between the individual degrees?" was answered by the respondents as follows:

They would mind most a representative of major pupils (86,7%) and a representative of parents (71,4%); on the contrary, they would mind least an expert on education of managers (5,4%) and a representative of the school authority (15,2%). The cause of the high percentage of negative answers to the involvement of parents and major pupils cannot be unambiguously interpreted, but the existing negative experience of the employees with boards of education will certainly play its role. It is evident that the concept of parents as customers of the school is still limping along.

Conclusion

The postponements of this serious issue are caused particularly by the frequent changes at the Ministry of Education. As long as the school headmaster is not paid essential attention, as long as a system of lifelong development from the preparation for the assumption of the position to the use of expert headmasters is not created, the basic conditions for the development of schools and improvement of the results of each pupil will not be established.

The article dealt with the relevant topic of education of school headmasters in the Czech Republic. It is indisputable that the headmaster is an essential factor influencing the quality of the school, the development of the pupils and of their results. Therefore highest attention should be paid not only to the preparation of the headmasters but also to their lifelong development and indispensable support. The text pointed out the existing problems, described the current situation and suggested a direction of potential further development.

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Towards a Common Development in Teachers' Education in VET A Cooperation between the Technical University of Budapest (BME) and the Tampere University of Applied Sciences (TAMK)

1. The institutional frame of cooperation

1.1. Brief history of teacher education at BME

In Hungary, teachers are currently trained in 15 higher education institutions at different (bachelor's and master's degree) levels. These institutions may be classified into various groups according to their general orientation (engineering, economics and agriculture) or the specific professions they target. The Technical University of Budapest (BME) has a unique status among them, due to both its history and its renewed training profiles serving vocational teachers.

The history of the Department of Technical Education has been closely related to that of the university over the past 100 years. The training of teachers specialized in engineering has been part of our activity for about 125 years, more or less continuously. Between 1870 and 1894 a teacher training institute was operated by the legal predecessor of BME, the Joseph Polytechnic (József Politechnikum). Between 1934 and 1948, the Institute of Education was founded and operated in the framework of the Palatine Joseph University of Technology and Economics (József Nádor Műszaki és Gazdaságtudományi Egyetem), which specialized in engineering and economics. In 1961, the Department of Education was founded within BME and reorganized as a Department of Teacher Training and Education in 1971. In 1995, when the departments became independent within the institution, the Department of Technical Education was established to train teachers of engineering. Since 2005, the department has been operating as part of the Institute of Applied Education and Psychology. The spectrum of the training offered at BME covers almost every theoretical and practical field relevant to teachers of engineering and economics, allowing for the admission of trainees from all over the country representing an increasingly wide range of vocations.

In Hungary, the role played by vocational training institutions in the education of teachers is based on a history that goes back several decades; in some cases even of centuries. Teacher training services cover a wide range of subjects in locations throughout the country. The vocation-related training of vocational teachers started more or less at the same time as their university education, about 140 years ago when this type of training was conducted at the same educational level as the training of teachers for general education. Over the last 25 years, it has become the more or less universal practice for engineers and economists with the relevant university degrees to acquire their teaching degree (MA) in the framework of part-time education.

1.2. Brief history of teacher education at TAMK

The history of vocational technical colleges in Finland dates back to the year 1912, when the first technical college was established in Tampere. This can be considered as the very first step towards the TAMK Ltd that exists today. Technical colleges, as well as colleges and institutions operating in other fields, were merged into larger multidisciplinary Universities of Applied Sciences, at first with a temporary operating license in 1992. All temporary Universities of Applied Sciences were required to implement the active development of their functions and, on the basis of the results, were granted permanent operating licenses. TAMK received permanent status in 1996. The owner of TAMK was Tampere city. In 1997, the neighbouring Pirkanmaa University of Applied Sciences (PIRAMK), which was formed by merging 10 upper secondary level vocational institutions in the Tampere region, received a temporary operating license and was granted a permanent license in 2000. PIRAMK was a limited liability company owned by a consortium including Tampere city. At the beginning of the year 2010 the two Universities, TAMK and PIRAMK, united and took the name Tampere University of Applied Sciences. The new combination is the second largest University of Applied Sciences in Finland. At the beginning of 2015, TAMK became a limited liability company: TAMK Ltd.

Teacher education first started in Finland as early as 1806 in the Turku Academy, but became better established from 1864 onwards. Vocational teacher education started in TAMK, or rather its predecessor the Tampere Institute of Technology, in 1988 in the form of training for teachers in technology. Vocational teacher education for technology teachers took place in an autonomous national education centre for institutions of technology in the whole country functioning as a department of the Tampere Institute of Technology. In 1996 vocational teacher education was reorganized in Finland so that the five Universities of Applied Sciences were made responsible for training vocational pedagogical teachers and all the earlier 19 subject-oriented teacher education institutions were dismantled.

At present in Finland teacher education is provided by both academic universities and universities of applied sciences. Academic universities are responsible for general teacher education from kindergarten and primary school levels to upper secondary subject teachers and they also provide training for teachers working in adult education. Vocational teacher education is provided by five Universities of Applied Sciences, one of which is TAMK. Vocational teacher education in these five Universities of Applied Sciences consists of pedagogical training programmes that ensure the statutory pedagogical qualification for teachers in vocational and higher vocational institutions (VET and Universities of Applied Sciences), but the qualification is also valid for upper secondary school teachers as well as for teachers in adult education centres and various third sector educational institutions. It is characteristic of the Finnish vocational teacher training offered by Universities of Applied Sciences, including TAMK School of Vocational Teacher Education, that it is not oriented towards the learning and teaching of specific subjects but concentrates purely on pedagogy; thus individual student teachers in the same group represent a number of different fields and work together to build their identities as teachers.

Special features of the Hungarian system

In Hungary, teachers of theoretical subjects in formal vocational education are required to hold an MA degree in teaching while those involved in practical training (vocational teachers in agriculture, engineering or business) must hold a BA degree in teaching. Vocational teachers (agricultural engineers and economists who work as teachers, teachers of engineering subjects and vocational trainers) traditionally play an essential role in determining the efficiency of vocational training and as such they need continuously updated training contents and methods. The contents and methods of vocational training need to be continuously adapted to technical, technological and economic developments.

Vocational teachers – of both theoretical and practical subjects – are only trained in the framework of higher education. At the level of central regulation the curricula and the forms and methods of evaluation for vocational teachers are developed by higher education institutions in accordance with the training and output criteria of the individual faculties, which in turn are defined by the relevant decrees issued by the Ministry of Education. Those teaching general subjects and theoretical or practical vocational subjects are required to hold a tertiary (ISCED 5A) teaching/training degree. Teachers participating in practical training at commercial organizations are required to be qualified in the given vocation (at least at the level for which they provide training) and to have 5 years of professional experience.

New directions in Hungarian VET development

Recently in Hungary, the development of dual vocational education has become an important principle in renewing the vocational training system. The recent Act on Higher Education (2011) re-introduced the former undivided system in the training of teachers in a 4+1 or 5+1-year structure. The quality of education is essentially determined by the teachers involved. Their career options, including the system of social and financial remuneration, needs to be made predictable and susceptible to planning.

Hungarian vocational teacher training means part-time postgraduate education. The 150-credit teacher training programmes are composed of 3 modules: vocational training focusing on the development of educational and methodological skills; education and psychology in theory and practice; and a period of teaching practice carried out in a public or adult educational institution. Undergraduate teachers are evaluated by various means including exams, teaching practice assessments and the final practice assessment known as “the observed lesson.”

In Hungary, the responsibilities of teachers are defined at the highest level of legislation. Accordingly, one of the duties of teachers is to guarantee the development of the personality and talents of the children by means of educational activities and to do everything that can reasonably be expected to fulfil this task, while always respecting the individual capabilities, skills, development rates and social and cultural status of the children. A priority task of the teachers is to care for children with special needs on an individual basis. In Hungarian vocational education, vocational teachers may teach in both formal and non-formal settings, so they should be prepared to meet the needs of educating young adults, adults and students with special needs in addition to the 14-18 age group.

Developmental role of BME in the field of VET

When developing vocational training concepts, a personalized approach is generally applied. Vocational training has a unique position in progressive educational systems, particularly because the duration of training is much shorter than in non-vocational programmes. This uniqueness emerges in the way vocational programmes prepare students for the social division of labour in the broadest sense. In this dynamic process, the currently existing progressive elements (e.g. the penetration of IT solutions and the general application of bio-technology) and the potential new developments which are most likely to occur (e.g. changes in the energy structure) serve as mechanisms of creating a modern vocational structure.

An important direction in the international development of educational content and methodology is the creation of open curricula where those actively participating in learning can contribute constructively to the process of development. Another characteristic feature is mass access to contents, supported by efficient modern online platforms. Currently, this approach is most innovatively applied in higher education (MOOC – Massive Open Online Courses); however, the large number of students in vocational education as well as their increasing age and the diversity of their professional options urge the systematic adoption of these solutions.

Research at the Department of Technical Education at BME essentially focuses on the differentiated management of the in-class activities of vocational teachers and the application of efficient educational methods and procedures. Based on this research, the general criteria of training teachers are partly conventional, related to knowledge, skills, and attitudes and partly related to the following teaching skills:

- developing the students' personalities through, personally tailored programmes;
- supporting and developing student groups and communities;
- vocational training methodology and vocational knowledge;
- planning the educational process;
- supporting, organizing and controlling learning;
- evaluating educational processes and students;
- communication, professional cooperation and career identity;
- commitment to and responsibility for professional development

The orientation framework for development is the networking concept, a typical feature of vocational training which is now also penetrating teacher training. This project encouraged teacher training institutions to "learn" in an environment where information exchange organized into an informal network supported by IT devices had an increasingly important role. The essential core of the concept is participation in the network, and access to information as well as to the software packages that are able to interpret information in various contexts, and the promotion of co-operative and self-organized learning. Accordingly, a priority objective of Hungarian projects is to develop new networks of institutions and partners involved in teacher training and to create new nodes (knowledge elements) and edges (functional links). In the spirit of this approach, the focus should be shifted towards the "network" of individuals and learning.

3. Pedagogical philosophies of TAMK Vocational Teacher Education

Characteristic features of TAMK vocational teacher education (TAOK) are a participatory and collaborative way of working and a competence based approach. The teacher's role has changed dramatically, from providing information towards acting as an enabler of education and designer of learning environments. We can also describe the paradigm change as being from “teacher” to “facilitator.” Student teachers are encouraged to work together in building their identities as teachers. Training is carried out in peer groups of 5 to 6 student teachers who interact with each other in choosing the issues they wish to study and deepening their knowledge and skills. So they not only study relevant areas of the teaching profession but also make decisions about which areas they consider relevant in their personal paths towards that profession. The assignments are open-ended, providing a framework for work rather than demanding the accomplishment of discrete, individual tasks. Collaborative decision making and knowledge building are among the key factors in TAOK teacher education. The collaborative way of studying in peer groups means that the education becomes personalized. Each small (peer) group ends up following a different study path. Personalization is important also in the way that an individual student teacher can plan his/her own studies. Earlier learning and competences acquired in working life can be accredited in the studies through a system for the recognition and accreditation of existing competences. Also, each student works out an individual curriculum which is based on the TAOK curriculum but tailored to meet the needs and the situation of the individual concerned.

The collaborative way of working is also manifested in the way that TAOK teacher trainers work. Facilitation of the teacher students´ learning processes happens in teacher teams. Each teacher trainer is responsible for about 30 student teachers, who are subdivided into the peer groups. Teacher trainers collaborate in teams in the planning and implementation of the whole facilitation process. These teams have learnt by experience to be effective and flexible. The different teacher teams also exchange ideas and experiences with each other. Much of the practical development concerning ways of working and good practices takes place in the teams.

Cooperation with institutions and organizations outside TAMK is vital for the success of teacher training. Authenticity in learning is ensured by working in very close cooperation with the different educational institutions in the Tampere region and elsewhere in Finland. International cooperation is also growing in scope and significance.

TAOK applies participatory pedagogy. The curriculum based on participatory pedagogy is flexible and gradually finds its final form during and throughout the learning process. The aims and objectives are not given but are created through action. The student teachers are encouraged and helped to engage their own organizations in the new approaches learned during their teacher training and they are also encouraged to become involved in various activities, organisations and institutions important in the teacher’s work. This is supported by involving various communities and experts from the world of work in the learning process and in evaluation. Participatory pedagogy is an extensive approach where different pedagogical strategies are combined. It utilizes many different activating, exploratory and problem- and phenomena based pedagogical models and methods.

3.1. Evaluation and assessment

Competence-based teacher education requires a holistic approach to phenomena rather than separate subject areas and individual tasks to learn them. Competences are described in the TAOK curriculum, along with criteria for assessing and evaluating the learning process and outcomes. TAOK has created a three-step set of criteria for the evaluation of the learning processes and outcomes. These criteria are applied in self-evaluation and peer evaluation as well as in trainer evaluation. They help the students not only to measure their progress but also to articulate the essential features of the teachers´ profession and student teachers ´ personal aims and objectives in the profession and in the learning process. Competence based learning puts great emphasis on evaluation and assessment because the traditional formative and summative examinations are not applicable. When they enter the programme the teachers constitute a very heterogeneous group in terms of their level of knowledge and competencies in teaching and facilitating learning processes. Evaluation concentrates on progress rather than on the final level of competences and knowledge. Evaluation is an integral part of the leaning process: it is always individual, mostly verbal and orientated towards the future. In the work which supports identity building the goal of evaluation is to support the student teachers' experience of how they can have an impact on setting the goals, working and evaluation.

3.2. Programmes and structures

The TAMK vocational teacher education programme admits about 300 trainees yearly in three different programmes: vocational teacher, vocational special needs teacher and vocational study counsellor. The latter two are further education programmes that require an existing teachers´ qualification. In Finland vocational teacher education is offered in five Universities of Applied Sciences. They provide a 60-ECTS programme leading to the statutory pedagogical qualification that entitles the teacher to be employed as a vocational teacher in Universities of Applied Sciences and vocational institutions (VET), and also to the qualification to teach in general education at secondary level, as well as in tertiary education and training. The applicants must have a suitable University degree and a minimum of three years' work experience in their own field (not in teaching) to be eligible. Vocational teacher education focuses on pedagogy and does not include subject-related content. As a result, the peer groups of student teachers may consist of people from many different subject fields who work collaboratively, building their identities as teachers together. Their studies include pedagogical sciences, vocational pedagogy, practical training and elective studies. The structure is modular. The students prepare a handbook about being a teacher which constitutes a kind of portfolio of the process of joining the profession. Studies normally last 1.5 years but depending on the individual they may be shorter or longer.

3.3. Blended learning

The education takes place in a blended learning mode with contact sessions about once a month. Most of the work is done via the web and also in synchronous video meetings with either the whole group or the small peer groups present. In TAOK, online learning in teacher

education utilizes versatile social media platforms, virtual spaces, and digital tools. The official learning platform is Moodle-based but most of the work happens via the open social media such as Facebook, Google+, Elide my, Blogspot, WordPress, WhatsApp, etc. In the video meetings of the various groups several tools are in use: AdobeConnect, Skype, Zoom, Google hangout, etc. In TAOK, we monitor and test different emerging new social media tools to obtain relevant experience and to keep up-to-date on what is available on the web concerning learning processes. Online working and video meetings are frequently used in international cooperation when physical travel is not possible or would be too time-consuming.

3.4. Pedagogical research, development and innovation and further education

The aim of pedagogical RDI is to develop professionally oriented education and pedagogy. This is achieved by running different development projects in close collaboration with national and international partners. Besides projects, TAOK is also involved in pedagogical research in areas such as student experience and professional identity.

An on-going and continuous further education programme is the way for specialists to achieve competence-based qualifications. In addition, TAOK runs a selection of further education programmes in the field of pedagogy nationally as well as globally, each tailored to the client's needs. Vocational teacher education relies heavily on research in developing the contents and methodology of education and training both in vocational teacher education and throughout TAMK. TAMK has a publication series, TAMK journal, where pedagogical research papers are published alongside vocational and scientific papers and conference proceedings. The significance of pedagogical RDI is evident in the fact that for two years now pedagogical RDI has had its own management under the leadership of Hanna Ilola. Pedagogical research, development, and innovation activities are growing areas in TAMK and TAMK has founded a separate research group to conduct them with the head of pedagogical RDI group in charge. Thus, the emphasis on pedagogy has become stronger in the recent years in TAMK. At present the research profile is focussed on teacher identity and student experience but a variety of research projects are being conducted in areas of interest and also as indicated in various funding instruments both nationally and internationally.

4. Cooperation with the Tampere University of Applied Sciences (TAMK)

Higher education has become strongly internationalised during recent decades. For BME, the cooperation between BME and TAMK which has taken shape over the last two years is a fine example of this tendency. Traditional contact building was followed by an exchange of teachers and study tours, as a result of which a cooperative programme consisting of several elements started in the autumn of 2015.

The study tours led to the recognition of several common factors in vocational teacher training which are listed in a joint Memorandum issued on 29th October 2015. The main activities that are envisaged, still in the phase of organization, are as follows:

- A one-week further training programme for teachers (in April 2016) in the framework of which 20 Hungarians attending a specialized further training course in public education leadership will study the Finnish education system and its management system at institutional level, as well as the specifically Finnish characteristics of initial and further teacher training in Tampere. One of the important features of this project is that prior to the actual training week the students will attend an on-line supported distance course in March, while still in Hungary. They will have the opportunity to get to know the background materials and to make preliminary contacts with their colleagues in Tampere, which will enable the programme to be adapted to their real fields of interest and to be made as effective as possible. After the visit to Finland, their experiences will be developed within similar frameworks using Moodle systems in order to support the long-term utilization of the learning results. We hope that this pilot programme will prepare the ground for further common programmes in both countries.
- Potential cooperation in elaborating a Horizon 2020 project proposal in accordance with the specific features of the training portfolios. Vocational teacher training and the development of an entrepreneurial culture constitute topic frameworks in which both institutions possess a theoretical and empirical background, which means that there are excellent opportunities for initiating common projects.
- Research cooperation between BME and TAMK. The distinct identities of the two institutions and their different approaches to the management of problems in the actual practice of vocational teacher training do not preclude the possibility of starting a common research programme. The next preparatory step is a research symposium to be held in Budapest in the spring of 2016, the professional programme of which is currently being worked out.

To sum up, a glance at the main frameworks of cooperation, which include a variety of professional contacts, makes it clear that the cooperation we have initiated challenges real problems, considers mutual interests and can be perfectly constructed from both professional and operational points of view. In future decades it will hopefully serve as a fine and instructive example for other European training institutions to follow.

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WORK-BASED LEARNING AND LIFELONG GUIDANCE POLICIES ACROSS EUROPE

This paper as a shorterned and republished[3] work of the European Lifelong Guidance Policy Network Concept Note on work-based learning and lifelong guidance policies discusses the relationship between lifelong guidance and work-based learning. While these are distinct activities, they are often advanced as approaches to answering similar broad policy challenges, such as developing a skilled and socially inclusive population, ensuring engagement with education and work, and helping people to progress and live happy and useful lives. This paper argues that lifelong guidance can be particularly useful in relation to work-based learning in three main ways:

- **Engagement.** Increasing citizens' understanding of work-based learning, the routes into it and the rewards of participation.
- **Achievement.** Helping participants (learners, employers and learning providers) in work-based learning to remain engaged and consider how best to enhance their skills and employability.
- **Transition.** Assisting the effective utilisation of the skills developed within work-based learning by supporting individuals in transitions from work-based learning programmes to sustainable employment.

The word engagement is used deliberately as it describes the personal preference and associated choices that the french term l'orientation invokes but it also implies two other elements. Firstly it focusses on the perspectives of individual learners (young people and adults) and secondly it implies a more active and deeper level of knowledge and understanding. The word engagement therefore refers the comitment of the individuals for different learning pathways. A strong personal engagement of the learner for a learning option can be also understood as the first preventive step against drop-out and early-school leaving.

Work-based learning performs different functions in relation to European countries' skills systems. For young people, work-based learning provides them with a knowledge and understanding of what work is, and what occupational areas they are attracted to. Later on, it provides training for young people to build specific competences needed for particular jobs. Work-based learning also provides a form of active labour market intervention to motivate skill and reward young people who are having difficulties in making the move from

[1] https://www.linkedin.com/in/borb%C3%A9ly-pecze-bors-24a7003b
[2] http://www.derby.ac.uk/staff/jo-hutchinson/
[3] The original report was produced for the European Lifelong Guidance Policy Network (ELGPN) supported by the European Commission as a Concept Paper in 2014. The full paper is availabel in English and Portugese under the following link: http://www.elgpn.eu/publications/elgpn-concept-note-no.-5-work-based-learning-and-lifelong-guidance-policies The authors are thankfull for the Network and the University of Jyvaskyla for the republishing rights.

education to employment. In addition, it offers workers whose skills lose their value in the labour market with a way to retrain and re-integrate to the modern economy.

