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Introduction

Dear readers,
The editorial board tried to arrange the second issue of our journal to present a set of international studies focused on the concept of skills necessary for the 21st century as discussed by teachers, academics and specialists in European countries. It is a view of possible implementation of the 21st century skills not only into the primary school curriculum and professional training of future teachers but also into the framework of lifelong learning.

The concepts of this approach are presented within the currently project VOICES, The Voice of the European Teachers; its partners were universities and specialized higher education institutions from ten European countries (Netherlands, UK, Spain/Catalonia, Italy, Turkey, Switzerland, Austria, Czech Republic, Belgium and Portugal).

In many aspects the focus on the 21st century skills is a reaction to requirements imposed by the contemporary society not only on pupils as learning individuals but also on teachers who should be able not only to start the process of learning but also to skilfully manage it so that pupils receive adequate training for life.

The first article focuses on historical continuity of requirements for valuable and successful education when J. A. Comenius' didactic principles and ideas and the contemporary concept of the 21st century skills are compared. Then the concept of the 21st century skills in the curriculum of universities and primary education, which models are used in particular European countries, are discussed.

In the context of the current discussions taking place in the Czech pedagogical environment, and also in the context of the 21st century skills, presented are articles dealing with the issue of inclusion in the contemporary school and society, special-pedagogical issues and possibilities of learning through modern methods.

These texts include questions and themes not only for specialist discussion with the pedagogical community but on the level of the entire society. It is necessary to think about the future of European level of education and European educational policy the objective of which should be preparation of children and naturally future teachers for "new" society and daily life.

It is very likely that the contemporary concept of education with the emphasis on (multi)cultural education and the 21st century skills will not be quite sufficient. It is necessary to change the way of thinking and the concept of values. It is necessary to explain people not only why (not only to say "what") to learn and study but to ask about the best way of achieving good education (to ask "how the best" and explain "why" is needed…).

This requires very good teaching (from teachers), learning during their life (from pupils and all people) and having very good support from the state whose priority is high quality educational policy.

Editorial board

Articles

Didactic Principles by Comenius and 21st Century Skills

Alena Jůvová, Froukje Bakker

Nothing is easier, or more dangerous, than to treat an author of 300 years ago as modern and claim to find in him the origins of contemporary or recent trends of thought. *Jean Piaget*

One might assume that the world has changed since the time of Comenius. But when thinking of current events, we can see that the core of problems remains the same; and what is frequently the same too is the way individuals or groups advance their own interests. Similarly to the 17th century, escalating violence, religious intolerance and social exclusion are encountered. Consequences resulting from the economic crisis and environmental problems have to be added today.

In what way is it necessary to educate individuals today if they have to be prepared for coping with various life situations in order to be able to lead full lives.

Educational needs can be identified on the basis of a prognosis with respect to the current situation and the previous universal knowledge defined by demands of the particular society. This "knowledge" that can be considered in both narrow (knowledge) or broader contexts (compentences), depends of cultural capital and the quality of an individual's socialization, and thus it can be significantly different.

Rabušicová and Rýdl (2009, p. 513) distinguish between two possible interpretations of the concept of the knowledge society, namely from the perspective of importance of knowledge in economic activities and from the perspective of knowledge in social relations, when focusing on the role of education.

When focusing on our core competencies, it can be said that they are characterized by the following basic features:

- "they are beneficial for people and society
- they help people fulfill important demands imposed upon them under various conditions
- they are not important only for professionals but for everybody" (Rychen, Salganik, 2003, p. 6).

Specifically, the key competences are defined in curricular documents corresponding with the concept of educational policy of the EU and individual countries. Following these competencies the 21st century skills are currently discussed too. These skills are viewed in various transdisciplinary contexts and with regard to the framework for which they are established (i. e. employment policy and the labour market, educational policy and the shift of paradigm in the concept of education and its level) see (Bellanca, Brandt, 2010). There are several theoretical frameworks by which the 21st century skills can be defined (e.g. Wagner, 2008 Griffin, McGaw & Care, 2012, see also Hanover Research, 2011).

"Within the context of key knowledge instruction, students must also learn the essential skills for success in today's world, such as critical thinking, problem solving, communication and collaboration" (P21 Framework Definitions).