Work-based learning has strong associations with vocational education and training in the form of apprenticeships and traineeships. However, it is worth stating that in this paper we perceive work-based learning to necessarily incorporate significant periods of time within the workplace and to include episodic periods of learning as people progress through their careers. Therefore, in this article we are focusing on linking lifelong guidance with all types of work-based learning forms, at any age and any stage of the lifespan.

Work-based learning therefore plays a dual function alongside the lifelong guidance process. It offers young people a way of learning about jobs and work to help inform their choices; but it also provides skills, knowledge and accreditation which give people access to opportunities. Making and implementing decisions throughout life requires strong understanding of the labour market structure, the nature of different vocational pathways, the content of the different occupations and occupational outlooks (labour market intelligence), but is also deeply cross-linked with self-awareness and the ways individuals identify themselves in learning and working. Matching between individuals and job positions is usually sustainable only if these decisions are based on personal understanding of the self, the labour market and occupational needs. Different forms of work-based learning can provide opportunities for Europeans to learn for jobs from jobs.

The same “dual” viewpoint is valid for other sectors as well: for example, in higher education where college-based training is often combined with workplace-based experiences; or in the utilisation of active labour market policy tools such as labour market training or wage-subsidies. In some regions of Europe continuing professional development (CPD) as a term also has been used since the 1980s to describe the lifelong process of (continuing) vocational training.

For some countries and some industrial sectors work-based learning is part of their cultural heritage, as well as providing the basis for sustained economic growth through the continuing supply of skilled young people into businesses. Practices such as mentoring and co-referral between education providers and employers are an established part of the industrial practices that underpin growth and innovation.

Work-based learning has a strong impact on individuals’ lives and also on the labour market if these activities are based on individual decisions which are aligned both with (i) economic and labour market needs but also with (ii) individual career constructions which keep the individuals moving towards certain educational, economic and labour market targets and translating these objectives to personalised ones. Engagement in any type of work-based learning as well as successful graduation from it depend upon strong correspondence with the individuals’ work values, interests, skills and motivations. It is therefore crucial to discuss the role of lifelong guidance within this process.

This paper describes work-based learning (WBL) and its different forms in relation to different part of the individuals’ life path. It then connects future challenges of work-based learning developments across Europe with the agenda of lifelong guidance (LLG). The cross-

connection of these two issues (WBL and LLG) is certainly not a new idea, but during the implementation phases of national school, adult education, VET system or PES reforms, these links are sometimes forgotten or not fully defined and implemented. The paper seeks to build a common understanding of the supporting role of lifelong guidance as a service, as a system and as a policy for a more effective work-based learning models across Europe.

The related purposes of work-based learning and lifelong guidance

Work-based learning

The nature of work and the world of work have always been changing. Prevailing ideas of globalisation, specialisation and de-industrialisation are being challenged by academics, politicians and industrialists. The recent financial crises and recessions have generated new ways of thinking: notions of insourcing, relocation of jobs and re-industrialisation (Westkämper, 2014) are increasingly talked about in political debates and the media. However, these new trends are linked with different levels of production and productivity in the Western world than before. This has strong implications for the labour force, where the "one vocation and one job" paradigm is no longer an expectation. This is a significant issue for the European Union and for each of its Member States.

Several European initiatives target this challenge. Linking the world of work with the world of learning through work-based learning is one of these. This mode of learning not only integrates labour market demand and supply, but also opens up social debates on the career adaptability (Savickas, 2008) of the European labour force for our uncertain labour market. Multiple bridge-building between work, learning, individuals and families also means that new types of cognitive competencies such as career management skills for life are necessary.

The European Council (2013) and the Council of the European Union (2013b, 2014) have been promoting the development of a range of work-based learning infrastructures (e.g. on traineeship on alliance for European apprenticeship, and on the Youth Guarantee), not least as a means of generating excellent labour market and social inclusion outcomes. However, they acknowledge that the meanings of these concepts are not the same across the different Member States. Some countries have strong, well-established and culturally embedded systems such as the dual training system in Austria and Germany, or well-advertised and well-known traineeship/internship opportunities as in Ireland, the Netherlands, Portugal and the United Kingdom. Others continue to develop their offer in this area for young people and adults. The European Alliance for Apprenticeships is building actions to promote reform of apprenticehip systems, promote their benefits and use funding and resources smartly (Council of the European Union, 2013c).

The nature, duration and investment in work-based learning is based on a number of variables. These include the role of social partners, th engagement of companies in tripartite dialogue, average size of the firms (e.g. mainly micro and small or medium and large), degree of foreign direct investment, shape of the banking system, availability of loans, cultural

heritage of a region, familial expectations, development of technology in a region, and intrinsic regional geographical opportunities.

As the nature of work changes, the nature of work-based learning may also need to change. If multiple transitions between careers becomes common over the working life, alongside the incidence of portfolio working, project-based jobs, virtual offices and other aspects of work change, then we might need to reconceptualise work-based learning structures as a series of short-term interventions in any working life rather than a longer-term period of training relating to multiple aspects of a single job role.

Skills systems that equip people with a single set of skills or functional knowledge at the outset of their working life are inadequate within this context. People who are active in the labour market have constantly to acquire new skills within their existing work, to achieve promotion, to develop a deeper skill-set in an occupation, or to move into and between places of work. Portability of work-base-learnt skills or learning outcomes is still not fully developed in Europe; however, the evaluation of these personal skills is a formal or informal part of European companies' recruitment processes (Cedefop, 2014a). The skills that are needed as work changes are often developed at the workplace or as a blended approach – combining learning at work with learning in education or training. This type of work-based learning has several forms, providing opportunities to:

- gain personalised experiences from the world of work and the nature of different professions and jobs before the vocational education/training begins (orientation);
- develop a better understanding of the chosen occupational track based on real work experiences during the training period / vocational education years;
- support easier access of individuals to the labour market at any age of their life through evidencing their achievements by accreditation;
- support transitions through to employment by providing concrete experiences;
- give people who have become unemployed, or who are having difficulty making their first transition into the labour market, the motivation, experience and skills to effect a more rapid transfer to employment (active labour market policies).

Work-based learning therefore offers ways to orient people towards particular occupations before they make career choices. It gives them an opportunity to gain and practise skills that are relevant to all work (such as communication and commercial skills) and simultaneously relevant to a particular occupation (to support economic growth), and through accreditation and experience it offers a passport to help secure sustainable employment.

Work-based learning clearly has strong associations with vocational education and training, and in many cases the discussion of one can be conducted interchangeably with the other. However, it is worth stating that in this paper we perceive work-based learning to necessarily incorporate significant periods of time within the workplace (rather than an entirely college-based training programme, for example), and to include episodic periods of learning as people progress through their careers. Therefore, in this paper we are focusing

on linking lifelong guidance with all types of work-based learning forms, at any age and any stage of the lifespan.

Lifelong guidance

The purpose of lifelong guidance has strong affiliation to the purpose of work-based learning. It has been described by OECD (2004, p.19) as follows:

> *"Career guidance refers to services intended to assist people, of any age and at any point throughout their lives to make educational, training and occupational choices and to manage their careers. Career guidance helps people to reflect on their ambitions, interests, qualifications and abilities. It helps them to understand the labour market and education systems, and to relate this to what they know about themselves. Comprehensive career guidance tries to teach people to plan and make decisions about work and learning. Career guidance makes information about the labour market and about educational opportunities more accessible by organising it, systematising it, and making it available when and where people need it."*

Thus, if the purpose of work-based learning is to orientate, to provide learning opportunities and to equip people with the skills and experience to progress to sustainable employment, then lifelong guidance is the process that helps to ensure that people are aware of this, and have the skills and outlook to maximise the benefits from the experience. Lifelong guidance can be particularly useful in relation to work-based learning in three main ways:

- **Engagement.** Increasing citizen's understanding of work-based learning, the routes into it and the rewards of participation.
- **Achievement.** Helping participants in work-based learning to remain engaged and consider how best to enhance their skills and employability.
- **Transition.** Assisting the effective utilisation of the skills developed within work-based learning by supporting individuals to transition from work-based learning programmes to sustainable employment.

Significant decisions have to be taken in advance of taking up a work-based learning opportunity, and the role of lifelong guidance in engaging people with these opportunities is well-established. But there is a misconception that once people have enrolled on an apprenticeship or commenced a traineeship/internship, they no longer require lifelong guidance. However, decisions often have to be taken within a programme, and support is needed towards the end of a learning experience to help the transition into an employment contract. This could be with the employer hosting the work-based learning opportunity, but this is not necessarily the only option, nor indeed may it be the best option for an individual. The need for personal, well-informed guidance, based on current and objective labour market information that is available to an individual at the point at which they need it, remains true for work-based learners.

Work-based learning structures and their associated learning opportunities benefit from effective integration with lifelong career guidance services. OECD (2010) has highlighted the emerging role of lifelong guidance concerning good-quality vocational education and training:

"One way of ensuring that vocational programmes meet labour market needs is to give VET students good guidance. As careers diversify, career choices and therefore career guidance are becoming both more important and more demanding. To meet this challenge, there needs to be a coherent career guidance profession, with personnel experienced in labour market issues and separated from psychological counselling. Guidance needs to be adequately resourced, with some assurance of pro-active one-to-one delivery of guidance at key career decision points. Guidance personnel need to have an independent base to underpin their objectivity, and be able to call on a wide range of information and web-based material. Strong links between schools and local employers are very important means of introducing young students to the world of work. Guidance initiatives also need to be carefully evaluated" (p.77).

Lifelong guidance and work-based learning practices across Europe

Introduction

The policy goals for work-based learning are to move towards a knowledge economy within a socially cohesive society based on sustained economic growth. The goals for lifelong learning are to support individuals to integrate, enrich and develop within such a socio-economic structure. The two areas are thus mutually reinforcing in policy terms. At a strategic level, lifelong guidance can provide a bridge to arbitrate between the needs of different stakeholders, and a means to achieve broader strategic policy goals.

Lifelong guidance services also have a role to play in supporting the effective operation of work-based learning with dynamic labour markets. This section outlines the role that lifelong guidance plays both strategically and practically for work-based learning and work-based learners.

Strategic links

Lifelong guidance services have a range of functions which are associated with bridging. Firstly, they support individuals to build career management skills that enable them to bridge their career transitions from education and learning to training and earning:

"Career management skills refer to a whole range of competences which provide structured ways for individuals and groups to gather, analyse, synthesise and organise self, educational and occupational information, as well as the skills to make and implement decisions and transitions" (ELGPN, 2010, p.23).

Secondly, guidance services can provide a bridge between employers and learning providers, helping to shape and refine training and employment opportunities that align the needs of both groups of stakeholders.

The importance of linking work-based learning including apprenticeships and traineeships/ internships with lifelong guidance lies with meeting the needs of both learners and employers. In some economic systems the partnership between the state and industry is closely aligned and forward-looking: in such situations the planning and resourcing of work-based learning opportunities should be in line with labour market projections. But this may not always be the case, and there is a danger that in systems which incentivise accredited learning over employability, work-based learning opportunities will be overly responsive to learner demand. In these cases the role of lifelong guidance is to act as an arbiter between the world of work and the world of learning, seeking to direct learning opportunities towards labour market opportunities.

Lifelong guidance in a work-based learning context can also help to achieve mobility of the workforce between EU Member States and to promote social mobility. Lifelong guidance services can challenge stereotypical thinking and broaden the aspirations of disadvantaged groups. In so doing they can help people to access opportunities that might otherwise have been denied to them. The existence and quality of labour market information/intelligence (LMI) play a crucial role in this process. In some countries LMI is not closely connected with personal preferences (like work values or work interests); unless this self-knowledge is linked to the labour market and training realities, there is little chance for well-established personal decision-making. Lifelong guidance as a system and as a service can integrate LMI with personal self-learning processes, and accordingly should provide better outcomes at both individual and system level than LMI alone.

Lifelong guidance services alongside the range of social partners can also play a role in assuring quality interventions that build genuine and sustainable impacts. The Quality Framework for Traineeships (Council of the European Union, 2014) will support the improvement of working conditions and the learning content of traineeships. Social partners including lifelong guidance services can play a role in providing trainees with targeted information of opportunities, rights and responsibilities as well as by building a resource for simple and concise model traineeship agreements.

Thus lifelong guidance services have a key role to play in shaping skills systems and helping labour markets to operate more effectively, helping European citizens to link their own learning and career plans as well as previous working and learning experiences with learning and working opportunities. Lifelong guidance services also support individuals through their careers in a number of fundamental ways, such as providing labour market information as well as information about learning opportunites (e.g. CPD, C-VET) and supporting individuals to link this objective information with their subjective career views and values.

Practice links

The different elements of lifelong guidance are presented before, during and after work-based learning forms at different levels of intensity.

Work-based learning is about providing opportunities to learn about work and about jobs, and this is often most effective within the secondary education phase. There are clear associations between activities such as work experience and employer engagement in schools and those that are undertaken within a broader career education curriculum such as learning about jobs, about different progression routes and about ensuring that aspirations are both broad and high. Career information, including labour market information, is crucial to support individual decision-making processes before enrolment. In Figure 1 below, the relationship between practical activities that help young people in particular to learn about jobs and work and those that are associated with the engagement purpose of guidance is clear.

Similarly, the links between learning how to do a job and the guidance focus on achievement on course are evident. Work-based learning in this respect is about teaching a person about the functions associated with a particular job and acquiring the skills to undertake it. Guidance can be a mutually reinforcing activing that supports study and retention skills as well as individual mentoring and counselling. Career counselling is a tool to support the development of individuals' learning and working action plans, but also a tool to support initial engagement (with career starters) or re-engagement with work after the training process.

Finally, associations can be made between the capacity of work-based learning to help people to progress into or in work and the same aspirations for lifelong guidance. Both support the development of career management skills that are useful for job-search and career negotations such as conflict in work or salary negotiations. Work-based learning can also be a workforce development tool for employed or self-employed people, while career counselling can support individuals in gaining better understanding of their labour market and business perspectives.

Figure 1: Linking the dual purpose of work-based learning with lifelong guidance

Examples of activity	Work-based learning	Lifelong guidance	Examples of activity
Work experience Employer engagement in education Taster courses Summer schools	Learning about work Learning about jobs	Engagement	Decision-making skills Labour market information Building ambition Broadening aspiration
Apprenticeships Traineeships/internships	Learning how to do a job	Achievement	Coaching and mentoring Prevention of drop-out Pastoral and study support
Continuing professional development Voluntary work Job rotation	Learning how to progress in work	Transition	Opportunity awareness Labour market analysis CV & interview skills Resilience

ELGPN member-countries have provided examples of effective integration of lifelong guidance with respect to work-based learning. These encompass the three elements outlined above:

- **Engagement** before entering programmes and typically whilst still at secondary school.
- **Achievement** whilst experiencing work-based learning, to encourage participation and retention as well as successful completion.
- **Transition** after leaving vocational programmes, to include personalised follow-up and on-going career support to help individuals develop their own career management skills as well.

Engagement practices

Guidance services perform their strategic role with respect to the design of work-based learning as they do for other aspects of the labour market. In most cases there are no special lifelong guidance services that support only work-based learners, but European citizens can use general guidance services, whether run by educational providers (e.g. Poland), by vocational schools (e.g. Netherlands) or by the Public Employment Service (e.g. Czech Republic, Germany, Hungary).

In many cases these guidance services will support people into work-based learning opportunities through a combination of information, education and counselling. For example, in Northern Ireland, careers advisers explore training as an option with young people at key transition points. Prior to entering training provision, each young person, if required, will receive a pre-entry guidance interview from a careers adviser.

In some countries the guidance offer is structurally embedded within a programme of work-based learning. For example, in Luxembourg, some programmes require participants to enrol with the PES prior to entering a work-based learning opportunity. The PES provides counselling and recruitment services to ensure that there is a mutually beneficial match between the employer and the work-based learner.

Achievement

In some cases this embedded approach operates throughout the lifetime of the learning programme. Some national lifelong guidance systems try to cover the three functions under one roof, providing before, on-programme and follow-up services through the same state agency (e.g. NAV in Norway) or in guidance centres of the local/regional authorities (e.g. Denmark). In addition, where work-based learning is part of a package of active labour market measures to encourage employability, lifelong guidance services remain available to people who have experienced some form of work-based learning and require additional support to enable them to secure employment.

An alternative approach to this model is for teachers and trainers to provide guidance within an embedded model. On-programme guidance services can be provided by school staff or specialised guidance professionals/teachers employed within schools and training providers. In Austria and Denmark, specially-trained professionals help the students; the same situation

applies in Ireland for colleges. In Germany, the federal employment agency (BA) supports the VET schools, whilst academics within the higher education institutes are responsible for guidance. In Hungary, the youth vocational training schools have a special subject on guidance as part of the curriculum.

Transition

On leaving a work-based learning opportunity, few countries have specialist support for individuals outside an ALMP programme; rather, the individuals then access the general guidance service if help is required.

Work-based learning has considerable potential to support effective integration of the world of work with the world of learning, but this is clearly complex and there is a need for brokerage between these two worlds. Flexibility of the labour force for the fast-changing economic and labour market needs can be only guaranteed if, as a part of the high quality of vocational and academic programmes, students learn how to deal with career adaptability. For this purpose, lifelong guidance is a strategic partner both prior to entering a work-based learning programme and within the programme. Within programmes, Watts (2009) states that two further principles are important: namely, that career guidance should be available at all relevant decision points including on exit; and that career education programmes have an important role to play both in preparing participants for future career decisions and in supporting the transferability of their learning.

Dual practice within active labour market measures

It is common practice for countries to integrate an element of work-based learning into programmes that seek to redress labour market imperfections. The work-based component can support a range of different groups within the labour market, including young people who might otherwise disengage from learning, new entrants to the labour market who need work experience to secure employment, and unemployed people who need to remain connected with the labour market or to secure new skills. Examples include:

- In the Netherlands, the School Ex Programme is designed to give young people who might otherwise drop out of learning an opportunity to receive counselling and/or work experience. The experience of work is used to motivate their ambitions and to guide them in their transitions either to further learning or to the labour market.
- In Latvia, work-based learning is used to give new entrants to the labour market the opportunity to gain some general work experience and to facilitate long-term inclusion into the labour market.
- In other EU Member States, periods of work-based learning are designed for people who are unemployed, either to provide them with new skills for new jobs or to help to keep them engaged and prevent long-term unemployment. For example, in Poland, work practice is offered for 6 months (or 12 months for a person aged up to 30 years old) to unemployed people within the workplace. Examples of similar programmes are found in Greece where programmes are available to people at all

skill levels, in Malta where work exposure schemes are targeted at sectors where there is a shortfall of specialised workers, in Ireland where there is a National Internship Scheme and in Portugal, Employment-Insertion Contracts are used to develop social and professional skills of unemployed by linking them with socially useful work

In all these examples of ALMPs, the integration of employers within the schemes – and the search for market-based solutions – is an important component. From the employers' perspective, work-based learning offers a number of advantages: it allows them to shape the training that is offered within public provision; it gives them the opportunity to search for talent; and it helps to ensure that all entrants to the labour market are better prepared and "skills ready". However, receiving trainees also creates costs for enterprises in terms of time, tools and raw materials, for example. In some national systems, these costs are absorbed by all employers either directly or through taxation. In others, employer incentives have to be deployed, such as the offer of tax relief, brokerage services or direct inducements. This is more often the case where the trainee needs additional support to become work-ready and where their learning needs include learning about work and learning about jobs. In many of the examples above, the costs of employment are subsidised by the state. For example, in Poland, people on the work practice programme are entitled to a monthly scholarship equal to 120% of unemployment benefit. In Latvia, the state will subsidise employment and training costs, but there is an expectation that once training is finished the employer will hire the participant in an appropriate occupation for at least 6 months.

Specialist employment guidance services are needed that offer expertise in the various modes of work-based learning to support young people and adults into these opportunities, through them, and to ensure that people are supported in their transition from work-based learning where it is needed. These professional services will be focused on university graduates as well as on young people with lower-level skills, and thus will need to be accessible to a broad spectrum of the labour market.

Conclusions

Different countries in Europe have different education and training structures. Within those structures, work-based learning takes many different forms. Fundamentally, though, work-based learning can be described from the perspective of the individual as bringing the different natures of work closer to European youth, adults and their families, to make different occupations, sectors and job roles more familiar, and to develop in them the motivations, skills and aspirations to succeed in work. Throughout life, such experiences help to develop career decision-making skills and career adaptability.

From the labour market demand side, work-based-learning forms help employers from all-sized organisations across different sectors to develop their own recruitment and human resource practices, and learn from and inform curricula being followed in schools and colleges, all of which serve the employers' long-term goals.