Table 1

21st Century Skills of Partnership for 21st Century Skills

21st Century Skill	Description
Learning and Innovation Skills	**Critical Thinking and Problem Solving**, e.g., effectively analyze and evaluate evidence, arguments, claims, and beliefs; solve different kinds of non-familiar problems in both conventional and innovative ways.
	Collaboration, e.g. demonstrate ability to work effectively and respectfully with diverse teams.
	Creativity and Innovation, e.g., use a wide range of idea creation techniques to create new and worthwhile ideas.
Information, Media, and Technology Skills	**Information Literacy**, e.g., access and evaluate information critically and competently; manage the flow of information from a wide variety of sources
	Media Literacy, e.g., understand both how and why media messages are constructed; create media products by understanding and utilizing the most appropriate media creation tools, characteristics and conventions.
	ICT (Information, Communications, and Technology) Literacy, e.g., use technology as a tool to research, organize, evaluate and communicate information.
Life and Career Skills	**Flexibility and Adaptability**
	Initiative and Self-Direction
	Social and Cross-Cultural Skills
	Productivity and Accountability
	Leadership and Responsibility

(Hanover Research – District Administration Practice, 2011, p. 10)

Wagner (2008) gives this list of the 21st century skills that are to be discovered, developed and promoted in education:

1. Critical Thinking and Problem Solving.
2. Collaboration across Networks and Leading by Influence.
3. Agility and Adaptability.
4. Initiative and Entrepreneurship.
5. Effective Oral and Written Communication.
6. Accessing and Analyzing Information.
7. Curiosity and Imagination.

What should be also mentioned in this context is a requirement for various minds, as stated by Gardner (in Bellanca, Brandt, 2010, pp. 9–31): the disciplined mind, the synthesizing mind, the creating mind, the respectful mind, the ethical mind.

Even though we respect the significant potential of this educational concept, we believe that it is not new or revolutionary in theory of education (cf. Andrew J. Rotherham and Daniel Willingham, 2009). It consists in redefining of the principles, which should be the basis of the quality lifelong learning, and which have been reflected in the pedagogical concepts for several centuries.

To maintain the continuity of educational knowledge and to provide inspiration in shaping the concept of the modern concept of education that is the goal of the formation of these 21st century skills, we would therefore like to focus on the main ideas and principles of Comenius' work now. Specifically, it is Didactica magna, Analytical Methodology and Pampaedia.

In his work Comenius synthesizes the knowledge of pedagogy, theology and philosophy. Comenius' main idea – and still valid – is Omnes – to educate all human beings without discrimination (the aim), omnia – in everything important for human life (the content) omnino – in the universal way of all-round development of a human being, both individually and socially (the method and methodology) (Čapková, 2009, p. 53). A requirement of education for all that is now reflected in the concept of inclusive education, versatility and the global approach to knowledge.

"At a time when education had neither stable institutions nor general programmes of study, Comenius endeavoured both to build up a rational administrative structure and to develop graduated, coherent programmes. All this elaborately detailed planning was dominated by a twofold requirement of unity: horizontal unity in respect of curricula at a given level and vertical unity in the hierarchy of the stages of education" (Piaget, 1993, p. 8).

The first systematic approach of didactics, covering the entire theory and structure of education, including the definition of the content, principles and methods of teaching, was developed by Comenius in Didactica magna; he also addresses educational issues, i. e. both the informative and formative components of education.

In accordance with the ethical-pedagogical principle, what Comenius regards to be the fundamental role of education is to reach an integral and harmonious development with regard to individual differences in each person (cf. Cipro, 1984, p. 163).

He emphasized the quality of modern pedagogy: rationality, harmony with nature, appropriate motivation and effectiveness of the entire education.

The sources of Comenius were Bacon's sensationalism (highlighting the importance of the sense organs), Aristotle (logic), general psychology and child psychology.

Comenius characterized clearly and briefly the psychological characteristics of cognitive processes of memory and age peculiarities of children.

Comenius' fundamental didactic principle that is consistently represented in all his teachings, was to teach everything by examples, with a rule and practice (inductive approach).

I. "Let all things be deduced from the unchangeable elements of things.
II. Let nothing be learned by authority, but by demonstration, sensible or rational.
III. Let nothing be taught by the analytic method only, but rather by the syntetic"

(Comenius, 1948, p. 131, Laurie, 1892, p. 96).

To find a way to share not only knowledge with pupils but also to identify and cultivate their complex 21st century skills, it is possible to use a transfer based on the principles that Comenius established, and that are further elaborated in the contemporary theory of education and didactics (Skalková, 2007, Obst, 2006 etc.).