Utilisation of job-related skills is connected with the individual's personality which includes, for example, work interests, motivations and values. Lifelong guidance is essential to provide meaning for any types of work-based learning at the personal level and to keep the individuals "on the right track" before, during and after the vocational education and training. In this personalised context "right track" has an individualised meaning based on individual interests, values and skills.

Work-based learning processes help people to learn about work, about particular jobs, about the skills needed to perform specific jobs, and about how to move between jobs. The most commonly referenced form of work-based learning is apprenticeship. ELGPN member-countries share a broadly common understanding of the structure and purpose of apprenticeships. This is not the case when referring to traineeships and internships, where different definitions apply between these two terms across countries. From these descriptors of the features of apprenticeships and traineeships/internships, it is clear that as a concept work-based learning is: (a) part of active labour market measures; (b) part of mainstream VET (for youth and adults) at all skill levels; and (c) part of a process of lifelong learning.

Just as work-based learning extends over the life course, so does career guidance. Lifelong guidance operates at strategic levels to help structures develop in ways that enhance the operation of the labour market and achieve broader policy goals such as labour market and social mobility.

In the context of work-based learning, lifelong guidance supports individuals into, through and beyond individual episodes of work-based learning. Such guidance can operate parallel to work-based learning, being part of a suite of activities that are available from specialist services and PES to individuals whatever their learning context. A different model is for a guidance element to be integrated within the work-based learning programme and delivered either by specialist services and PES or by trained teachers and tutors. A third model is for guidance services to manage or co-ordinate a range of work-based learning opportunities as part of active labour market measures which are designed to improve employability.

Work-based learning can be an effective way to bring the world of work closer to citizens of any age. It helps the familiarisation process with workplaces, and how literacy, numeracy and ICT skills are applied within the workplace, alongside the social contract of work and other implicit learning that comes from experience within a workplace. Lifelong guidance fosters individualisation of the work-based learning process, often as part of the lifelong learning process.

These advantages accrue from different work-based learning forms and for different groups of citizens, in different life circumstances and at different ages. However, such advantages are not automatic, nor are they necessarily well understood by indivdiduals, the business sector or schools. Therefore it is important to make these learning options transparent and permeable both for the participants and also for the business sector and schools.

Workplace practice is part of individuals' professional socialisation process: therefore the quality of the job and of the apprenticeship or traineeship/internship matters. It is especially

important for career starters and young professionals, as professional socialisation has started in the VET school and during the workplace practices, but the first two to three years in the labour market construct their understanding of work which they will broadly then carry for four to five decades, until retirement age (Borbély-Pecze, 2012). This indicates that work-based learning is not only a work position (often for limited wages) but also a preparatory place for socialisation in work and personal professional development in a certain occupation or occupations.

Vocational education and training / active labour market training programmes at any age can be more effective with built-in lifelong guidance services. These services can help the citizens and families to clarify their training/learning paths but also support employers to identify certain needs for certain job posts before entry. Lifelong guidance services as part of the programmes support preventing drop-out and early school-leaving through customising learning to individuals' need. Last but not least, lifelong guidance plays an important role on exit, supporting learners in (re)entering the labour market and also in entering particular workplaces through the mobilisation of their own career management skills.

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Abbreviations

- ALMP Active Labour Market Policy
- EURES European Employment Services
- EMCO Employment Committee
- ETUC European Trade Union Confederation
- FDI Foreign Direct Investment
- LLG Lifelong Guidance
- LMI Labour Market Intelligence
- PES Public Employment Service
- STW School to Work Transition
- VET Vocational Education and Training
- I-VET Initial Vocational Education and Training
- C-VET Continuing Vocational Education and Training (also known as Further Education)
- CPD Continuing Professional Development
- WBL Work-Based Learning.

DANKA, István

WHICH WAY TO ARGUE (FOR): THE VISUAL, THE LINGUISTIC AND THE SYMBOLIC[1]

This paper relates three notions to each other: visual/pictorial, linguistic/verbal and symbolic/formal reasoning. I shall argue that in order to find a role of visuality in reasoning in general, differences from symbolic reasoning are to be exploited rather than dissolved (as visual logicians normally intend to do). Understanding visual reasoning as complementary to, rather than interchangeable with, symbolic reasoning could better serve educational purposes. Being spatial rather than sequential, visual logic differs from symbolic logic but is also similar to at least some forms of linguistic reasoning. Visual reasoning better supports finding connections among concepts than finding proofs for claims. Hence, that would be at least one good direction towards which it should be developed.

1. The Problem

It is often claimed that the logical structure of (linguistic and/or formal) reasoning and that of images are incompatible (for an overview of pro and contra arguments, see Shin-Lemon-Mumma 2014). Visual or pictorial arguments are rarely applied in reasoning, and where they are applied at all, they are treated as illustrations rather than substantial parts of argumentation. Though Aristotle still thought that visual demonstration is a method of persuasion (Blair 2008, p. 41), e.g. he discussed a visual demonstration of the Pythagorean Theorem in Metaphysics 1051a26-26 (see a classical version: http://www.crewtonramoneshouseofmath.com/images/pythagorean-theorem.gif), except a few proponents of diagrammatic reasoning like Euler, Venn and Peirce, visual arguments were not seriously researched. A spread of symbolic or formal logic in the previous century also did not encourage logicians to develop visual representations as arguments, even though Frege's own notation was at least partly visual (imagine these samples from his *Begriffschrift* without the graphical part: <http://www.stephenwolfram.com/publications/mathematical-notation-past-future/Images/Frege.jpg>).

Visual arguments nonetheless provide a very helpful tool for representing logical relations in a clear and comprehensible way. Sun-Joo Shin, a leading figure of a recent *Renaissance* of diagrammatology (the study of applying diagrams for representing logical relations) extensively argues that visual representations are more natural bearers of logical relations than symbolic, and even linguistic, ones. Shin (1994) thinks that linguistic systems are conventional, whereas pictorial representation is based (primarily) on resemblance. In this sense, for her, "diagrammatic representation is more natural than linguistic representation" (Englebretsen 1996, p. 327).

1The results presented in this paper have been developed within the framework of "Integrative Argumentation Studies" supported by the Hungarian Scientific Research Fund (OTKA K-109456).

At least if Goodman (1968)'s view that pictorial representations do not rely on resemblance but pure convention is set aside (and there are good reasons to do so - see Nyíri (2001)), it seems reasonable to claim that visual representations are more natural meaning bearers than linguistic or symbolic representations. It may be questionable though whether this applies to logical relations in particular. Due to their abstract nature, they seem to be really far from the realm of visuality. Nonetheless, basic logical relations are often introduced in logic textbooks and courses via a set theoretical approach containing pictorial representations of sets called Venn-diagrams. Insofar as at least elementary logical relations can be properly represented visually, diagrams can play a central role in introducing students into logic in a (presumably) easier way than via symbolic representations. However, after introduction, they used to be fully replaced with symbolic notation typically because "[g]enuine formal reasoning, so the claim goes, takes place in the head. Pictures may help the novice to get the right idea, but they are really incidental to the process" (Englebretsen 1996, p. 323). This is what visual logicians used to call a "general prejudice [of logicians] against diagrams" (Shin 1994, p. 1).

Hence, other than a theoretical importance of possible applications of visual representations in reasoning (see esp. Lemon-De Rijke-Shimojima eds. 1999), further reasons also call for clarifying relations between a logic of language(s) and that of images. Two of them are to be emphasised. First, the question whether "genuine reasoning" is (purely) formal at all has a philosophical importance. Second, whether reasoning can be effectively taught through visual representations at an appropriately high level so that visuality can also serve as implementing, rather than just introducing into, argumentation has an educational importance. While the first issue can of course not be properly answered here, some aspects of it will be touched upon. For the second, I hope to give a proper answer, claiming that in order to exploit its benefits, visual logic should be seen complementary to, rather than interchangeable with, symbolic logic.

2. Pictorial and Symbolic Representations

Diagrams differ from symbolic representations in some important sense. They are spatial (more precisely, planar or two-dimensional), whereas symbolic representations are sequential (and hence one-dimensional). Sequential representations are semantically much less rich than spatial representations and in compensation, the former requires a richer syntax. Hence, visual and symbolic representations of arguments can differ significantly in their semantic richness as well as syntactic structure. Diagrams apply an extensional (or set theoretical) approach, taking logical relations to be relations between classes and their elements. In contrast, symbolic representations normally take an intensional approach in which logical relations are considered to be relations between subjects and predicates. This difference has proved to be essential. A problem with the set theoretical approach is that "not all relations can be viewed as membership or inclusion" - an example might be polyadic predicates (Englebratsen 1996, p. 328).

While propositional logic can be well represented by diagrams, a main concern of diagrammatists from Euler via Venn and Peirce to Shin has been representing first-order predicate logic on diagrams properly. Though Shin (1994) managed to develop a system

based on a Peircean extension of Venn-diagrams that is complete and sound on first-order predicate logic (and hence can handle existentially quantified statements, the most problematic part of Venn's system), the more effort put into developing Venn-diagrams seems to involve the least promising results.

The problem with Shin-diagrams is as follows. At least from the educational point of view I intend to defend, diagrammatic reasoning is valuable due to its comprehensibility. Diagrams demonstrate logical relations in an easy-to-grasp way. It seems, however, that by increasing the complexity of logical relations, the advantages of visual representations decrease. Namely, comprehensibility decreases more along with an increase of complexity in the case of diagrams than that of symbolic representations. A demonstration of this might be comparing a visual and a symbolic proof of the completeness and soundness of Shin's system. Hammer and Danner (1996) provided an 8-page-long visual demonstration of the completeness and soundness of Shin-diagrams. Miller (2006) presented another proof in symbolic/linguistic terms in no more than five lines (and a bit of explanation). Promoting visual clarity and aiming at logical expressibility seem to lead to opposite directions. As the complexity increases, symbolic logic is the easier-to-grasp way of representing logical relations. Hence, a role of visual representations in educating logic seems to be limited at best.

Shin-diagrams are of course scientifically valuable at their own right. But their educational usefulness is questionable if they provide a more complex and harder-to-grasp way of representing logical relations than symbolic representations do. It seems to me that developing visual logic into the direction that it should better imitate what symbolic logic does anyway (and in what symbolic logic is better) is a strategic failure. Rather than trying to dissolve their dissimilarities, they could also be exploited.

How appropriate a representation is largely depends on *what* we intend to represent by it. If the *representandum* is an abstract world, real or constructed, of ever increasingly more complex logical relations among logical entities, real or constructed, then symbolic logic is certainly the most appropriate tool among the three for representing it. If the *representandum* is common sense reasoning and argumentation, linguistic (or so-called informal) logic seems to be the best candidate. Finally, if the *representandum* is spatial relations, visual logic enjoy serious advantages. Rather than aiming at being better in representing the abstract, visual logic should aim at representing the spatial.

If symbolic logic is taken to be the *par excellence* form of logic, a clash between expressibility and clarity is not specific about visual representations; it applies to linguistic representations of logical relations as well (as there is no linguistic representation of e.g. higher-order logics). But no one thinks that verbal argumentative skills should be improved by developing a system of translations from complex symbolic logic to everyday verbal expressions. Why should visual logic be developed into that direction then? While in the case of symbolic logic, along with complexity, syntactic richness increases, in the case of visual and verbal argumentation, along with complexity, semantic richness increases. Building on this similarity between the visual and the verbal, visual logic should be applied for representing semantically rather than syntactically complex reasoning. Central to this, a note is to be made about the sequentiality vs. spatiality issue.

3. Sequentiality and Spatiality

An argument why common-sense arguments can be better represented in symbolic than visual logic is that both symbolic logic and linguistic reasoning are sequential, whereas visual logic is spatial. As mentioned above, a consequence of this is a richer syntax of sequential representations and a richer semantics of spatial representations. But in the previous section I just have argued that by increasing complexity in linguistic representations, it is normally their semantics rather than their syntax increases (as their syntax rarely goes beyond that of a first-order modal and/or intensional logic). Even if these two claims are not in a direct contradiction, there is some conflict between them.

In order to dissolve the conflict, one may develop systems of sequential visual logic. This is what Englebretsen did before Shin (1994)'s revolutional work on Venn-diagrams when he made an attempt to develop a linear rather than planar visual representation of first-order logical relations (Englebratsen 1992, p. 37). However, Englebretsen's notion of linearity is too broad to provide a suitable response to the problem of sequentiality and spatiality. He needs a two-dimensional framework in order to relate his lines to one another. E.g. he represents the statement "Some S is P" by two lines crossing one another, standing for two sets having an intersection in Venn's system (see Englebratsen 1992, p. 39). Applying lines instead of circles does not involve sequentiality and hence does not solve the problem.

I shall rather follow another line, namely, arguing that linguistic arguments are not sequential; more precisely, the universal claim that *all* linguistic arguments are sequential is false. An argument presented orally is of course sequential as there is no other way of expressing it than uttering one sentence after the other. But written arguments differ from oral arguments. Core arguments in written texts are often highlighted by visually distinguishing them from the rest of the (linear) text, traditionally in the form of syllogisms. Syllogisms, in contrast with linear texts, are not sequential; they form a tree-structure. At least two reasons can support this claim. First, in fact, other than polysyllogisms, arguments are rarely (or perhaps never) sequential because in order to accept the conclusion, *all* premises have to be accepted and had in mind *synchronously* rather than one after the other as this is the reason why accepting the premises is taken to be necessary for accepting the conclusion. Second, premises (and even the conclusion in most cases) can be put into any order without hurting their logical relations to one another. Hence, their logical structure does not depend on their place in a sequence of their utterance. Arguments in linear texts may or may not be tree-structured but if the above-mentioned are right, where they are not tree-structured, they represent less properly the logical relations in question.

Trees, just as Englebretsen's diagrams, consist of lines but are nonetheless two-dimensional representations. A tree has two or more branches (premises) and a parent branch or trunk (conclusion). Complexity in tree-structured arguments does not increase via syntactical complexity but more and more (and thinner and thinner) branches and twigs supporting their parent branches by gradually finer and finer arguments. Hence, representing an argument in a tree requires at least two dimensions to develop (a depth of argumentation, i.e., gradually thinner arguments on the one hand, and a width of argumentation, i.e., more than one arguments supporting their parent branch), and also cannot meaningfully transformed to any one-dimensional representational form. If so, arguments that can be suitably represented in the form of a syllogism can better represented visually than

symbolically (holding the supposition that symbolic logic is sequential whereas visual logic is spatial).

A possible objection may be that my claim is about the nature of arguments themselves rather than their linguistic representations. Perhaps the logical structure of arguments differ from that of their linguistic representations. I can accept that some linguistic representations of arguments are *de facto* linear. But not *all of them* are and hence sequentiality cannot be a *differentia specifica* of linguistic representations. Furthermore, if linguistic representations were always sequential then visual logic is even better than linguistic logic in representing tree-structured arguments (i.e., most types of syllogistic reasoning at the very least).

Texts allow the writer to construct their representations in a visually ordered manner. Spatiality, and hence visuality, occurs even within texts themselves. Forming core arguments in the form of syllogisms rather than flowing texts is a visual element in linguistic representations. Multimedia documents just broaden, though with no doubt dramatically, the possibilities of including visual elements in texts and hence written arguments - not to talk about moving pictures, being inherently spatial *and* sequential at the same time.

Disregarding sequences of spatial representations as a too cheap way for promoting visual logic, a direction which may also worth following is another strategic move: making an advantage of its (allegedly disadvantageous) extensional, set theoretical approach. If spatial representations are better at their semantics than syntax, an obvious way to follow would be applying visual logic to analysing semantic rather than syntactic relations like relating concepts to one another in terms of inclusion, intersection, exclusion, etc. of their extension. This can increase the potential for analysing complex arguments, insofar as complexity typically increases with the involvement of more and more complex concepts. Tree structures can also be applied for classification where inclusion-exclusion is a central aspect. Putting philosophical ideas or scientific concepts into a space of logic and relating them to one another could also help in setting up a framework for a dialectics of positions interrelated in a complex way. Visual logic may not be the best logic for proofs and deductions but it certainly could be a proper tool for identifying relations and connections among concepts and complex views which have a more-than-one-dimensional extension.

4. Conclusion

In this paper I have argued that in order to find a role of visuality in reasoning, differences from symbolic logic are to be exploited rather than dissolved. I have identified a strategic failure of visual logicians whose main concern is to show that visual and symbolic logic are interchangeable. Applying a perspective from educating logic, I have found that seeking for dissimilarities (in order to make the two complementary) rather than similarities (in order to translate from one to the other) is a strategically more promising way to find a place for visual logic.

I have also claimed that central to my aims, it must be accepted that a relation among visual, linguistic and symbolic reasoning depends on what is claimed to be represented by them, and an answer to that question depends on explanatory purposes rather than pure facts. This might be seen as at least a partial response to the philosophical question I have raised in

Section One: formal reasoning is not necessarily the only, or even the most important, *representandum* of a logical system.

A response to the educational question has been that formal reasoning, at a certain level of complexity, should not be taught visually. But complexity could be increased in ways different from syntactical complexity, and those directions are open for visual logic. In education, logic intends to represent the way how we humans think and argue. In this respect, spatial representations of semantic relations can be extremely important. Visual reasoning is better in establishing connections among concepts than symbolic logic. Hence, if that task is attributed to it, visual logic can play a central role in logics education.

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JÁSZ, Borbála

THE DEVELOPMENT OF PICTOGRAMS SCIENTIFIC VISUALISATION OF OTTO NEURATH'S PICTURE LANGUAGE AND ITS ACTUALITY

Whether we go to work by public transport, walk along the street or merely throw out the trash we always see pictorial signs. These pictograms have achieved the status of natural mediators; they are part of everyday life and they mean the same for everyone, regardless of race, sex, age and income. This visual language was born at the beginning of the 20th century thanks to the work of Otto Neurath.

Neurath was an economist and sociologist who intended to develop a universal language system (called ISOTYPE), following the "unity of science" idea of the **Vienna Circle**. His aim was to visualise the changes in society with graphical signs, to educate the masses visually and to reveal socio-economic facts in plain, pictorial forms.

In this paper I will examine how this visual language, the criteria of which are readability, pictoriality and value neutrality, has worked for everyone in the world since the 1920s. I will also investigate how science and visual arts work together in transmitting knowledge and visualising information and data. I will explore a methodological analogy based on the application of primary forms that can be identified in the architecture of Neurath's time, especially in Le Corbusier's theory of architecture and built heritage. Finally I will emphasise the actuality of the readability of cities that is due to the work of Kevin Lynch.

The context

To understand the theory of Otto Neurath, we have to examine the context, the institutional scientific community of his time, which had three main components.

First of all, Otto Neurath as a sociologist and an economist was an active member of the **Vienna Circle** (1929). If we want to summarise the core tenets of the members of circle, we can see that they were based on non-metaphysical thinking and a scientific conception of the world. The main goal was the integration of science and everyday life by means of formal logic.[1] The grounds for a new scientifically based philosophy are protocol statements – meaning simple observation reports – and logical connectives.[2]

The second main component is **The Museum of Society and Economics in Vienna** [Gesellschafts- und Wirtschaftsmuseum] which was the starting point for the ISOTYPE project in 1924. In Vienna during the interwar period there was a housing project for working class people. ISOTYPE was an “education by the eye”. The aim of Neurath’s museum was the visualisation of social facts for the uneducated masses.[3] The Vienna method involved the creation of a new, internationally standardised system using graphic symbols.[4] The main principles of ISOTYPE were developed from this Vienna method.

The third component is the Bauhaus school of architecture and design. Members of the Bauhaus school intended to apply scientific principles and correlate them with primitive colour relations and Platonic, basic forms. They wanted to reject the metaphysical tradition

not only in philosophy but also in architecture – in the name of a modern way of life. This whole community shared the same ideological criteria.[5] It is well known that Neurath gave lectures at Bauhaus.[6] "Neurath's collaboration with the Bauhaus was based on a mutual scientific approach, as well as his personal interest in arts, architecture and workers settlements, as shared by others in the Vienna Circle. The mutual envisioning of a modern society was strengthened by both groups' opposition to existing nationalist, anthroposophist and metaphysical tendencies. After exchanging lectures between Dessau and Vienna, the two groups had developed such strong bonds that, after fleeing the Nazis, even the New Bauhaus in Chicago adapted logical positivism into its general design agenda. (68)"[7]

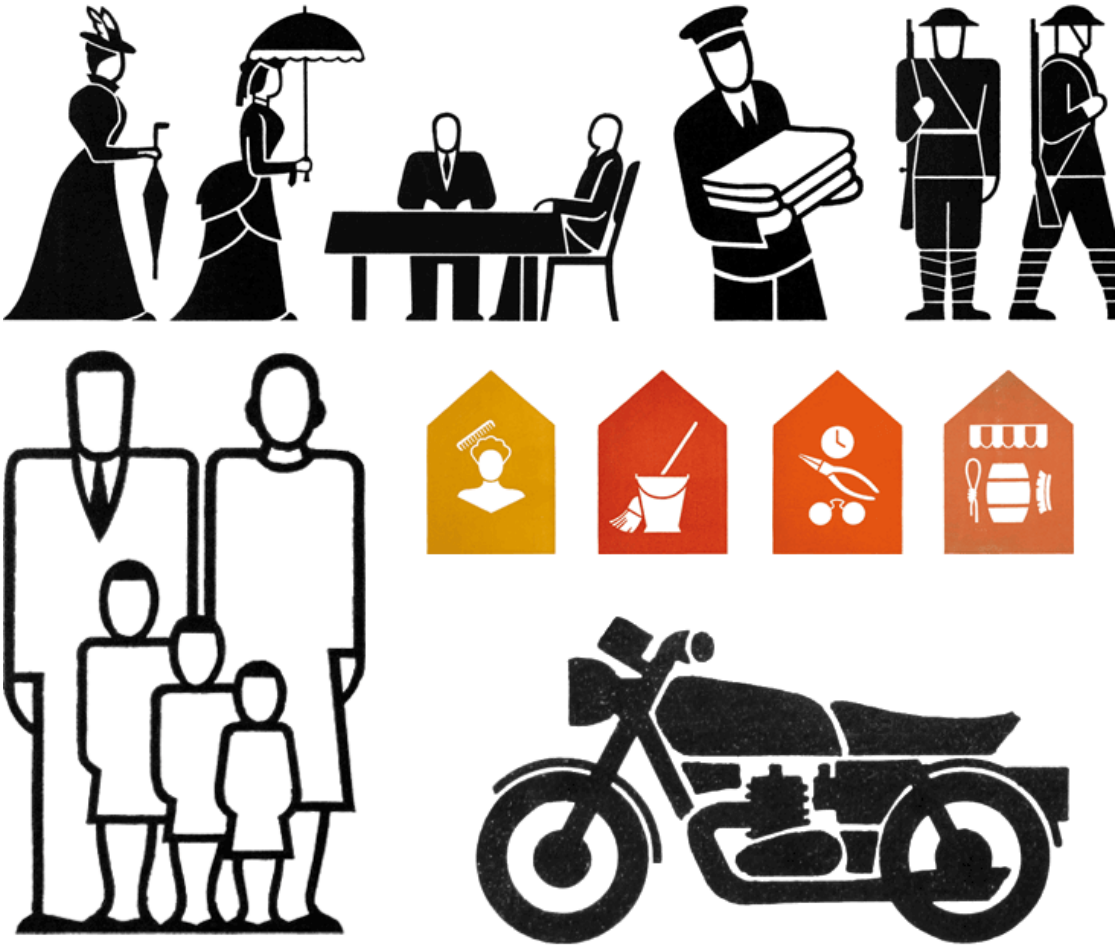

Figure 1. http://ministryoftype.co.uk/content/words/article/281-isotype/gerd-arntz.png

The International Picture Language – The language of the Global Polis

The idea of an international picture language is based on the process which Otto Neurath called "debabelisation".[8] He meant that if we want to achieve a unified visualised system, we have to eliminate any ambiguity of language and clarify the criteria of a universal visual communication system.

The process of creating this universal picture language was complex. It started with an analysis of the nature of languages. Every language, even the language of science, contains words and rules. Neurath's research showed that knowing a language is more complex than knowing words and rules, because words have different associations. An international

picture language should serve to solve this problem by introducing universal meanings for graphical or pictorial signs. Nonetheless this is a task that calls for an interdisciplinary background, for "to make picture is a more responsible work than to make a statement, because pictures make a greater effect and have a longer existence"[9].

First Neurath makes a distinction between words and pictures. He emphasises that pictures are international, so they are independent of knowledge of languages. "Words make division, pictures make connection."[10] The reading of pictures is similar to everyday experience: mere observation with the eyes.

Pictures can make connections between inhabitants in the new kind of city. Kristóf Nyíri emphasises that "it was [...] the main discovery of twentieth-century philosophy that all knowledge, ultimately, is based on practical knowledge. Now pictures are better at teaching practical knowledge than are texts."[11] The place of new people of the new era is in the industrialised metropolis, which is based on democratisation and a globalisation of knowledge.[12]

Le Corbusier's Global Polis

To create an explanation of the global polis Le Corbusier used the automobile as his principle. This resulted in an aesthetic of the machine age. With the cessation of ornament, a new idea will control contemporary architecture and systems of thought: it is called machinism.[13] In order to grasp a concept, we need norms which are strictly regulated by principles. According to Le Corbusier, thanks to standardisation, the same approach should be applied to the problems of a house as to those of an automobile. The best example of engineer's aesthetics is the *Maison Citrohan*.[14]

The prototype where new materials and structures first appeared in the architect's work was the *Maison Dom-ino*. The name of this structural plan contains a play on words: domus meaning house in Latin, domino meaning units designed with a common industrial module that can fit precisely into one another. All the elements of the house consist of cast concrete structures which are mass-produced; therefore it already inherently owns an appropriate system of proportions.[15]

A more detailed explanation of the machine paradigm can be found in the third chapter of Le Corbusier's *The City of To-morrow and Its Planning*. Ships, automobiles and aeroplanes not only change aesthetics but they also change the rhythm of life. Industrial development and the mass influx of materials replace manual production methods. The similarity between Le Corbusier and Otto Neurath can be seen at this point.

Le Corbusier's main principles for city planning are the follows.

1. The*City,* as a business and residential centre.
2. The*Industrial City* in relation to the *Garden Cities* (i.e. the question of transport).
3. The*Garden Cities* and the *daily transport* of the workers

For city planning the basic principles are as follows:

1. "We must decongest the centers of our cities.
2. We must augment their density.
3. We must increase the means for getting about.
4. We must increase parks and open spaces.

The residential blocks, of the two main types already mentioned, account for a further 600,000 inhabitants. The garden cities give us a further 2,000,000 inhabitants, or more. In the great central open space are the cafes, restaurants, luxury shops, halls of various kinds, a magnificent forum descending by stages down to the immense parks surrounding it, the whole arrangement providing a spectacle of order and vitality." [16]

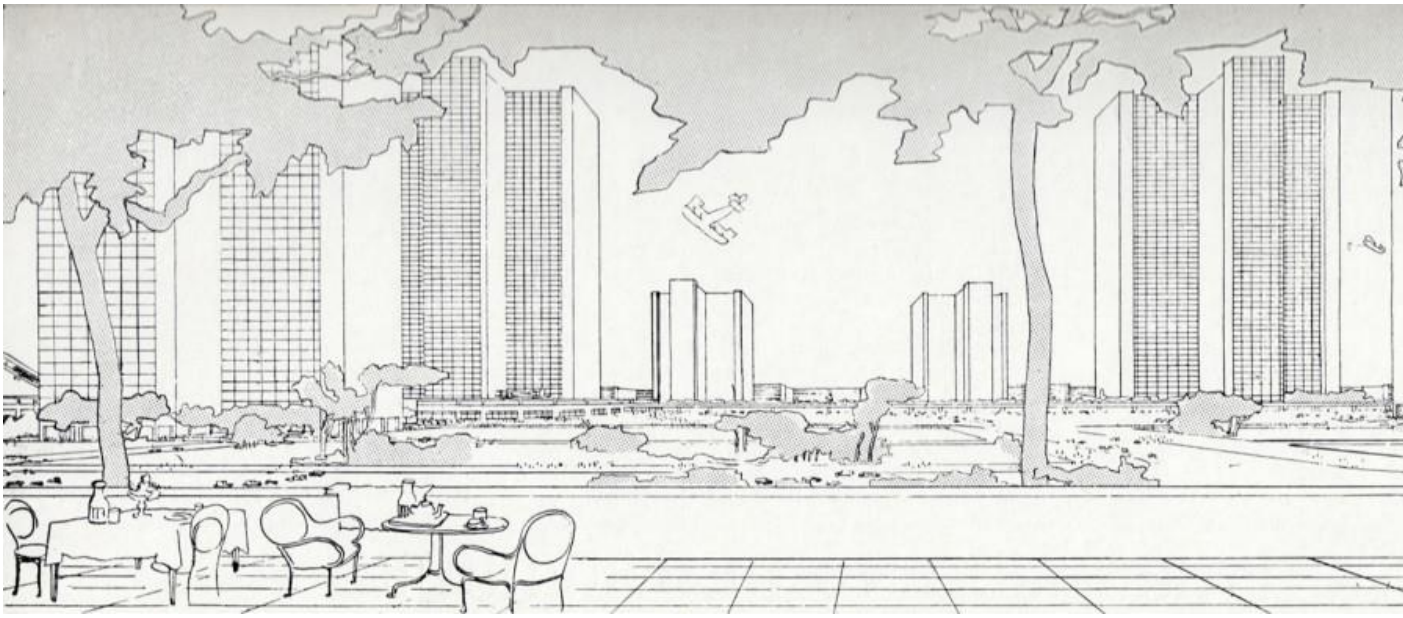

Figure 2. https://rosswolfe.files.wordpress.com/2014/06/40_lecorbusier1.jpg

To sum up, Le Corbusier's reaction to the development of scientific technique is analogous to the scientific concept of the *Vienna Circle*. The machine-induced changes in the science of construction have been of revolutionary significance since Le Corbusier articulated his famous five points, regarded as the basic principles of contemporary architecture.

1. "Pilotis – Replacement of supporting walls by a grid of reinforced concrete columns that bears the structural load is the basis of the new aesthetic.
2. The free designing of the ground plan – the absence of supporting walls—means the house is unrestrained in its internal use.
3. The free design of the facade – separating the exterior of the building from its structural function – sets the façade free from structural constraints.
4. The horizontal window, which cuts the facade along its entire length, lights rooms equally.
5. Roof gardens on a flat roof can serve a domestic purpose while providing essential protection to the concrete roof."[17]

This is the architectural background of, and the environment for, the visualised language of Otto Neurath.

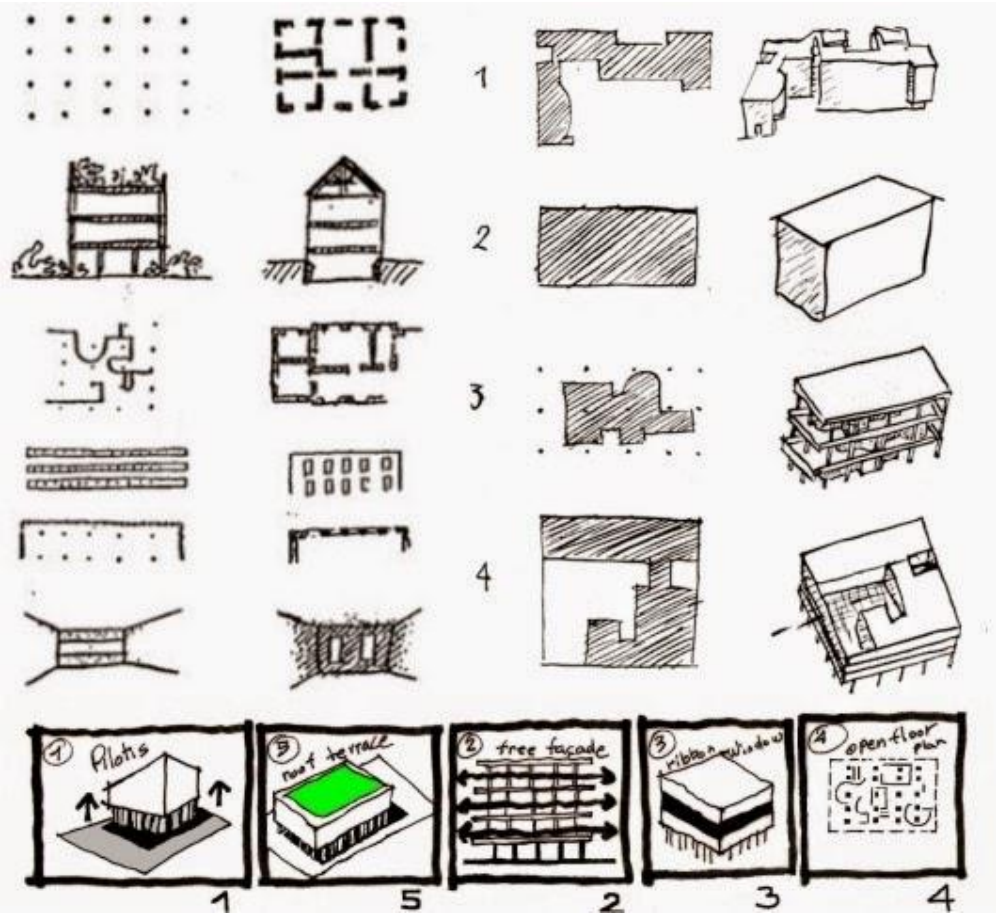

Figure 3. http://1.bp.blogspot.com/-j-ri9jNCF9I/U-fHbtVPfoI/AAAAAAAAAFo/ehmJLAHUqO8/s1600/Pielesarquitectonicas01-LeCorbusier5puntos.jpg

Readability of cities

In order to analyse the readability of cities, I will consider some of the most important theories of city planning. One of the most influential is the architectural theory of Le Corbusier. It is well known that there is a common point between Otto Neurath's and Le Corbusier's life: they both were members of CIAM. The Congrès internationaux d'architecture moderne (International Congresses of Modern Architecture, 1928–1959) was an organisation of the most prominent architects of the Modern Movement. In their theoretical and practical architectural work they focused on urbanism, industrial design and social architecture.[18]

The theories of Otto Neurath and Le Corbusier with regard to visualisation are connected in three ways. First of all, with respect to the common task: to make scientific facts accessible for the masses. Secondly, with respect to the intermediary device: the mass media are very powerful. Thirdly, the aim of Neurath and Le Corbusier was the same: understanding the modern metropolis. These three links result in three core notions which are the hallmarks of the Modern Movement in Central and Western Europe: globalism, knowledge and everyday life.

In order to understand the closely related social and architectural trends between the two World Wars, we need to focus on these three concepts (which later became tendencies).

In Le Corbusier's oeuvre, a kind of classification can be observed. In explicating his theory of the city, three steps can be distinguished. The first is the conception of the functional city. Here Le Corbusier introduced new concepts of public housing based on the philosophical theory of Marxism and the artistic theory of constructivism. The second step is linked to the concept of globalism, which is connected to the major topic of discussion of the time: the Mundaneum debate. The world city is created by the process of globalism. This means rationalised planning, using the Platonic forms and conveying a universal and accessible visualised content by means of architecture. The last step is the most important in my comparison: the city of the new era, the global polis. This means emphasising comparative city planning and the importance of urbanism. The theory of the transformation of forms appears in connection with the linguistic reduction method favoured by the Vienna Circle.

The connection between Neurath and Le Corbusier was manifested in the theory of the global polis. Both take the criterion of readability in city planning into consideration, Le Corbusier in an urbanistic, Neurath in a visual linguistic way. Otto Neurath created pictograms as universal signs, the language for the rationalised, understandable modern metropolis, the global polis.

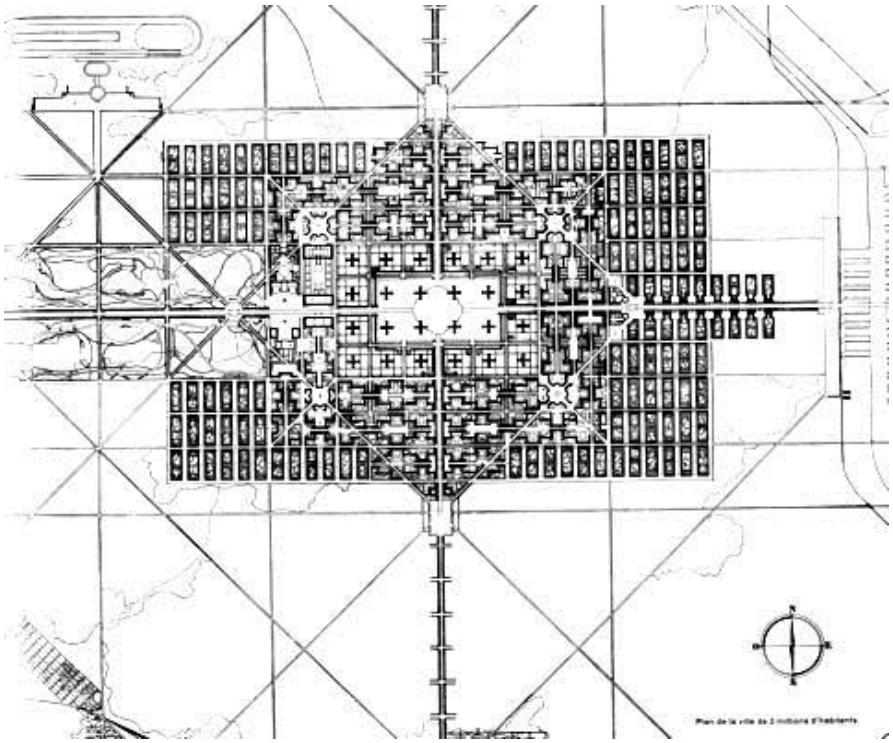

Figure 4. http://educ.jmu.edu/~tatewl/LE%20CORBUSIER/23.corbu.city.plan.jpg

The Image of the City

The International Picture Language was created by Otto Neurath for the Le Corbusian-type modern metropolises. In order to examine the actuality of the pictograms, they have to be analysed in terms of the work of Gyorgy Kepes and Kevin Lynch. Kevin Lynch's theory was developed under the direction of Professor Gyorgy Kepes at the Center for Urban and Regional Studies of the Massachusetts Institute of Technology in 1959. Gyorgy Kepes was a Hungarian-born artist, painter, designer and theorist. After emigrating to the US, he taught

at the New Bauhaus in Chicago and after that at MIT. *The Language of Vision* (1944) is Kepes's best known work on design education.

"The language of vision, optical communication, is one of the strongest potential means both to reunite man and his knowledge and to re-form man into an integrated being […]

Visual communication is universal and international; it knows no limits of tongue, vocabulary, or grammar, and it can be perceived by the illiterate as well as by the literate… [The visual arts as] the optimum forms of the language of vision, are, therefore, an invaluable educational medium."[19]

We can see this tendency in Kepes' theory of colours too: "Colour remains as a universal keyboard of feelings. Colour representation reaches a higher level of objectivity".[20]

In addition to the city structure Kevin Lynch focused on the city's mental representation. This is based on the concept of imagability. But how could his programme be applied to the elements of the city? Lynch distinguished five different elements of the city: paths, edges, nodes, landmarks and districts.[21] Every major settlement is built up from these components, thus we can read them. So legibility and transparency are crucial to an understanding of cities. To understand the city, the activities of inhabitants must be observed. "Structuring and identifying the environment is a vital ability among all mobile animals."[22]

In modern cities (classical modern and newly built cities) people cannot get lost, because they are supported by navigation devices which are visual: maps, numbers of public transport vehicles, route signs, markers for busses or trams, etc.[23]

To summarise, the most important requirement for the problem of the image of the city is transparency. So we need objective, clearly visible signs not just to use them but to understand the city. These signs must be understandable for everyone, thus they must be visual.

Figure 5. http://www.futas.net/hungary/Budapest/images/kresz-tablak.jpg

Conclusion

In this paper I have investigated the nature of the pictogram, the universal, visual language system (called ISOTYPE) created by Otto Neurath between the two World Wars. The main question was why and how we can understand these visual elements.

The economist and sociologist Neurath worked together with three important institutional scientific communities: the Vienna Circle [Wiener Kreis], The Museum of Society and Economics in Vienna [Gesellschafts- und Wirtschaftsmuseum] and the Bauhaus school of architecture and design. These three communities provide the context of my research.

Neurath and Le Corbusier followed the "unity of science" idea of the Vienna Circle in educating the masses and in city planning. Both of them worked on the metropolis, so a methodological analogy can be seen between a language of visual elements and the city. Le Corbusier emphasised the readability of cities, where “city” means the global polis. Otto Neurath created his ISOTYPE for Le Corbusian-type modern metropolises. Finally I examined the actuality of the pictograms, and I analysed it in the framework of the work of the Hungarian born György Kepes and Kevin Lynch.

To sum up, it has been established that the role of pictures in the environment of a metropolis is mediative. Pictures make connections between inhabitants in the new kind of cities and between words and entities. So the following criteria must be sufficient for the universal picture language: neutrality, visuality, readability, pictoriality and intelligibility.