Didactic principles are characterized by their subjective side. It is up to the teacher, his/her personal responsibility, qualifications, etc., whether he/she really implements the set principles, and whether they are applied comprehensively.

Comenius laid down principles of effective teaching, demanded internal discipline (self-discipline) from pupils and the use of teaching aids that change over time, but the principle of demonstration remains.

Table 2
Comenius principles by Pampaedia and 21st century skills

Comenius principles by Pampaedia (The General Consultation on the Reform of Human Affairs, 1643–1670) The Education of all – the way to mankind, humanity, world peace	21st century skills of the concept of the Partnership for 21st Century Skills *[online] Retrieved from: http://www.p21.org/storage/documents/docs/P21_Framework_Definitions_New_Logo_2015.pdf*

Omnes – to educate all human beings without discrimination (the aim) School for all – provide education for all humans and in every age/long life learning You have to learn from childhood and last a lifetime. Life long self-regulated learning/Studying (Pampaedia, p. 79).	*Every 21st century skills implementation requires the development of key academic subject knowledge and understanding among all students.* Flexibility & Adaptability Initiative & Self Direction Social & Cross-Cultural Skills Cross-cultural Understanding Across Diverse Ethnic, Knowledge and Organizational Cultures Respect cultural differences and work effectively with people from a range of social and cultural backgrounds Respond open-mindedly to different ideas and values Leverage social and cultural differences to create new ideas and increase both innovation and quality of work
Omnia – in everything important for human life (the content) Teachers of all: enlightened, peaceful, faithful and holy, pious, honest, dignified, industrious, diligent, industrious, clever – harmony to think – to speak – to do, teach all things with a view to teach something new.	*Within the context of key knowledge instruction, students must also learn the essential skills for success in today's world, such as critical thinking, problem solving, communication and collaboration.* *Use interpersonal and problem-solving skills to influence and guide others toward a goal* *Leverage strengths of others to accomplish a common goal* *Inspire others to reach their very best via example and selflessnes* *Demonstrate integrity and ethical behavior in using influence and power* *Be Responsible to Others* *Act responsibly with the interests of the larger community in mind* Interact Effectively with Others Know when it is appropriate to listen and when to speak Conduct themselves in a respectable, professional manner Work Effectively in Diverse Teams
Omnino – in the universal way of all-round development of a human being, both individually and socially (the method and methodology) To learn everything thoroughly and in context Books of all / idea of multimedia (Pansophia), written by a new method and only with important things.	When a school or district builds on this foundation, combining the entire Framework with the necessary support systems-standards, assessments, curriculum and instruction, professional development and learning environments – students are more engaged in the learning process and graduate better prepared to thrive in today's global economy.

Table 3

*Comenius principles by Didactica magna/The Great Didactic (1633–1638), The Analytical Didactic (in **Methodus linguarum novissima/ Newest Method of Languages**, 1646), Opera didactica omnia (1630-1657), and 21st century skills*

Comenius principles by The Great Didactic / Didactica magna (1633–1638), The Analytical Didactic (in *Methodus linguarum novissima*, 1646 *The Analytical Didactic*, forming part of his *Newest Method of Languages*) and Opera didactica omnia (1630 – 1657),	21st century skills of the concept of the Partnership for 21st Century Skills *[online] Retrieved from: http://www.p21.org/storage/documents/docs/P21_Framework_Definitions_New_Logo_2015.pdf*
Education in harmony with nature (Didactica magna, chap. XVII) To learn fast, friendly and thoroughly by examples, precepts/ theorems, instructions Realism and universalism – harmonic knowledge of all things necessary on the basis of a set objective – lessons based on real knowledge The principle of adequacy – with respect to the natural development of a child, with respect to age and individuality of each student. Freedom and education of an individual objective approach, illustrative teaching. Didactic clarity – requirement of direct sensuous learning about reality – the "golden principle" of didactics. Let propositions be modest in number, clear in meaning, general in truthfulness so that they can be safe to trust. Finally, let exercises be attached to demonstration in order to enable to live its note. Let them learn words only in connection with things. (Didactica magna, chap. XIX, no. 45) Let not taught anything only through narration, everything through sensual demonstration and sensible.	*Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water and ecosystems* *Adapt to change* *Adapt to varied roles, jobs responsibilities, schedules and context* *Work effectively in a climate of ambiguity and changing priorities* *Be flexible* *Incorporate feedback effectively* *Deal positively with praise, setbacks and criticism* *Understand, negotiate and balance diverse views and beliefs to reach workable solutions, particularly in multi-cultural environments.* *Understand both how and why media messages are constructed, and for what purposes* *Examine how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors* *Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of media* New Knowledge Creation, "Best Fit" Design Solutions, Artful Storytelling, etc.