*

[1] Vossoughian, Nader. *Otto Neurath: The Language of Global Polis*. NAi/D.A.P. 2010. p.57
[2] Galison, Peter. Aufbau/Bauhaus: Logical Positivism and Architectural Modernism. In *Critical Inquiry* Vol. 16, No. 4 (summer, 1990), pp.711.
[3] Neurath, Otto. *International Picture Language* (London: Kegan Paul). Facsimile reprint: Reading, UK: Department of Typography & Graphic Communication, University of Reading, 1980. (1936.) p.22.
[4] Rayward, Boyd W. (ed.) *European Modernism and the Information Society. Informing the Present, Understanding the Past. Ashgate*, Hampshire, 2008. p.280.
[5] Galison, 1990. p.711.
[6] Available: http://plato.stanford.edu/entries/neurath/visual-education.html Accessed: 28.12.2015
[7] Decaix, Patrick–Cornelia Redeker. *Otto Neurath Isotopia*. P.33. Available at: http://www.citiesonrivers.net/pdf/Otto%20Neurath%20Research%20for%20Research%20.pdf Accessed 28.12.2015
[8] Neurath 1936. p.13.
[9] Neurath 1936. p.15.
[10] Neurath 1936. p.18.
[11]Nyíri, Kristóf. *Pictorial Meaning and Mobile Communication.* 2003. Available at: http://www.hunfi.hu/nyiri/nyiri_pictmean_mob.pdf Accessed 28.12.2015
[12] Vossoughian, 2010. p.11.
[13] Le Corbusier. *Towards a New Architecture*. London, The Architectural Press 1927. pp.117–119.
[14] Mallgrave, Henry Francis: *Modern Architectural Theory*. Cambridge, Cambridge University Press 2005. p.258.

[15] Le Corbusier 1927. p.219.
[16] Le Corbusier. *The City of To-Morrow and its Planning*. New York, Dover Architecture. 1987. p.31.
[17] Le Corbusier. *Five Points Towards a New Architecture*. 1926. Available at: http://www.learn.columbia.edu/courses/arch20/pdf/art_hum_reading_52.pdf. Accessed 28.12. 2015
[18] Steinmann, Martin (ed.) *CIAM: Dokumente* 1928–1939. Basel, Birkhäuser, 1979.
[19] Kepes, Gyorgy. *Language of Vision*. Chicago, Paul Theobald 1944. p.13.
[20] Kepes, 1944. p.169.
[21] Lynch, Kevin. *The Image of The City*. Cambridge, The MIT Press, 1960. p.41.
[22] Lynch 1960. p.3.
[23] Lynch 1960. p.4.

CSORDÁS, Hédi Virág

VISUAL ARGUMENTS: MOVING VS. STILL IMAGES IN WWF CAMPAIGNS[1]

Introduction

Our information age is strongly characterised by mediation, which is closely related to the expansion of visual experience. In the twentieth century, scientists attempted to categorise our media areas. In his widely known work *Orality and Literacy: The Technologizing of the Word* leading social scientist Walter Ong introduced the terms *primary orality*, *literacy* and *secondary orality*. *Primary orality* refers to thought and its verbal expression within cultures "totally untouched by any knowledge of writing or print."[2] Within the concept of *literacy* he sees communication gradually developing from an oral stage into a stage of print. *Secondary orality* is dependent on literate culture and the existence of writing, as in the case of a television or radio anchor reading the news. Moreover, as John Walter points out, Ong introduced one further category in a 1996 interview in Composition FORUM: "Ong also uses the term 'secondary visualism' on a few occasions in his unpublished writings to emphasize the increased use of non-textual visual and interactive elements."[3] This new form of communication is primarily based on pictures — as further evidenced by esteemed philosopher W. J. T. Mitchell's 'pictorial turn' concept[4]. It is thus maintained that a wide range of visual elements, such as pictures, icons, billboards, city lights, short videos and advertisements, significantly influence our thoughts about the world, and can sometimes change our behaviour and attitudes.

Hypothesis

In this paper I will focus on the visual elements of understanding as they appear in World Wildlife Fund (WWF) public service campaigns.

I will argue that the visual argumentation structures characteristic of pictures can influence the way images are processed. I will also claim that the degree of impact depends on the type of images: whether they are moving or still pictures. In order to substantiate my hypothesis, I will start by introducing WWF and their mission and describing the characteristics of public service campaigns. I will give definitions for some fundamental expressions (systematic and heuristic processing, visual elements, visual arguments,

[1] This research is carried ouit in the framework of Integral Argumentation Studies (OTKA —K-109456) of the Doctoral School of Philosophy and History of Science, Budapest University of Technology and Economics.

[2] Walter J. Ong. Orality and Literacy, p. 11.

[3] Kleine, Michael, and Fredric G. Gale, "The Elusive Presence of the Word: An Interview with Walter Ong." Composition FORUM 7.2 (1996): pp. 65-86.http://johnwalter.blogspot.hu/2006/07/ong-on-secondary-orality-and-secondary.html, last accessed 02. 12. 2015.; Notes from Walter J. Ong's Archive

[4] Mitchell, W.J. T., "The pictorial turn". In: Mitchell, W.J. T. (1994.) Picture Theory

argumentative schemes and so on) which I will repeatedly use in my work. I will then draw up the main components of visual argumentation which are linked to the processing of images. Finally, I will make a comparison between still and moving images, focusing on their dissimilarities. My aim is to demonstrate that there is a connection between argumentation structures and the processing of images (still and moving).

Introducing WWF

WWF's mission is to build a future in which people live in harmony with nature. They focus on two goals: protecting biodiversity, and reducing humanity's footprint on the natural world. Not only do they identify problems, but they also find solutions, concentrating on achievable targets, policies and results.

This international organization operates in more than 100 countries on 6 continents and employs more than 5000 people worldwide. Their total revenues and incomes are 657 million euros, most of which comes from 5 million supporters.[5] When we compare the two pie charts below, we can see that the largest segment of WWF's income is donated by individuals (55%), while on the expenditure side the rates of investment (in awareness and education) are much lower (11% and 3%, respectively). This may cause us to wonder how they can reach their target group and remain economically efficient while their budget is low. As I will point out, it depends on creativity, and on the structures of their visual arguments.

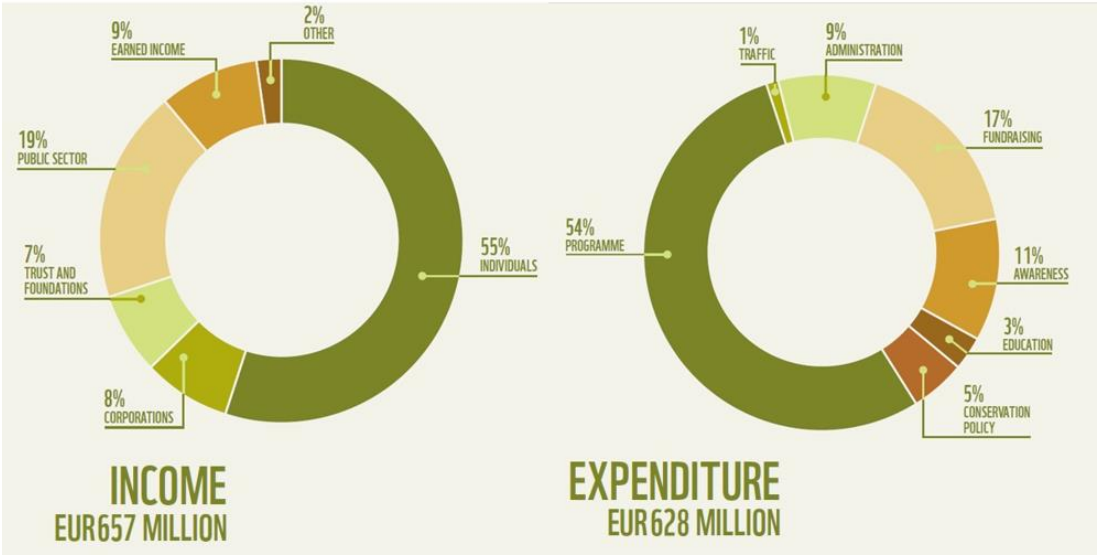

Figure 1. WWF incomes and expenditures in 2014.[6]

[5] WWF-US Annual Report 2014. p. 56.http://assets.worldwildlife.org/financial_reports/21/reports/original/2014_Annual_Report.pdf?1418325091 last accessed 11. 12. 2015.

[6] WWF Annual Review 2014. p. 37. http://europe.nxtbook.com/nxteu/wwfintl/annualreview2014/#/0last accessed 12. 12. 2015.

My analysis will involve campaigns mounted by local offices. I will go through the short movie *It all comes back to you*, and some still images, such as *If the trees/ice fall, we all fall* [7] and *Stop one, stop them all*[8]. I will analyse posters against killing animals in order to produce material goods, *Bycie pamiątką boli*[9] [Being a trophy hurts].

Environmental advertising and marketing communication

The main message of a public service campaign is usually obvious, but it can be perceived in different ways. The International Chamber of Commerce (ICC) commissions, which are "specialized working bodies composed of business experts who examine major issues of interest to the business world" and establish "rules and codes to facilitate international business transactions"[10] have compiled the Framework for Responsible Environmental Marketing Communications, which has the following to say about green claims: "All marketing communications should be judged by their likely impact on the reasonable consumer, having regard to the characteristics of the targeted group and the medium used. A consumer's interpretation of a green claim is affected by the context in which it is presented, the level of knowledge and experience (e.g., professional or sophisticated users versus typical consumers), and [the] form in which it is conveyed."[11]

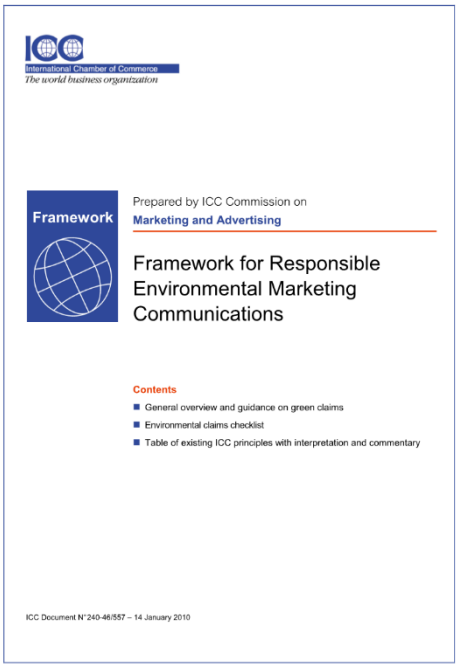

Figure 2. ICC Code

I will argue that WWF campaigns follow this advice fairly closely, in particular where moving image ads and still image ads target different audiences which meet them in different places and process them differently. Moving images are usually placed in the advertisement spot of TV channels or on video-sharing websites such as Youtube. In this case we cannot define an audience, and therefore this type of advertisement is usually made simple but noticeable in order to raise awareness. It requires what we will later call *heuristic processing*. If we want to reach a sophisticated social class we have to find another effective solution: one possible way is to communicate through still images in thematic journals.

Another way in which WWF ads are targeted at different audiences is the complexity of the visual argumentation structure. This also reflects the Framework's recommendation.

On the other hand, the visual argumentation structure can segregate consumers. Not every picture has an argumentative role, but if it does, processing it will be a challenge for

[7] If the ice falls, we all fall 05. 06. 2010. http://osocio.org/message/if-the-ice-falls-we-all-fall/ last accessed 11. 12. 2015.

[8] WWF Stop One. Stop Them All. campaign 09. 01. 2014.http://www.commarts.com/exhibit/wwf-stop-one-stop-them last accessed 11. 12. 2015.

[9]WWF Campaign by Marcin Budziński 27. 09. 2013. http://www.gutewerbung.net/wwf-campaign-by-marcin-budzinski/ last accessed 11. 12. 2015.

[10] International Chamber of Commerce (ICC), "Policy commissions", http://www.iccwbo.org/about-icc/policy-commissions/ last accessed 06.12.2015.

[11] International Chamber of Commerce (ICC), "Framework for Responsible Environmental Marketing Communications", p. 7., ICC Document N° 240-46/665 2011. July

professional users as well. The Framework adds, "Moreover, even reasonable consumers may have different interpretations of one claim presented in a particular context. Advertising the environmental aspects of a product often requires qualification and additional explanation, not merely the use of buzz words to attract consumers."[12] This effort to understand visual argumentation is presumed to enhance attitude change through systematic processing.

Systematic and/or heuristic processing

The Heuristic-Systematic Model of Information Processing is a widely recognised communication model proposed by Shelly Chaiken[13] that attempts to explain how people receive and process persuasive messages. The model states that individuals can process messages in one of two ways: heuristically or systematically. *Heuristic processing* uses judgmental rules known as knowledge structures that are learned and stored in memory. These are easily available patterns of inferences or decision procedures which, however, result in right judgments only if certain special conditions are fulfilled. These conditions obtain in the most frequent cases, so these processes usually lead to correct solutions. They are, so to speak, quick-and-dirty rules. *Systematic processing,* on the other hand, requires conscious effort and is time-consuming, but it is not tied to special conditions. Consequently, it leads to correct judgments even under atypical conditions.[14]

This model ties in with our topic in the following way. Ads directed at a less sophisticated or attentive audience should facilitate heuristic processing whereas those directed at a more sophisticated or more attentive audience should trigger systematic processing.

These two processing methods are very useful when a public service campaign is intended to achieve the maximum effect, as it must be eye-catching, informative and persuasive. I have often found that the first criterion is fully implemented (containing more heuristic elements), while the quantity and quality of the arguments are limited (containing fewer systematic elements). Moreover, typical consumers have to devote more time to understanding the main messages and logical structures of pictures.

Systematic processing involves attempts to thoroughly understand any available information through careful attention, deep thinking, and intensive reasoning. In other words this processing method is comprehensive and analytic. If we see a picture and want to explore the argumentative content, we have to analyse it systematically. [15]

[12] International Chamber of Commerce (ICC), "Framework for Responsible Environmental Marketing Communications", p. 7., ICC Document N° 240-46/665 2011. July

[13] Albarracin, D., Johnson, B. T., & Zanna, M. P., "The handbook of attitudes." 2005.

[14] Paul A. M. Van Lange & Arie W. Kruglanski & E. Tory Higgins, "Handbook of Theories of Social Psychology: Volume 1", 2012.

[15] Paul A. M. Van Lange & Arie W. Kruglanski & E. Tory Higgins, "Handbook of Theories of Social Psychology: Volume 1", 2012.

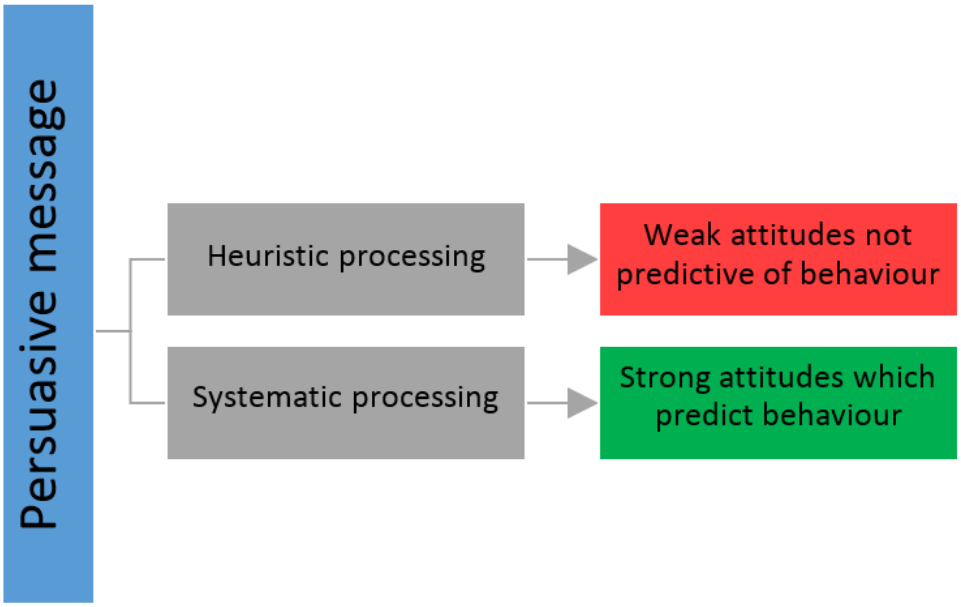

Figure 3. Heuristic vs. Systematic processing

We can state that the way we process information is linked to our attitudes (which means our beliefs and behaviours towards some object) and changes in our attitudes.

Figure 3[16] indicates the types of attitude change that can result from using heuristic and systematic processing. If people are not highly motivated or have low cognitive abilities, they prefer to use the former processing method. Instead of focusing on the argument, they are most likely to appreciate vivid information, social proof, reciprocity, authority and liking. This way of processing information is unlikely to lead to permanent attitude changes. The beliefs and preferences resulting from the messages are temporary and unstable. In contrast, if people are motivated to pay attention to the campaign messages or images, they are also prompted to understand the logic of the arguments as thoroughly as possible. Attitudes emerging from this type of processing tend to be more stable.

Visual arguments and schemes

To sum up the theoretical background in broad terms, we can observe that the processing and cognition of images are influenced by two types of method, which are conclusively based on visual arguments. We have to put forward what a visual argument is, and why and when we have to recognise it. In this essay, I will not attempt to provide a detailed analysis of the visual argument theory, but I will draw on a few crucial elements.

Before starting to analyse the visual arguments in the WWF ads, let me put to rest any doubts readers may have concerning the very existence of visual arguments. In his *Logic, Art and Argument* Leo Groarke responds to the usual objections against visual arguments. He makes the following points:

[16]Richard J. Crisp, Rhiannon N Turner, "Essential Social Psychology", (2007.)

1. The arational rhetoric aspect is not unique to visual argument, because it is also an integral part of verbal argumentation.
   2.1. Emotion and indefiniteness are usually associated with visual images as opposed to words. However, we can also sufficiently articulate emotions by using sentences.
   2.2. It is a misleading generalization that whereas verbal expressions are precise and definite, images are vague and ambiguous. Visual arguments can be sufficiently accurate.
3. While the implicitness of visual arguments is usually highlighted, it has an analogue in implicit or hidden premises and conclusions that accompany many verbal claims.
4. Verbal and, obviously, visual arguments can contain a premise-conclusion structure, which can be investigated by the common standards of argumentative analysis and reasoned persuasion. Argumentation fallacies are also typical of visual argumentation. [17]

Here, I have to add that in the WWF poster campaigns I will also examine 'multimodal visual arguments'. This term was introduced by Blair in *Probative Norms for Multimodal Visual Arguments* for visual arguments which are "actually hybrids or 'multimodal': they will introduce verbal components, but their successful expression depends also on their visual components." [18]

When I explore visual premises and their conclusions, I will arrange them into argumentation schemes, abstract structures which capture the common features of similar arguments. They are schemes in the sense that different replacements of the variable they contain yield concrete arguments. [19] The schemes most extensively used in the selected WWF campaigns are arguments from analogy, reasonings from negative consequences and slippery slope arguments.[20]

Argument from Analogy
Similarity Premise: Generally, case C_1 is similar to case C_2.
Base Premise: A is true (false) in case C_1.
Conclusion: A is true (false) in case C_2.

Reasoning from Negative Consequences
Premise 1: If I (an agent) bring about (don't bring about) A, then B will occur.
Premise 2: B is a bad outcome (from the point of view of my goals).
Conclusion: Therefore, I should not (practically speaking) bring about A.

Slippery Slope Argument
First Step Premise: A_0 is up for consideration as a proposal that seems initially like something that should be brought about.
Recursive Premise: Bringing up A_0 would plausibly lead (in the given circumstances, as far as we know) to A_1, which would in turn plausibly lead to A_2, and so forth, though the sequence A_2, ... A_n.
Bad Outcome Premise: A_n is a horrible (disastrous, bad) outcome.
Conclusion: A_0 should not be brought about.

Figure 4. Argumentation schemes

[17] Leo Groarke, "Logic, Art and Argument", *Informal Logic*, vol.18, no. 2&3 (1996.) pp. 105-129.
[18] J. Anthony Blair, "Probative Norms for Multimodal Visual Arguments", *Argumentation* (12. 09. 2014)
[19] Doug N. Walton and Chris A. Reed, "Argumentation Schemes and Defeasible Inferences" http://cgi.csc.liv.ac.uk/~floriana/CMNA/WaltonReed.pdf last accessed: 12.12.2015.
[20] Macagno, Reed and Walton, "Argumentation Schemes", Cambridge University Press (2008.)

Moving Image

The most significant characteristic of moving images is their short duration (typically 30 seconds), which means that the heterogeneous audience cannot devote a long time to interpreting the content. Moreover, they usually appear in an advertisement break where several short clips follow each other in a chain, which means that it is difficult to recall them.

On the one hand people prefer watching infotainment advertisements, which are full of remarkable elements and symbols (i.e. dogs, cats, babies, friends, extreme and unique things etc.). On the other hand if people hear/read/watch a narrative story with typical elements — like heroes, villains and sensational content— they tend to recall them better. If the content is not sensational, they will not remember it clearly.