The gradual building of knowledge from the ground up, full of contextual understanding, learning in context and with the unveiling of internal causes on the whole. Everything through the students' own and continual practice. Constant repetition of the learned stuff.	*Collaborate with others* *Demonstrate ability to work effectively and respectfully with diverse teams* *Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal* *Assume shared responsibility for collaborative work, and value the individual contributions made by each team member*
Thorough basic learning, learning to be started slowly and carefully. The pupil has to understand everything from the very start and correctly, it is necessary to correct wrong ideas, to correct mistakes immediately and thoroughly. Discipline is necessary for learning	*Solve problems* *Solve different kinds of non-familiar problems in both conventional and innovative ways* *Identify and ask significant questions that clarify various points of view and lead to better solutions*
The teacher must know what he has to teach others, must have a gift for teaching and patience, be active and diligent. Each student is a teacher at the same time Learning, passing from one to another, is a bond between the teacher and the student.	*Communicate clearly* *Articulate thoughts and ideas effectively using oral, written and verbal communication skills in a variety of forms and contexts* *Listen to decipher the meaning, including knowledge, values, attitudes and intentions* *Use communication for a variety of purposes (e.g. to inform, instruct, motivate and persuade)* *Use multiple media and technology, and know how to assess their effectiveness a priori as well as an assessment of their impact* *Communicate effectively in different environments (including multi-lingual)*
Method of language teaching: to teach any language through images related to sensory perception Realism – lessons based on real knowledge (The Gate of Languages Unlocked) Let education cultivate the reason in a man, language, hand for reasonable viewing, reflecting, doing of all useful tings.	*Understanding other nations and cultures, including the use of non-English languages*
The principle motivation headed Comenius off from the interests of the students, develop interests, active thinking processes and practical activities. It is one of the most important prerequisites for successful education today.	Use a wide range of idea creation techniques (such as brainstorming) Create new and worthwhile ideas (both incremental and radical concepts) Elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts
The principle of activity – pupils should acquire knowledge through their own experience, use them in practice.	*Demonstrate originality and inventiveness in work and understand the real world limits to adopting new ideas* *View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes* Cooperation, Compromise, Consensus, Community-building, etc.

Progressiveness – from the simplest to the more complex and familiar – the analytic, synthetic, syncretic methods. Need to always repeat. The necessity of permanent repetition. The virtue of a rule is being short in words, clear in meaning and filled with truth.	*Reason effectively* Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation *Use systems thinking* Analyze how parts of a whole interact with each other to produce overall outcomes in complex systems *Make judgments and decisions* Effectively analyze and evaluate evidence, arguments, claims and beliefs Analyze and evaluate major alternative points of view Synthesize and make connections between information and arguments Critical thinking and doing Problem-solving, Research, Analysis, Project Management, etc.
Logical sequence and orderliness (Analytic didactic) The systematic principle, still related to the requirement of "chaining" of the entire content It shows deep interconnection of information, not only within particular subjects but also interdisciplinary.	*Think creatively* Use a wide range of idea creation techniques (such as brainstorming) Create new and worthwhile ideas (both incremental and radical concepts) Elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts Access and evaluate information Access information efficiently (time) and effectively (sources) Evaluate information critically and competently Use and manage information Use information accurately and creatively for the issue or problem at hand Manage the flow of information from a wide variety of sources Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information

Connection between theory and practice, education through work, connection of thinking, speech and hand work. Introduce everything into practice (sapere, agere, loqui, Orbis sensualium pictus, p. 22).	*Learning from and working collaboratively with individuals representing diverse cultures, religions and lifestyles in a spirit of mutual respect and open dialogue in personal, work and community contexts.* *Develop, implement and communicate new ideas to others effectively. Be open and responsive to new and diverse perspectives; incorporate group input and feedback into the work.* *Implement innovations* *Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur*
	Problem-solving, Research, Analysis, Project Management, etc. From the simplest to the more complex and familiar, continuously, interconnectin of school and practice, illustrativeness Be self-directed learners Go beyond basic mastery of skills and/or curriculum to explore and expand one's own learning and opportunities to gain expertise Demonstrate initiative to advance skill levels towards a professional level Demonstrate commitment to learning as a lifelong process Reflect critically on past experiences in order to inform future progress. Demonstrate additional attributes associated with producing high quality products including the abilities to: – Work positively and ethically – Manage time and projects effectively – Multi-task – Participate actively, as well as be reliable and punctual – Present oneself professionally and with proper etiquette – Collaborate and cooperate effectively with teams – Respect and appreciate team diversity – Be accountable for results

New knowledge to be immediately used and shared with others.	PRODUCTIVITY AND ACCOUNTABILITY Manage projects Set and meet goals, even in the face of obstacles and competing pressure Prioritize, plan and manage work to achieve the intended result Produce results New Knowledge Creation, "Best Fit" Design Solutions, Artful Storytelling, etc.