WWF's short movie "It all comes back to you"[21] tells a narrative story without narration. In addition, the end of the story is shocking and remarkable. I have found that the "eye-catching" criterion is fully implemented, while the quantity and quality of the argument is limited. See a reconstruction below.

Figure 5. It all comes back to you

Slippery Slope Argument

First Step Premise:	Pollution (i.e. throwing away the PET bottle)
Recursive Premise:	Pollution could plausibly lead (in the given circumstances, as far as we know) to the bottle hitting the skateboarder's head, which would in turn plausibly result in his skateboard flying away and hitting the basketball player in the neck, the basketball rolling away, a nearby dog running after the ball while pulling on the leash of its walker, who screams. This will lead to an elderly man's hearing aid whistling. The elderly man will ring the doorbell, disturbing the archer as he shoots and causing him to miss his aim, so the arrow hits the littering man. The littering man, blinded by pain, staggers out on the road where he is run over by a truck.
Bad Outcome Premise:	Being run over by a truck is a horrible outcome.
Conclusion:	Pollution should not be brought about, because "it all comes back to you".

[21]Youtube: It all comes back to you, https://www.youtube.com/watch?v=pkQx7rqv3Ms last accessed: 15.12.2015.

In this case, the processing method is based on the heuristic approach, but when we analyse its argumentation structure we are using the systematic method. This slippery slope argument invokes a causal chain which leads to the wrong conclusion establishing a misleading generalization.

Still images

Fields of use for still images are broader, as they can appear in thematic journals, city lights and posters. Moreover, the time frame for processing content is longer, so that viewers have an opportunity to recognize complex argumentation schemes.

In WWF's poster campaign, two different processing methods are integrated with each other. The posters are required to be eye-catching and remarkable, but if they are not built on a strong argumentative structure, the main message will not be effective and will cause contradictory impact.

Slippery slope-type arguments are particularly widespread, because these logical chains are easy to represent well. Normally, these argumentation schemes cannot confirm a conclusion.

However, in the *If the trees/ice fall, we all fall* posters, the argumentation structure will be valid because these base elements, such as ice and trees, are symbolised as a universal category. Thus the pictures convincingly demonstrate that the result is not an inductive syllogism, but something we would rather refer to as a deductive syllogism.

In line with this categorisation, see the pictures and their reconstruction below:

Figure 6. If the trees/ice fall, we all fall

Slippery Slope Argument I.

First Step Premise:	We reinforce the greenhouse effect.
Recursive Premise:	If we reinforce the greenhouse effect, the ice will melt. If the ice melts, it will destroy the ecosystem. If the ecosystem is destroyed, humanity will become extinct.
Bad Outcome Premise:	The extinction of humanity is avoidable.
Conclusion:	It is necessary to avoid reinforcing the greenhouse effect.

Slippery Slope Argument II.

First Step Premise:	We destroy our forests.
Recursive Premise:	If we destroy our forests, we will upset the balance of the ecosystem. If we upset the balance of the ecosystem, humanity will become extinct.
Bad Outcome Premise:	The extinction of humanity is avoidable.
Conclusion:	It is necessary to avoid deforestation.

I will now present an invalid slippery slope argument, where the conclusion is ambiguous. In this picture, we can recognise multimodal visual arguments, because the written part of images ("Stop one. Stop them all.") is one of the main premises. This campaign is against illegal hunting/fishing and illustrates on whom this process is built.

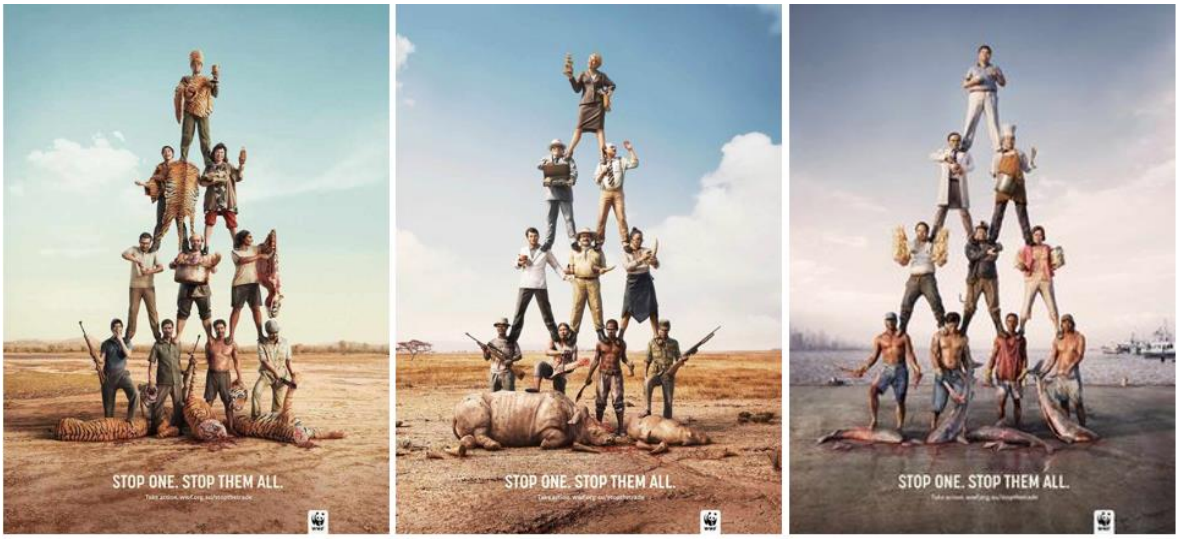

Figure 7. Stop one. Stop them all.

Slippery Slope Argument

First Step Premise:	You stop the end-user.
Recursive Premise:	If you stop the end-user, you will not need the reseller. If you don't need a reseller, the animal's carcass will not need processing. If the animal's carcass doesn't need processing, you will not need a hunter.
Bad Outcome Premise:	Because of the end-user, hunting has got horrible consequences.
Conclusion:	To sum up, stopping the end-user will stop the whole process.

This is a misleading visual representation, because it does not support the argument. We can ask the question: which member of the pyramid is the only guilty one; whose actions are wrong? The pyramid will not collapse if we take out the end user. My suggestion would be to turn the pyramid upside down, or take out one of the hunters or middle men.

I have to acknowledge that the stages of animal carcass processing are visually well represented in this campaign. Moreover, a pyramid structure suggests a hierarchical relationship, but if WWF intends to achieve attitude change, it needs to focus on the crucial argumentative content.

This is a case study of a typical hybrid visual argumentation: if the viewer does not recognise the subtitle, this picture cannot convey WWF's mission.

The poster series *Stop one. Stop them all* contains fewer remarkable elements, but another campaign, *Bycie pamiątką boli [Being a trophy hurts],* contains more noticeable, shocking representations. It is a double-edged communication strategy, because one part of the viewers will be struck by them, but will not devote time to understanding their message. The other part of the audience will be shocked too, but they will never forget the images: they will make an effort to recognise the content and may well change their attitudes.

Arguments from analogy can be very effective if viewers can establish a strong connection between the two objects being compared. In the next case, the brutality of people represented in the pictures is inverted in every field of life.

Figure 8. Being a trophy hurts

Argument from Analogy

Implicit Base Premise:	*Visual Base Premise:*
People wear/use gloves/jackets/bags/necklaces/rugs/trophies, which are made from animals.	Animals are wearing/using gloves/a jacket/a bag/a necklace/a rug/a trophy, which are made from humans.
Similarity Premise:	*Conclusion:*
In order to use these accessories they have to butcher animals.	In order to use these accessories they have to butcher humans.

To understand a visual argumentation it is necessary to presuppose an implicit base and visual premises. This identification certainly demonstrates that this is a systematic cognitive process. The visual argument is complex, because the argument from analogy is only a starting point, which is followed by the type of reasoning from negative consequence.

Reasoning from Negative Consequences

Premise 1:	If people treat animals in brutal and cruel ways to satisfy their own selfish goals, it will bring about serious consequences.
Premise 2:	People will cause animals suffering: that is a serious consequence.
Conclusion:	Therefore, we should not be cruel to animals.

Conclusion

In my paper I analysed World Wildlife Fund (WWF) public service campaigns — *It all comes back to you*, *If the ice/trees fall, we all fall*, *Stop one. Stop them all* and *Bycie pamiątką boli* — focussing on the visual elements of understanding.

I argued that visual argumentation can influence the processing and cognition of images. I asserted that moving images contain fewer argumentative elements as they prefer to operate with heuristic visual representations. I also confirmed that the components of still images are more argumentative in order to achieve attitude change. WWF has to conform to the ICC Code, which states that a communication campaign message must suit a variously qualified audience.

To sum up my research results, I will provide some elements of comparison in the following chart:

	Moving image	Still image
Similarities	Both contain heuristic elements in order to be eye-catching. Both can be analysed using the argumentation theory.	
Differences	Short time to recognise content. Does not typically contain complex argumentative structures. Is a good example of how the heuristic processing method works.	Long time to recognise content. Typically contains complex argumentative structures. Is a good example of how the systematic processing method works.

Thus, I have shown that there is a connection between argumentation structures and the processing of images (still and moving).

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KOMÁR, Zita

FEMININE RHETORIC: FEMININE AND MASCULINE DIMENSIONS IN THE CONTEXT OF RHETORIC, GENDER AND SOCIAL SPHERES

PREFACE

In the 20th and 21st centuries the woman as a rhetorician and the feminine as a re-definable value in social, cultural contexts has again came into prominence: the process of modernization has brought potential for the (re)interpretation of cultural-historical frameworks, opening new paths for the discipline of rhetoric as well as the analysis of the elements of social structures, gender roles and the values of masculine – feminine dimensions.

My research in the specific field of feminine rhetoric attempts to examine the innovative notion of how women use the rhetorical elements to create alternative ways of (rhetorical) appearance and how social and gender outcomes are produced by rhetoric. In this study, I wish to analyze the appearance of rhetorical components in different political speeches by male and female orators by outlining the main components of the investigation in advance, offering the reader a fresh viewpoint.

My primary aim is to find and articulate the specific feminine and masculine traits of speech-writing and the characteristics of rhetorical argumentation through a close examination of selected texts. The study has two main parts: first a summary of the theoretical background based on rhetorical and social contexts; secondly the presentation of a research project based on a recent survey. The goal of this examination is to investigate whether feminine principles can be detected by examining the selected textual elements and if so, how we can create a rhetorical vocabulary which could serve as a background to the differentiation of feminine and masculine types of oral speeches, arguments and rhetorical skills.

In short, the core of this research is the analysis not only of visual, but also of rhetorical elements and the appearance of forms of cultural processing in rhetorical, historical and cultural frames. First of all, let me outline the key components of my paper, which will characterize Feminine Rhetoric as a discipline. I have three main foci: investigations conducted in the past, observations made in the present, and predictions about the future:

1. Female orators in the past: **re-discovering** female rhetoricians lost to us in history (cultural lack);
2. Female orators nowadays: **re-acting** by analyzing the characteristics, ways and methods of feminine rhetoric;
3. Female orators in the future: **re-defining** feminine values in the 21st century.

I propose to start with the first focus, then continue with present tendencies and predictions for the future, and finally, to give shape to "revolutionary" thoughts by analyzing the possibility of outlining the emergence and implementation of an alternative style of rhetoric.

1. PAST: Culturally lost female orators and rhetorical achievements

Not surprisingly, for centuries the realm of rhetoric has been almost exclusively male - not because women were not practicing rhetoric, but because the tradition has never

recognized the forms, strategies, and goals used by many women as 'rhetorical'. (Lunsford at al. 1995:6)

This principal aim focuses on building understanding, connection, and conversation with this inherited, but not fully understood or valued history of female orators within rhetoric. Andrea Lunsford (Lunsford et al. 1995:5) collected in her deeper investigations some of the features of feminine values as steps to take forward:

- *listening* to and for the voices of women in the history of rhetoric;
- becoming the audience who can at last give voice to women lost to us;
- examining in close detail their speech and writing;
- acknowleging and exploring the ways in which they have been using rhetoric.

In the first section of this paper I will shed light on the role of femininity in connection with rhetoric – first of all, by re-discovering the culturally lost rhetorical texts and female rhetors. This is not, however, an isolated endeavour of my own: fortunately, a number of scholars have recently turned their attention to the history of "forgotten", "dismissed" or "silenced" female rhetoricians, creating a space for a new and rich field of social science in order to provide further investigations and alternative ways of doing rhetoric.

One of the most notable works by these scholars is Andrea Lunsford's *Reclaiming Rhetorica, Women in the Rhetorical Tradition* (1995), in which Lunsford and her colleagues have collected a number of different texts by various authors including Aspasia, Diotima, Christine de Pisan and many others. The scope of this paper does not allow us to closely examine the work of these valuable authors, but this analysis should also open up a huge, relatively unknown space for further investigations within the realm of Rhetoric.

> *Reclaiming Rhetorica* does not attempt to redefine a "new" rhetoric but rather to interrupt the seamless narrative usually told about the rhetorical tradition and to open up possibilities for multiple rhetorics, rhetorics that would not name and valorise one traditional, competitive, agonistic, and linear mode of rhetorical discourse but would rather incorporate other, often dangerous moves: breaking the silence; naming in personal terms; employing dialogics; recognizing and using the power of conversation; moving centripetally towards connections; and valuing – indeed insisting upon – collaboration." (Lunsford at al. 1995:6).

One might ask: Why is the examination of the past so important for us in the present? Let me answer this question with an example: modern rhetoric is based in multiple ways on what we have learned of classical rhetoric, which indeed only offers us the works and thoughts of male orators and masculine types of "voicing". How then can a woman – who now has the right to step into the arena of public affairs and choose to use feminine types of rhetoric –, adopt this set of skills without any chance to "translate" the contents and structures and fit them into the context of her own language and values?

Furthermore, why should she perform this (not very successful) task of translation? As a result of our lack of information and imperfect knowledge, is she forced to speak in a more masculine manner or in other cases will she be "left outside alone" to discover her own ways of doing rhetoric? And what if she is a he: someone who wants to talk, act and think according to feminine values, at the same time retaining his position as a man? What can classical rhetorics

offer to him? What feminine sets can classical canons of style offer to a woman, and moreover to all the women of the 21st century, to speak up and speak loud?

At this point, the investigation of rhetoric must not come to a stop, but must rather take a step towards a new meaning of rhetorical action, persuasion and argumentation by recognizing unknown scholars and new ways of achieving rhetorical goals. Therefore, Aspasia and many other valuable female orators are becoming acknowledged members of the history of rhetoric – and models for female orators and public speakers today.

I must note here that this shift towards feminine rhetorical styles does not mean that classical (or in other words, masculine) rhetoric has no place to emerge: it only means that we need to speak (and moreover to think) of different ways of doing rhetoric, admitting that there is space for both. And at the same time, both rhetor and public can profit from this fullness by giving birth to new ideas and performances, outlining a totally different world not only within the field of rhetoric but also outside it. Feminine Rhetoric's "(…) characteristic and principal aim is not deception or conquest (…) but understanding, exploration, connection, and conversation." (Lunsford at al. 1995)

2. PRESENT & FUTURE: collectively built feminine values and dimensions

Now, let me move on to the examination of present symptoms and feminine values of the 20th, and indeed the 21st centuries, according to Gerzema & D'Antonio's recently published work:

> *As many pointed out to us, most of the traits exhibited by the successful entrepreneurs, leaders, organizers, and creators we profiled seemed to come from aspects of human nature that are widely regarded as feminine.* (Gerzema & D'Antonio 2013:2)

This quotation comes from the book *Athena Doctrine: How Women (and the Men Who Think Like Them) Will Rule the Future*, which gave an interesting insight into recent processes and changes, by contrasting feminine and masculine dimensions in public and private spheres. It seems – argues Gerzema –, that women and men are frustrated by the classical, masculine types of behaviour connected to control, competition, aggression, black and white thinking and so on that have led to many of the problems we face today - for examples: war, inequality, risk-taking mentality, scandals, etc.

As a counterpart, the authors examine what respondents think of human and also gender virtues worldwide: how they imagine the future and the ways and possibilities of change – moreover they also enquire into what can be said of the necessary and useful values of a person and of a society. Without going into details, I will cite some of the results of their investigations. Most importantly, the 64,000 respondents (selected from 13 countries around the world) said that "the world would be a better place if men thought more like women". (Gerzema - D'Antonio 2013:2)

In this worldwide investigation, respondents had to answer questions like: What does it mean to be masculine/feminine? How can we detect the so-called masculine/feminine? How can we build connections between masculine – feminine dimensions and gender categories? According to the responses:

- **masculine values** include: dominant, strong, arrogant, proud, ambitious, decisive, logical, aggressive, competitive, stubborn, straightforward, selfish, restrained, competent, etc.

- **neutral values** include**:** visionary, simple, authentic, carefree, collaborative, intelligent, candid, traditional, etc.
- **feminine values** include**:** free spirited, charming, dependable, reasonable, committed, creative, flexible, intuitive, social, honest, team player, cooperative, supportive, gentle, emotional, imaginative, open, loyal, selfless, patient, encouraging, etc.

These in general correlate strongly with the feminine-masculine dimension outlined by Hofstede in his well-known research at IBM. In a nutshell, Hofstede found that there are feminine and masculine ways of organizing society structures, which are proper to each community, so we can find masculine and feminine types of cultures. (Hofstede & Hofstede & Minkov 1991)

According to Hofstede, masculine societies place more emphasis on the distinction between gender roles, ideals and the relationship between men and women; men also have to present a strong, dominant, sometimes harsh image, providing all the essential, material conditions for the family; men make decisions, but are not allowed to show emotions by crying, and so on. Of course, a woman is expected to do the opposite: take care of the household, raise children, and of course, obey her husband.

In contrast, feminine societies are more open to creating equality between gender roles: men and women share all the tasks around the house; both of them have the same responsibilities, such as working and earning money for the family; they can show emotions alike; weakness is not condemned socially; and quality of life is the most important of all common topics.

I have mentioned Hofstede's categories because they seem to correspond to the so-called *Athena-virtues* in Gerzema & D'Antonio's book, which describes the emergence of feminine values as a global "coming up" process. How do Gerzema & D'Antonio describe these changes? They argue that our present reality – although it still seems to be an overwhelmingly masculine world –, actually shows signs of the rule of femininity. And thanks to the characterization of recent situations, the authors can put emphasis on a powerful statement: our future (and we can already see, recognize and follow the signs of this shift) will be built upon feminine values, that can give rise to both men and women who are possessed of a predominantly feminine set of skills – supporting all gender-types in the public arena or in the venues of power as well.

Finally, the authors conclude that: "65% of people around the world believe that more female leadership in government would prompt a rise in trust and fairness and a decline in wars and scandal." (Gerzema - D'Antonio 2013:21). Results support the claim that our attitudes, norms, and expectations connected to the idea of masculinity and femininity are changing: changing enough to provide an open space for women in the public sphere and for female rhetoric in the field of public speaking.

The above discussion prompts a description of this process as the movement from a rigid, un-opened image of the speaker to what Aristotle terms "ethos", a word with which he defines the true and original character of a rhetor. Nowadays the rhetor or public speaker can legitimately be a She (or a He as well – not to confuse feminine with female and masculine with male!) and could provide feminine values as identification points to rhetorical speeches. This means that there is something to search for around the house of rhetoric when we try to discover and interpret the (feminine) values of public appearance.

> … *a strong majority of people already recognized, at least subconsciously, the importance of feminine virtues, believing that men and women needed to meet the challenges of life with a predominantly feminine set of skills, traits, and attitudes."* (Gerzema - D'Antonio 2013:22).

According to the Athena Doctrine's final conclusions, we can contend that feminine values are the operating system of twenty-first-century progress and that while this shift toward the feminine does not portend "the end of men," it does suggest a natural balance between the two dimensions.

3. SURVEY RESULTS

In the following pages, I shall outline a short summary of the results of a quantitative survey. First of all, the purpose of creating the survey was to examine people's opinions centred around public, especially political speeches. The main question was: Can we find differences between the voice of man and that of woman, and if so (as my hypothesis suggests) how can we distinguish one from the other? According to the hypothesis, on the grounds of style (appearance of argumentation structures; usage of grammatical, rhetorical elements such as metaphors; etc.) it is possible to identify feminine and masculine speech by defining classical rhetoric as Masculine and another, alternative way of doing rhetoric, the feminine way, as Feminine Rhetoric.

I chose extracts from speeches by Hungarian politicians (male and female speakers) – which were all written for particular occasions; specifically, they were designed for and delivered at celebrations of national revolutions. I chose these because I was only interested in how the respondents would try to identify the gender of the speaker, using only the given text: thus respondents would have to rely on grammatical and rhetorical elements.

To summarise the results, I would say that all the respondents expressed clear (or at least strong) images, ideas and also stereotypes about how they consider styles to be typical of female or male speakers. The respondents also made distinctions along emotional – rational dimensions (associating rational matters with male and rich emotional content with female speakers), according to well-known social stereotypes (as was reflected in one answer).

And finally, the most important part of the survey: how did people identify a masculine or feminine speaker and how did they perform in expressing their motivations, thoughts and feelings about the texts (except in a few cases, where some expressed their own uncertainty, using phrases like "this is just a feeling on my part" or "I'm really just guessing"). According to their answers, respondents detected the gender of the rhetor by referring to common "knowledge" (and gender stereotypes) and associate masculine style with male and feminine style with female orators.

These answers correlate strongly with the male and female values of the respondents in *Athena Doctrine*, and also with my previous categorization when I applied a coding system to the adopted elements in the texts. Here I have listed some of these metaphors and coding categories I made in advance – stressing that such actions shall include, but shall not be limited to the following phrases.

> **Masculine phrases:** all kinds of political, economical structures and status; words like power, progress, historical progress; phrases related to motivation and national values, emphasizing achievable goals; use of paternal style and expressions, words of competition; negative feelings and impacts (for example: dividing, antipathetic or hostile expressions); etc.

Masculine style also involves the copious use of verbs and many tangible idioms, and its focus is on the future, so I characterize these as **visionary** types of rhetorical thinking.

> By contrast, **feminine phrases**: refer to the family and topics which are connected with it (such as children, and different types and meanings of community); often use the word "common" in various forms; they are rich in pictorial meanings (for example, metaphors like "the horizon of our fate," "the sacred bread of the nation" etc.); often refer to collaboration, unity, compromise, solidarity, loyalty, and such notions.

Feminine style also use many attributes and abstract phrases in rhetorical-grammatical structures (e.g. metaphors); and its focus is in the present, so I have identified this style of rhetoric as a **contemplative** one.

But we should not forget about the "speech-writer-problem." It can be argued that many politicians employ speech-writers to create speeches for them, and in such cases the gender of the so-called author is a misleading category, because the real author of the text is not the same person as the presenter (e.g. a female politician could have a male speech-writer). There are, however, three reasons why this should not affect our findings. First of all, politicians generally annotate their speeches, asking for corrections or other changes that will make the text better suited to their personality and ideology – it is hardly credible that any speech-writer would be able to create a definitive, final version of the text without showing a draft to the presenter in advance. Secondly, speech-writers normally suit the speech to the personality, style, ideas and beliefs of the speaker, so they are already shaping the text according to the presenter's own taste. And later on, the first draft will be discussed, as I have mentioned. Finally, my aim was not to identify the actual gender of the speaker, but to shed light on the motivations and guessing-systems of according to which the respondents make decisions about whether a speech is feminine or masculine in style.

4. CONCLUSION

We have now come to an end of a captivating circle: starting with the exploration of female orators of the past, then characterizing the style of present rhetorical acts, roles and social connectedness, all of which will help to promote the creation of a richer, more open and co-operative (rhetorical) tradition in the future. Now we can see the connection between the Athena-virtues, the culturally lost orators, feminine styles of acting and speaking, and the feminine style of today's speakers without having any clearly recognized rhetorical elements and techniques on the feminine side. Therefore, my last task is to draw my own conclusions.
As I have suggested, metaphors and other rhetorical components have a huge impact on identifying speech: feminine-styled speakers use a large number of powerful metaphors to express their thoughts and these metaphors are mostly connected to specific feminine values such as co-operation, community, shared emotions etc. Female rhetors use these techniques to emphasize their own commitment to a special topic – doing so in a way which is different from the classical instruments of masculine rhetoric, and also unique to the feminine voice. This could help us recognize the true character of feminine rhetoric and female orators, and also underlines the way in which a new kind of taxonomy could be built up: a vocabulary based on the so-called "feminine". Therefore, the next step will be to collect, structure and define feminine rhetoric and its vocabulary on the basis of the findings of a more comprehensive investigation.

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MOLNÁR, György

IMPLEMENTATION OF PROFESSIONAL TASKS IN PROJECT NO. TÁMOP-4.1.2.B.2-13/1-2013-0002 TITLED "DEVELOPMENT OF VOCATIONAL TEACHER TRAINING AND TRAINERS' NETWORK IN THE TECHNICAL AND THE SOCIAL FIELD"

Project period: 22. 04. 2014. – 22. 10. 2015.

The tasks undertaken by the Teacher Training Centre of Budapest University of Technology and Economics (BME) and its consortial Partner, the University of Óbuda within the Project No. TÁMOP-4.1.2.B.2-13/1-2013-0002 titled "Development of Vocational Teacher Training and Trainers' Network in the Technical and the Social Field" – national methodological and training development component – in relation to the training programmes of the engineer teacher MA, vocational teacher training, health care teacher, teacher of special pedagogy and teacher of pedagogy were as follows: development of digital curricula, elaboration of materials of new specializations and of contents-methodological recommendations, development of ICT tools, elaboration of teachers' further training programmes, researches, trainers' training and network development.

Further participants having contributed to the implementation of the Project were the higher education institutions involved in the training of engineer teachers and vocational teachers, namely: the Bárczi Gusztáv Faculty of Special Pedagogy of the Eötvös Loránd University of Budapest (ELTE BGGyK), the Faculty of Pedagogy and Psychology of the Eötvös Loránd University of Budapest (ELTE PPK), and the Faculty of Engineering and the Faculty of Health Care of the University of Pécs (PTE MK and EÜK).

As an output of the *professional workshop* established within the frames of the Project, domestic vocational teacher training has been renewed in function and content, vocational teachers' training widened in scope and a recommendation on the training and outcome requirements of the specialization called School Vocational Teacher as well as materials necessary to start new specializations were elaborated. The professional workshop involved the representatives of higher education institutions offering vocational teachers' training in various fields (technical, agricultural and business) and of higher education institutions conducting trainings in fields ranked by the latest legal regulations into the group of vocational teacher training: teacher of special pedagogy, teacher of health care and teacher of pedagogy.

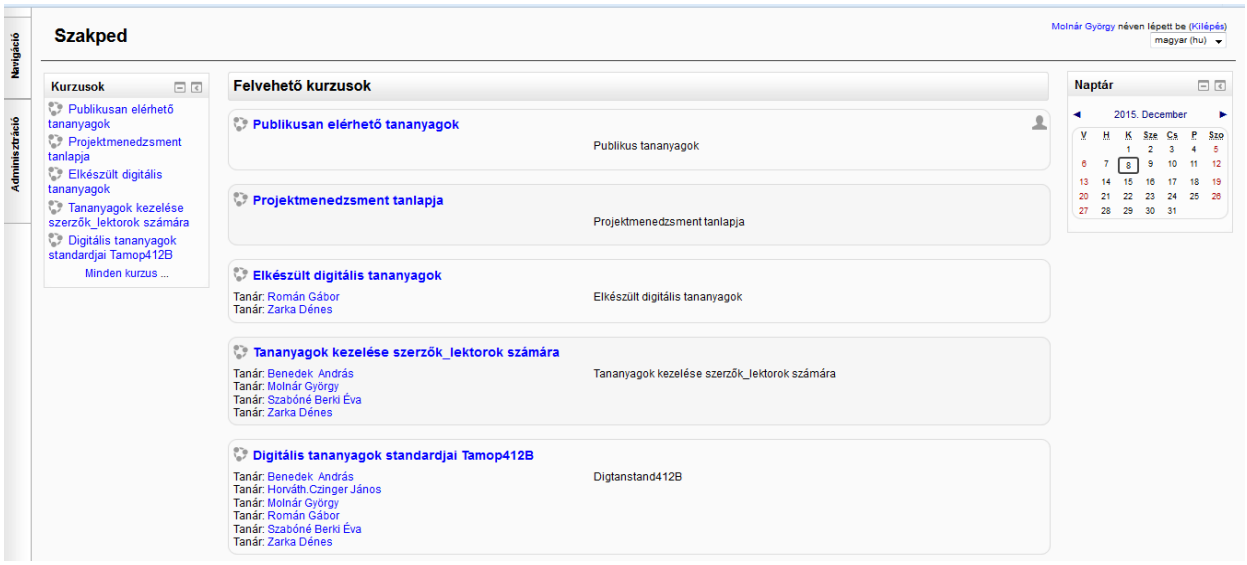
Contents-methodological recommendations have been formed on the systems of pedagogical practical training within the undivided and divided vocational teacher training, the two-semester individual school practice and the preparation of e-portfolios. The table below presents the list of theme.

1.	Establishment of a new School Vocational Teacher specialization, new training and outcome requirements
2.	The system and documents of practical training in pedagogy within the divided and the undivided systems of vocational teacher training
3.	The possible way of implementation of the two-semester continuous

	personal school practice, which is part of the practical training in pedagogy, in the divided-system vocational teacher training
4.	A guide to support the preparation of the thesis, the portfolio and the process of defending the portfolio
5.	Pedagogical community activities in the system of vocational teacher training
6.	The harmonization of the portfolio and e-portfolio with the content required in teachers' qualification
7.	The dual system of engineer teacher training
8.	Recommendation to gauge the competences of trainers of engineer teacher training
9.	A study guide for using Moodle and e-curricula
10.	Methodological recommendations for the individual continuous practice in teacher training in pedagogy specialization

A major part of the project tasks implied the elaboration of the documents of the new specializations. Those elaborated were the materials needed to start the specializations of health care teacher, teacher of special pedagogy, teacher of pedagogy and the divided-system engineer teacher specialization which fits into the training profile of the Teacher Training Centre of BME.

Most of the project tasks were the *development of digital curricula*. This was completed by the training of trainers, which served the preparation of curricula writers for digital content development as well as mentor training. The trainings were backed by an electronic learning management system, the front page of which can be seen below.



Digital content development produced 54 digital curricula, the greatest part of which might be useful for a wider target group of vocational teacher training. The group of the digital curriculum writers was partly made of the representatives of the Applicant and the Consortium Partner and partly of the Partner Institutions cooperating in the Project.

Some of the curricula made can be used in each of the vocational teacher specializations amongst compulsory subjects or electives. These are:

1. Tendencies in the development of European and domestic vocational training,
2. Basic knowledge of the fields of vocational teacher training,
3. The theoretical and methodological aspects of talent management in vocational teacher training,
4. Psychological and pedagogical bases of forming personally tailored and effective teacher role models,
5. Traditional and ICT supported measurement and evaluation in VET,
6. VET for adults,
7. Compensation and talent management,
8. Didactics and educational organization,
9. E-learning,
10. Lifelong learning,
11. Complex Instruction Program in vocational training schools,
12. Measurement and quality in VET,
13. Pedagogy,
14. The way to the world of work,
15. Pedagogical research methodology,
16. Psychology and personality development I.,
17. Psychology and personality development II.,
18. Systems in VET,
19. Learners with special needs in VET,
20. Vocational linguistics,
21. VET and economy,
22. The history of VET,
23. Teachers' communication,
24. Learning methods,
25. Development of leadership competencies in vocational teacher training.

Other parts of the materials developed can be used in certain teacher specializations of vocational teacher training or in the training of vocational trainers in compulsory or elective subjects. These are:

1. The science of disability in everyday life,
2. The legal background of health care education,
3. The possibilities of developing space-perception in technical education,
4. Health care methodologies,
5. Methodological lecture notes for wood industry engineer teachers,
6. Digital manual of management theory,
7. Transportation operations,
8. Transportation informatics,
9. Traffic flow,
10. Application of mathematical software in technical computing,
11. The history of engineer teachers' training,
12. Methodological handbook of training teachers of pedagogy,
13. Methodology of operations performance measurement for vocational trainers,
14. Methodological handbook of teaching Building structures for engineer teacher students,
15. Methodologies for trade group electronic engineers,

16. Methodologies for wood industry engineer teacher students,
17. Methodologies for engineer teachers of informatics,
18. Methodologies for engineer teachers of transportation,
19. Methodologies – light industry specialization,
20. Methodologies – technical-economic specialization,
21. Methodologies – electronics – electrotechnology specialization,
22. Methodologies – civic and security defence specialization,
23. Methodologies – mechanics-mechatronics specialization,
24. Personal transportation.

Some of the materials elaborated can be used in mentor training. These are:

1. Methodology of mentoring in vocational teachers' training,
2. The renewal of teachers' training,
3. Methodology of mentoring,
4. Pedagogy of mentoring,
5. Teachers' pedagogical knowledge.

The digital curricula by author institutions are indicated in the table below.

BME			ÓE
1.	Lifelong learning (BME TK)	1.	Didactics and educational organization (ÓE)
2.	Methodology of operations performance measurement for vocational trainers (BME TK)	2.	Methodologies – light industry specialization, (ÓE)
3.	Methodological handbook of teaching Building structures for engineer teacher students (BME, vocational institute)	3.	Methodology of mentoring in vocational teachers' training (ÓE)
4.	Transportation informatics (BME, vocational institute)	4.	Methodologies – technical-economic specialization (ÓE)
5.	Tendencies in the development of European and domestic vocational training (BME TK)	5.	Compensation and talent management (ÓE)
6.	Methodologies for wood industry engineer teacher students (NyME)	6.	Teachers' communication (ÓE)
7.	The science of disability in everyday life (ELTE BGGyK)	7.	Selection of mentors (ÓE)
8.	Traffic flow (BME, vocational institute)	8.	VET and economy (ÓE)
9.	Learners with special needs in VET – Proposals for vocational trainers (ELTE BGGyK)	9.	Methodologies – mechanics-mechatronics specialization (ÓE)
10.	Vocational linguistics (BME TK)	10.	The history of VET
11.	Basic knowledge of the fields of vocational teacher training (BME TK)	11.	Psychology and personality development I. (ÓE)
12.	The history of engineer teachers' training (BME TK)	12.	Development of leadership competencies in vocational teacher training (ÓE)
13.	Methodologies for engineer teachers of informatics (SZE)	13.	The renewal of teachers' training (ÓE)
14.	The possibilities of developing space-perception in technical education (DE)	14.	Methodologies – civic and security defence specialization (ÓE)
15.	Personal transportation (BME, vocational institute)	15.	Pedagogy of mentoring (ÓE)
16.	Application of mathematical software in technical computing (DE)	16.	Pedagogy (ÓE)
17.	Methodologies for engineer teachers of transportation	17.	E-learning (ÓE)

18.	Complex Instruction Program in vocational training schools (ME)	18.	Methodologies – electronics – electrotechnology specialization (ÓE)
19.	Traditional and ICT supported measurement and evaluation in VET (PTE MK)	19.	Measurement and quality in VET (ÓE)
20.	The legal background of health care education (PTE EK)	20.	Learning methods (ÓE)
21.	The theoretical and methodological aspects of talent management in vocational teacher training (BME TK)	21.	Psychology and personality development II. (ÓE)
22.	The way to the world of work (ELTE BGGyK)	22.	Psychological and pedagogical bases of forming personally tailored and effective teacher role model (ÓE)
23.	Transportation operations (BME, vocational institute)	23.	VET for adults (ÓE)
24.	Systems in VET (BME TK)	24.	Teachers' pedagogical knowledge (ÓE)
25.	Modern technologies in education (BME TK)	25.	Pedagogical research methodology (ÓE)
26.	Methodologies for trade group electronic engineers (BME TK)		
27.	Methodological handbook of training teachers of pedagogy (ELTE PTK)		
28.	Health care methodologies (PTE EÜK)		
29.	Digital manual of management theory (BME, vocational institute)		

	Title	Accessibility
10.	The science of disability in everyday life	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_a_fogyatekossagtudomany_a_mindennapi_eletben/adatok.html
16.	Traditional and ICT supported measurement and evaluation in VET	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_a_hagyomanyos_es_az_ikt-vel_tamogatott_meres_es_ertekeles_a_szakkepzesben/adatok.html
19.	Methodology of teaching transportation subjects	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_a_kozlekedes_tantargycsoport_oktatasanak_modszertana/adatok.html
37.	Methodology of mentoring in vocational teachers' training	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_mentoralas_modszertana/adatok.html
38.	Pedagogy of mentoring	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_mentoralas_pedagogiaja/adatok.html
4.	The Hungarian history of engineer teachers' training	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_a_mernoktanarkepzes_magyarorszagi_tortenete_a_mernok_tanartol_a_mernoktanarig/adatok.html
30.	The renewal of teachers' training	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_a_pedagoguskepzes_megujitasa/adatok.html
2.	Basics of vocational linguistics	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_a_szakmai_nyelvmuveles_alapjai/adatok.html
5.	Basic knowledge of the fields of vocational teacher training	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_a_szakmai_tanarkepzes_szakteruleti_alapismeretei/adatok.html
20.	The theoretical and methodological aspects of talent management in vocational teacher training	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_a_tehetseggondozas_elmeleti_es_modszertani_kerdesei_a_szakmai_pedagoguskepzesben/adatok.html
17.	The possibilities of developing space-perception in technical education	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_a_terszemlelet_fejlesztesenek_lehetosegei_a_muszaki_kepzes_kereteben/adatok.html
15.	The legal background of health care education	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_az_egeszsegugyi_kepzesek_jogi_szabalyozasa/adatok.html
1.	Tendencies in the development of European and domestic vocational training	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_az_europai_es_hazai_szakkepzesi_rendszer_fejlodesenek_tendenciai/adatok.html
31.	Educational technology of classroom teaching	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_az_osztalytermi_tanitas_oktatastechnologiaja/adatok.html
32.	Didactics and educational organization	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_didaktika/adatok.html
14.	Health care methodologies	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_egeszsegugyi_szakmodszertan/adatok.html
33.	E-learning	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_elektronikus_tanulas/adatok.html
3.	Lifelong learning	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_elettavu_tanulas/adatok.html
34.	Developing assessment	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_fejleszto_ertekeles/adatok.html

35.	VET for adults	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_felnottek_szakkepzese/adatok.html
36.	Compensation and talent management	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_felzarkoztatas_es_tehetseggondozas/adatok.html
28.	Management theory	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_iranyitaselmelet/IR/sirs362g.htm
24.	Complex Instruction Program in vocational training schools	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_komplex_instrukcios_program_a_szakkepzo_iskolakban/adatok.html
23.	Modern technologies in education	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_korszeru_technologiak_az_oktatasban/adatok.html
9.	Traffic flow	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_kozlekedesi_aramlatok/adatok.html
8.	Transportation informatics	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_kozlekedesi_informatika/adatok.html
27.	Transportation operations	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_kozlekedesi_uzemtan/adatok.html
18.	Application of mathematical software in technical computing	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_matematikai_szoftverek_alkalmazasa_muszaki_szamitasokban/adatok.html
39.	Selection of mentors	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_mentorkivalasztas/adatok.html
13.	Methodological handbook of training teachers of pedagogy	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_modszertani_kezikonyv_a_pedagogia_szakos_tanari_kepzeshez/adatok.html
40.	Pedagogy	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_nevelestan/adatok.html
41.	Pedagogical research methodology	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_pedagogiai_kutatasmodszertan/adatok.html
42.	Teachers' knowledge and thinking	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_pedagogusok_tudasa/adatok.html
43.	Psychology and personality development I.	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_pszichologia_es_szemelyisegfejlesztes_i/adatok.html
44.	Psychology and personality development II.	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_pszichologia_es_szemelyisegfejlesztes_ii/adatok.html
22.	Systems in VET	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_rendszerek_a_szakkepzesben/adatok.html
11.	Learners with special needs in VET. Recommendations for vocational trainers	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_sajatos_nevelesi_igenyu_tanulok_fiatalok_a_szakkepzesben_ajanlasok_szakkapzok_szamara/adatok.html
45.	VET and economy	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_szakkepzes_es_gazdasag/adatok.html
46.	The history of VET	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_szakkepzestortenet/adatok.html
48.	Methodologies – mechanics-mechatronics specialization	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_szakmodszertan_gepeszet_mechatronika/adatok.html

50.	Methodologies – light industry specialization	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_szakmodszertan-konnyuipari_szakirany/adatok.html
51.	Methodologies – technical-economic specialization	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_szakmodszertan-muszaki-gazdasagi_szakirany/adatok.html
49.	Methodologies – civic and security defence specialization	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_szakmodszertan_had-es_biztonsagvedelem/adatok.html
47.	Methodologies – electronics – electrotechnology specialization	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_szakmodszertan_elektrotechnika_elektronika_szakirany/adatok.html
12.	Methodologies for wood industry engineer teacher students	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_szakmodszertan_faipari_mernoktanar_szakiranyos_hallgatoknak/adatok.html
21.	Methodologies for engineer teachers of informatics	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_szakmodszertan_informatika_szakos_mernoktanarok_szamara/adatok.html
25.	Methodologies for trade group electronic engineers	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_szakmodszertani_ismeretek_villamos_szakmacsoportos_mernokok_szamara/SV/ssves523g.htm
7.	Methodological handbook of teaching Building structures for engineer teacher students	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_szakmodszertani_segedlet_epuletszerkezetek_oktatasahoz_mernoktanar_hallgatok_szamara/SE/ssejs6103g.htm
26.	Personal transportation	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_szemelykozlekedes/SK/sskjs333g.htm
52.	Teachers' communication	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_tanari_kommunikacio/adatok.html
53.	Learning methods	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_tanulasmodszertan/adatok.html
29.	The way to the world of work	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_ut_a_munka_vilagaba/MV/smvjb33g.htm
6.	Operations performance measurement	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_uzemtani_meresek/adatok.html
54.	Development of leadership competencies in vocational teacher training	http://www.tankonyvtar.hu/hu/tartalom/tamop412b2/2013-0002_vezetes/adatok.html

The following chart summarizes the accessibility of the digital curricula that are openly accessible at tankonyvtar.hu.
The print screen below shows an example from the above curriculum package (accessible at www.tankonyvtar.hu).