The genius of the educational work of Comenius is especially evident in ideas of lifelong learning – „long life education" (in Pampaedia – on education), co-operation and communication with parents, connecting school and life / practice.

Comenius' work is an important source of guidance and inspiration for every teacher and educator. It is no accident his work around the world is still studied in depth.

Comenius' pedagogy is a platform for education reform pedagogy, which affects traditional teachings through its principles, such as emphasis on students' independent work, teachers' focus on students' needs, activity, freedom, transferring responsibility for decision making on the way to learning/acquisition of knowledge from teachers to students, i. e. the requirement of self-organized/self-regulated teaching/learning.

In relation to the contemporary concept of the learning process, which follows from the theory of pedagogical constructivism, it is self-directed learning where teachers help students by using methods such as mentoring, tutoring or coaching. The intensity and the level of education reform pedagogy their assistance depends on the age of students – first you need to show children the way to learning, to support their curiosity, to teach them how to learn using modern means such as ICT, visually attractive materials and adequate methods – mooc, blenden learning …

The paradigm in the relationship between teacher and pupil is changing. The pupil is understood as a person who governs his/her education actively and individually to some extent. The teacher/educator gets into the role of guide, tutor or mentor.

Students can acquire the 21st century skills through formal, non-formal or informal education.

What is also important for successful education is *soft skills* related to emotional and social intelligence and involved in social interactions. It is about capacity for particular behavior by means of which individuals present themselves to their surroundings. Unlike so-called hard skills, a set of professional skills that are specific and related to a particular field, soft skills can be considered s set of diverse means and methods of acquiring and developing professional skills. Soft skills are also one of the signs of emotional intelligence. "People whose soft skills are developed to a large extent, are considered to be emotionally intelligent" (Peters-Kühlinger 2007, 14). It is e. g. willing-

ness to cooperate, the art of efficient communication, healthy self-esteem and more… These skills can also be described as **social competences**.

The concept of entrepreneurial teachers' preparation based on supporting their activity, creativity and flexibility of Problem-solving is coming to the foreground.

If the position of teachers in education is understood as a role of a learning process manager, we may be inspired by a list of ten soft skills management, most important for management:

1. Excellent work ethic – motivation to carry out their work dutifully and in the best possible way.
2. Positive attitude to life – optimism, emiting positive energy and goodwill.
3. Good communication skills – effort to be a good speaker and listener, to be able to articulate their wishes and needs clearly and concisely.
4. Ability to manage time well and wisely (Time Management), be able to prioritize.
5. Ability to tackle and solve problems. To be able to determine the order of tasks and work on various projects simultaneously.
6. Ability to work with others in the team and, if necessary, take the leading role.
7. Being self-confident, believing in one's ability to perform the chosen work, arousing a sense of calm in other colleagues and trust them, to be able to ask questions and contribute with one's own ideas
8. Ability to accept criticism and learn from it. To behave professionally, to be led and to continue to learn.
9. To be flexible and be able to adapt oneself (adjust) to new situations and challenges. To be able to accept new ideas.
10. To manage stress and work well under pressure (cfr. Lorenz 2009).

A similar list of the most important soft skills is given by Peters-Kühlinger and Friedel (2007, p. 17):

1. Communication skills (competences)
2. Second self-confidence,
3. Empathy,
4. Ability to teamwork
5. Ability to accept criticism and to criticize effectively,
6. Analytical thinking,
7. Credibility
8. Discipline and self-control,
9. Curiosity,
10. Ability to manage conflicts,
11. Assertiveness.

A teacher can also be seen as an "architect" in his/her class, he/she:

- Defines highly-effective 21st century teaching
- Connects the isolated parts of instructional design and delivery into a coherent whole
- Supports teachers writing a blended curriculum to the specs of the Conceptual Age
- Provides a lens for how we think about 21st century learning and flipped teaching
- Supports the implementation of digital learning systems into classroom practice
- Creates structures for organizing, managing, storing and collaborating with digital content
- Offers practical, useful tools for teachers to design and deliver highly-effective instruction
- Identifies methods for increasing and measuring student interest and success.