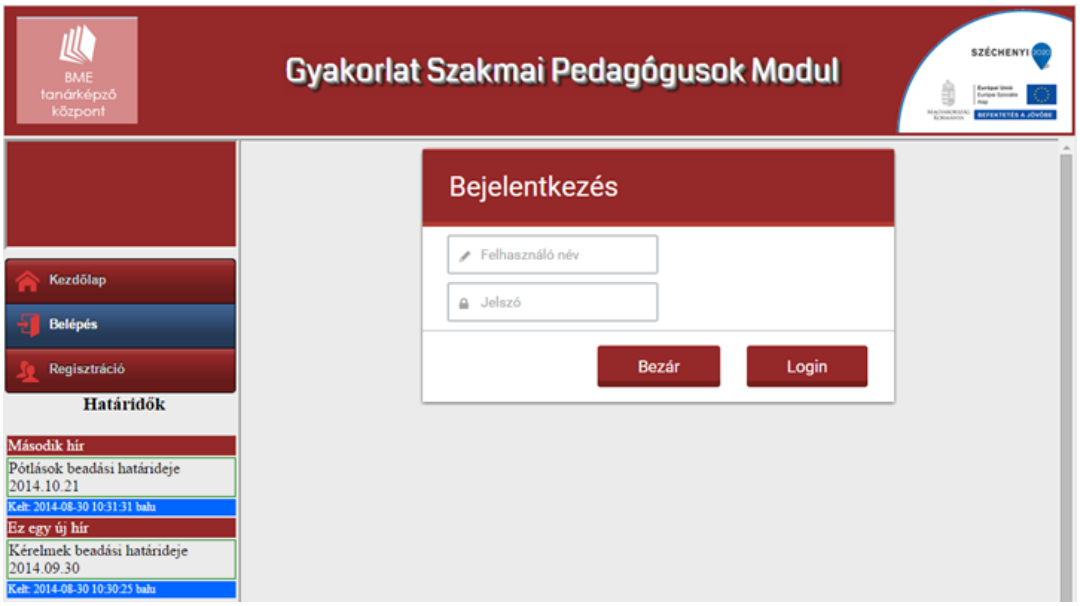
A major part of the project tasks consisted *of researches related to vocational teachers and VET*.

The purpose of the research examining the methodological culture of vocational teachers was to map the methodological culture of the students of engineer teacher training and that of in-service VET teachers by surveying. Some parts of the research aimed at determining the quality indicators of VET teachers elaborated the domestic and international literature on teacher quality, while some other parts gave a multi-aspect empiric examination of the topic (examination of the quality of secondary school and university VET teachers on the basis of students' opinions, collection of data about secondary school and university VEt teachers, field work and data processing) and gave a comparative analysis of the gained results. The examination of the methodological competences necessary for using interactive whiteboards was focused on the methodological paradigm shift of VET and in the attitudes towards educational technologies as well as training content development offering preparation for the methodological use of the interactive board. Besides the multi-group measurement of competences and knowledge, the implementation of the comparative analysis and the introduction of the experiences of experimental education, there was a longitudinal competence measurement and a survey of the differences between the

competency profiles of the users and non-users of the interactive board conducted, as well. The research examining the possibilities in the development of teacher competences in engineer teacher training was aimed at surveying the competences and development demands of the students of engineer teacher training and of field practitioners as well as the conformity of these competences with the learning outcomes. By drawing the competence profile of the engineer teacher students, the possible development trends were described for the training institutions. The research intended to underlie the methodology of teachers' competence development was focused on examining the components of the efficiency and effectiveness of teaching. The answers to these questions were sought by inquiring the students as experimentees. The research strove to provide the base of the methodology of competence development by mapping the successes and difficulties in learning, the motives of learning and the circumstance variables. Within the frames of examining the career interests and career attitudes of vocational secondary school students, the professional literature on career interests and attitudes and vocational value preferences that are of decisive importance in vocational education and training was elaborated; measurement tools and a research methodology were developed and the tool used in measuring the secondary school students' attitudes was adapted. To help the elaboration of the data gained from the high number of experimentees, online measurement tools were developed. Relying on the results of the empiric researches some recommendations effectively applicable in the modernization of the contents and methodologies of VET teacher training by way of developing the problem solving competence were worded. The examination of learning strategies and distinctive characteristics of VET was intended to identify, on the basis of the learning model, the variables that influence the efficiency and effectiveness of learning on one hand and may serve as a base for an adaptive educational approach, which makes the process of learning and teaching possible to be planned while considering these differences on the other hand. The possibilities of utilizing the results of the empiric survey having involved a relatively wide range of vocational secondary school students might reckon on the interest of VET teacher trainers. In the examination of scopal-visual capacities in VET, partly on the basis of the relevant literature, the scopal-visual capacity was clarified, certain components were identified and an online measurement tool applicable in measuring the scopal-visual capabilities was developed. The development level of scopal-visual capabilities was mapped through an examination of vocational secondary school students. The methods of capacity development in mechanical drawing lessons, which are of basic importance in most of the technical vocations (concept building and depiction, the methodological aspects of concept building at drawing lessons, deductive and inductive thinking, development of algorithmic thinking at drawing lessons and the development of visual cognitive capacity) were also identified during the research. The experience based research examining the newest features of the pedagogical and professional development of VET teachers searched the extent to which teachers perceive learning as necessary, the way they experience professional duality, the extent to which pedagogical and vocational development influence each other or are separated, the answer to whether professional mobility exists, the role of independent learning, their personal development strategies and the main motifs of their learning.

The *development of ICT* applications was partly focused on the developments related to the operative preparation and organization of personal continuous school practices implemented within the frames of pedagogical practical training, especially within the

national VET network, and partly at the creation of a new platform, which coordinated these professional and administrational tasks electronically. The print screen below shows the entry page of this platform.



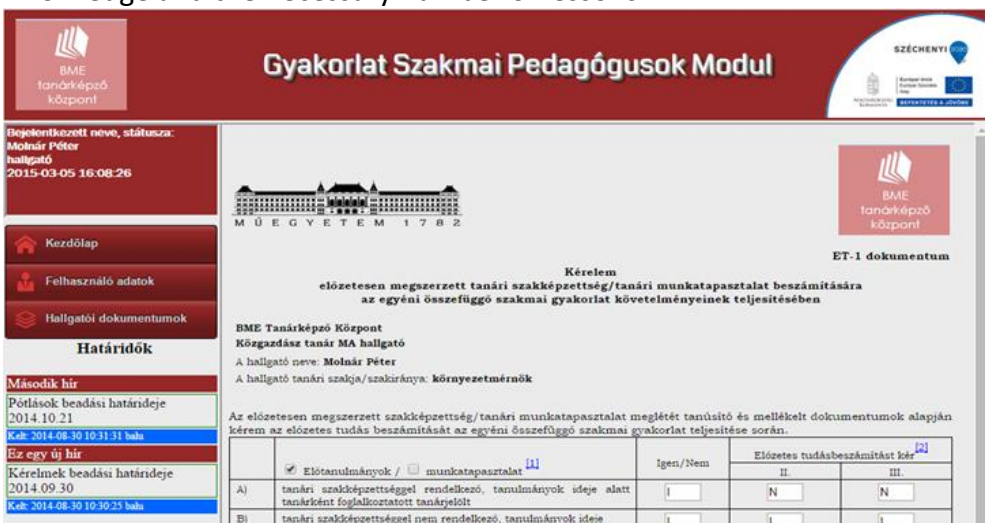
The informatics service platform is built of 4 main modules, each of which represents a kind of practical role:

- administration module
- student module
- career practitioner module
- mentor teacher module

The print screen below shows the menu system of the administration module, which allows, importing users' data in groups, as well in addition to uploading and editing data,.

Relying on the preliminaries, we prepared several electronic document samples for the developed system, the form-based filling of which means a rapid solution for those

concerned. The print screen below is a part of this sample, and it serves the assessment of previous knowledge and the necessary number of lessons.



The reviewed online journal titled OPUS ET EDUCATION launched within the frames of the Project offers a possibility of wide-range publicity for both teacher trainees and former, graduated students. The reviewed journal is accessible here: www.opuseteducatio.hu

Some of the *further training programs for teachers* developed within the Project are short-term training programmes for career practitioners, technical vocational teachers, qualified vocational teachers and mentor teachers; others are longer further training programmes including special examinations, as well. The chart below gives a summary of them.

1.	Further training of technical vocational teachers (80 lessons)
2.	Further training of career practitioners (40 lessons)
3.	Adult educator (special examination)
4.	Mentor teachers' workshop (30 lessons)
5.	Public education master leader (further training of those having passed the special exam)
6.	Digital competencies in engineer teachers' work (30 lessons)

Network development within the Project was partly implemented through active participation in the events of the Projects of the national component and the regions, and partly through the narrower and wider circle of the teacher training institutions having participated in fulfilling the tasks of the Project no. TÁMOP-4.1.2.B.2-13/1-2013-0002 titled "Development of vocational teacher training and trainers' network in the technical and the social field" and with the partner schools working in the field of engineer teachers' training. The institutions having participated as partners are indicated in the chart below:

I.	**National research, institution maintenance and strategic partner**
1.	Klebelsberg Institution Maintenance Centre (KLIK)
2.	Education Research and Development Institute (OFI)
3.	ELTE PPK strategic partner
II.	**Institutions offering vocational/arts teacher training**
1.	University of Debrecen
2.	College of Dunaújváros
3.	ELTE BGGyK
4.	University of Miskolc
5.	University of Western Hungary
6.	University of Pécs
7.	Széchenyi István University
III.	**Vocational training institutions**
1.	Donát Bánki Transportation Engineering Vocational Secondary School
2.	Gábor Bethlen Transportation and Economic Vocational Secondary School
3.	János Bólyai Vocational Secondary School
4.	Lajos Kossuth Dual Language Practice Vocational Secondary and Training School of Budapest
5.	MODELL Fashion School
6.	Lajos Petrik Vocational Secondary School
7.	Tivadar Puskás Telecommunication Vocational Secondary School
8.	Frigyes Schulek Dual Language Builders' Vocational Secondary School
9.	Trading Vocational Training School of Terézváros, Budapest
10.	Ágoston Trefort Dual Language Vocational Secondary School of Budapest
11.	Miklós Ybl Builders' Vocational Training School
IV.	**Vocational organizations**
1.	Hungarian Association of Content Industry
2.	Hungarian Association of Pedagogy

The project web page is available at http://szakped.mpt.bme.hu , see print screen below.

BME Tanárképző Központ

TÁMOP-4.1.2.B.2-13/1-2013-0002

A műszaki és humán szakterület szakmai pedagógusképzésének és képzők hálózatának fejlesztése

Kezdőoldal
Rólunk
Hírlevelek
Elkészült tananyagok
Letöltések
Képek
Nyitó konferencia
Záró konferencia
APPI konferencia
Moodle
Oktatási Hivatal levele

Pedagógusképzést segítő szolgáltató és kutatóhálózatok továbbfejlesztése és kiszélesítése

UNIÓS TÁMOGATÁSSAL MEGVALÓSULÓ KÉPZÉSFEJLESZTÉS A MÉRNÖKTANÁRKÉPZÉSBEN, A MŰSZAKI SZAKOKTATÓKÉPZÉSBEN ÉS A HUMÁN SZAKTERÜLETI TANÁRKÉPZÉSBEN

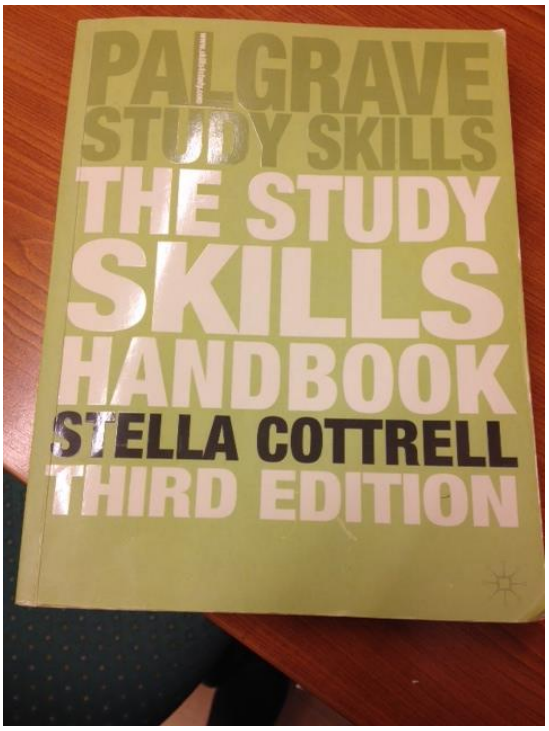
A projekt futamideje: 2014.04.24. – 2015.10.22

A **Budapesti Műszaki és Gazdaságtudományi Egyetem Tanárképző Központja** és az **Óbudai Egyetem** alkotta konzorcium 138.280.760,- Ft uniós támogatást nyert a „Pedagógusképzést segítő szolgáltató és kutatóhálózatok továbbfejlesztése és kiszélesítése" című pályázati kiírás keretében, az Új Széchenyi Terv Társadalmi Megújulás Operatív program keretében. A projekt eredményeként várható a műszaki szakképzésben oktató tanárok és az egészségügyi-, a gyógypedagógiai-, és pedagógiai szakos tanárok új típusú képzéseinek tartalmi és módszertani fejlesztése, a Szakmai Pedagógusképző és Szolgáltató Központ szolgáltatásainak kiszélesítése, a pedagógusképzők országos hálózati együttműködésének továbbfejlesztése.

A pályázat keretében tervezett szakmai fejlesztések fókusza: a mérnöktanár, műszaki szakoktató, az egészségügyi-, a gyógypedagógiai-, és pedagógiai szakos tanárképzés módszertani támogatása, a képzők képzése, és a tartalomfejlesztés; a szakmai gyakorlat indításához szükséges fejlesztések kialakítása; a pedagógusképző kutató- és szolgáltató központok hálózatának fejlesztése, valamint a szakképző és felsőoktatási intézmények közötti

BOGNÁRNÉ, Szigeti Edit

LEARNING IS AN ADVENTURE
"THE STUDY SKILLS HANDBOOK"
Third edition, Stella Cottrell, 2008, Palgrave Macmillan



In the past few decades, in the era of Lifelong Learning, the question of how to learn effectively has become an issue of key importance. Developing successful learning strategies is especially vital for higher education students, i.e. both younger and older generations of adults, who participate in further training in order to improve their career prospects.

Stella Cottrell is the author of a number of study guides, including Skills for Success, "The Exam Skills Handbook", "Critical Thinking Skills" and "The Palgrave Student Planner".

Her wide educational experience, working for several years at the University of East London, UK, later becoming Director for Lifelong Learning at the University of Leeds and now back again at the University of East London, attracted her attention to helping students from diverse backgrounds with her essential handbooks on learning skills.

"The Study Skills Handbook" was first published in 1999 and since then three revised editions have followed it, in 2003, 2008 and 2013. The core version of the handbook developed out of practical work undertaken with hundreds of students over twenty years. (p. 1) Stella Cottrell expresses her acknowledgements for the suggestions and helpful comments of university staff and the feedback of students who were ready to discuss their individual difficulties with her during their studies. This practical experience is reflected in every aspect of the handbook: the clear, user-friendly structure, encouraging style, easy-to-follow explanations, eye-catching cartoons, symbols and illustrations.

In the introductory chapter, the author encourages all learners who might feel uncertain about their abilities by saying that "Study skills don't hatch fully formed, any more than a grown hen pops from an egg. They

evolve and mature through practice, trial and error, feedback from others, and reflection as you move through the different stages of your course." (p. 1) Visual images are a typical feature of the book.

The book starts with the description of seven approaches to learning (pp. 4-5):

1. Learning can be an adventure
2. Use several senses
3. Identify what attracts you
4. Use active learning strategies
5. Take responsibility for your own learning
6. Trust in your own intelligence
7. Recognise your own learning preferences

The first approach carries the most important message:

"Learning can be an adventure" or "fun" if we approach it in the right way. Therefore, we all need to find the best way to make learning enjoyable. We should not worry about failures because they are a natural part of the learning process. Stella Cottrell draws the vivid example of a child learning to walk, falling over several times and still getting up and moving again.

The author gives detailed guidance on the usage of the book for students.

Cartoons, symbols and the variety of layouts "act primarily as visual memory-joggers" and are meant to "encourage learning through different senses, too (p. 2). " This feature, in addition to content and typography, makes the handbook particularly suitable for dyslexic students as well.

The book is well structured. Each chapter starts with an outline of the learning outcomes of the particular chapter, which makes it easy for the reader to decide whether to read or skip it. All chapters end with a review section summaries summarizing the main issues dealt with and helping us look back and reflect on what we learnt.

The book offers a number of photocopiable resources, e.g. self-evaluations, checklists, planners and record sheets, which can be used either individually, or they can even be turned into a learning journal or portfolio, which is a recommended tool for orientation, reflection and regular self-evaluation. (p. 63)

The self-evaluation questionnaires are especially useful for identifying one's strengths and weaknesses as well as monitoring progress from time to time.

The Index at the end of the book contains all the key words of specific topics with page references.

The 349-page handbook consists of 15 chapters covering the main areas higher education students should develop for. The titles of the chapters are the following:

1. Preparing for university
2. Identifying your skills
3. Intelligence and learning
4. The C.R.E.A.M strategy for learning – Creative, Reflective, Effective, Active, Motivated
5. Working with others
6. Research skills
7. E-learning, technology and personalised learning
8. Writing for university
9. Developing your writing
10. Confidence with numbers
11. Projects, dissertations, reports and case studies
12. Critical analytical thinking
13. Memory
14. Revision and exams
15. Planning your next move

The issues of practical and mental preparation for university are discussed in Chapter 1. Practical questions include: applying to university, teaching methods and time management. Mental preparation includes self-evaluation questionnaires like "Am I ready for Higher Education?" and "What are my personal resources?"

Chapter 2 intends to develop awareness of current skills and qualities and set priorities for developing one's individual study skills. Stella Cottrell defines the term skill as "a learned activity – something you can develop through practice and reflection." According to her, skills can be fine-tuned which "involves developing personal qualities", e.g. commitment, determination, perseverance, and positive thinking (p. 25).

Chapter 3 explains the whole learning process and calls attention to the role of good study skills in achieving success both at school and in life. In her attempt to prove that intelligence is not the main cause of success in one's career, Stella describes nine different views of intelligence and draws several examples from the field of psychology. She explains: "Self-belief and the right conditions for learning are both vital in developing as a learner" (p. 41).

Several conditions can make learning easier, e.g. being in the right physical state, confidence, a positive state of mind, etc. A number of practical ideas and tips are given under the heading "Optimal learning" on page 53.

The reason why Chapter 4 on the "C.R.E.A.M strategy for learning" is the longest is probably that it describes the essence of the author's learning philosophy. According to her, four essential strategies are required in order to become conscious and successful learners, the so-called C.R.E.A.M strategies, i.e. being Creative, Reflective, Effective, Active and Motivated. Following these strategies will enable us to become autonomous and self-directed learners who are able to select and adapt new information, think creatively, take an active role in the learning process, solve problems, etc. Development is the result of a continued and persistent learning activity, which implies making mistakes, reflecting on experiences and correcting errors next time.

As we can see from the titles of the chapters, all the other issues discussed are highly relevant materials for academic life. This is perhaps one of the reasons why the long-term success of the handbook with future updates can be predictable.

The book can be recommended to teachers and students alike who can dip into the rich collection of resources and useful ideas any time they need advice on any particular aspect of study.

The key element of Stella Cottrell's philosophy of learning is to develop a personalised approach to study. Her encouraging words echo all through the pages giving students confidence and helping them find their own "learning patterns": "There are many avenues to successful study. Experiment. Explore. Be creative. Find what suits you best. (p. 3)."

References

Cottrell, Stella (2008): The Study Skills Handbook. Palgrave MacMillan

Biography: Internet website: Stella Cottrell The Study Skills Handbook, 2013, Palgrave MacMillan https://he.palgrave.com/page/detail/?sf1=barcode&st1=9781137289254