(see https://modernteacher.com/teacher-as-architect/ http://digitalliteracy.us/21st-century-learning/)

It is family that is primarily responsible for education and successful socialization of a pupil; school and teachers are then responsible for his formal education and significantly contribute to his/her secondary socialization.

The future is uncertain but to some extent it is possible to predict the social, political, or economic development as well as the development of social and natural sciences, and informatics and technology.

The common task of schools, families and the community is then to prepare children for life as successful active person/citizen. Thus, to develop and cultivate flexibility and resilience of the child to be able to respond adequately to diverse life situations and social changes brought by the development of technology and science, and related differentiation of society. The point is to find an identity and a satisfactory way of life that corresponds with the aim of achieving high quality of life.

If the teacher/school is able to form a picture of the world with respect to universally accepted ethical, moral and democratic principles, it has to be communicated to and shared with every individual for the benefit of all people by all available means (see Comenius and his works Pansofia, Pampaedia).

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21st Century Skills in University and Primary Education Curricula in the Czech Republic

Alena Jůvová, Štefan Chudý, Pavel Neumeister, Jitka Plischke

Abstract

This review study concerns and presents the basic skills (needed) for the 21st Century, and the possibilities for their implementation into the current education concept of the Czech Republic. The content analysis of the basic curricula documentation part will focus on models that affect the concept of teaching in primary schools as well as how the current situation reflects concepts relating to the professional education of teachers.

Key words: 21st Century skills, educational policy, quality of education, lifelong learning, self-regulated learning, primary school, teacher education.

Introduction

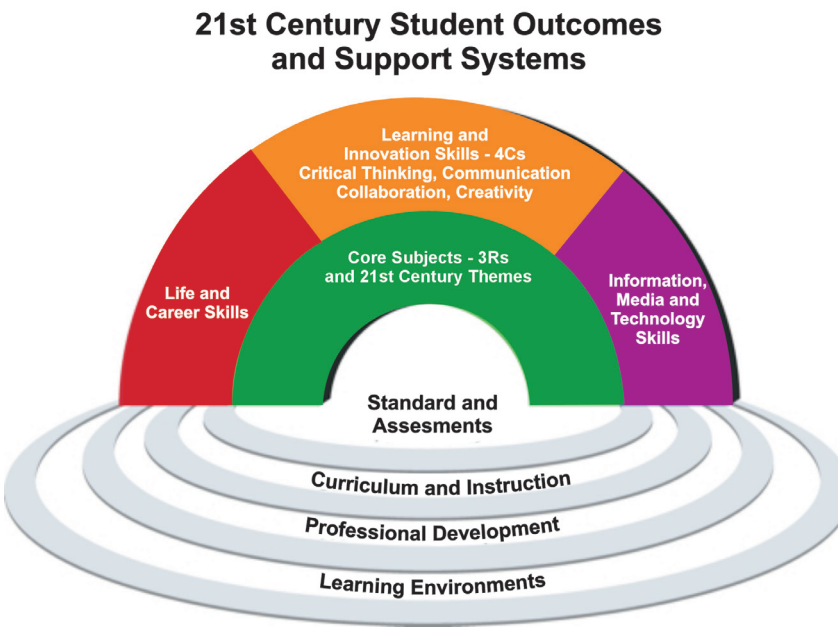
Discussions about the skills that people should be equipped with so that they can respond to changes in modern society, have been gaining in intensity recently. These have to do with the need to equip individuals with such skills so that they can respond adequately to the demands of real life. The basic requirement is to redefine educational goals (c. f., Neumajer, 2014), so as to innovate teaching methods and exploit modern educational resources and … in this direction, to provide adequate training to teach-

ers – not only in undergraduate professional training, but also in the lifelong learning context.

1 Theoretical background

The notion of 21st Century skills can be defined from different perspectives. Basic information is provided – for example by, groups / activities / or the "Partnership for 21st Century Skills (P21)" organization (Fig. 1). Several categories include teaching skills of an innovative nature, life and career skills, or information, media and technology skills that are reflected in the education process – and this applies in terms of the quality of educational standards and curriculum, as well as in the development of training and learning environments as a whole.

Figure 1
P21's Framework for 21st Century Learning



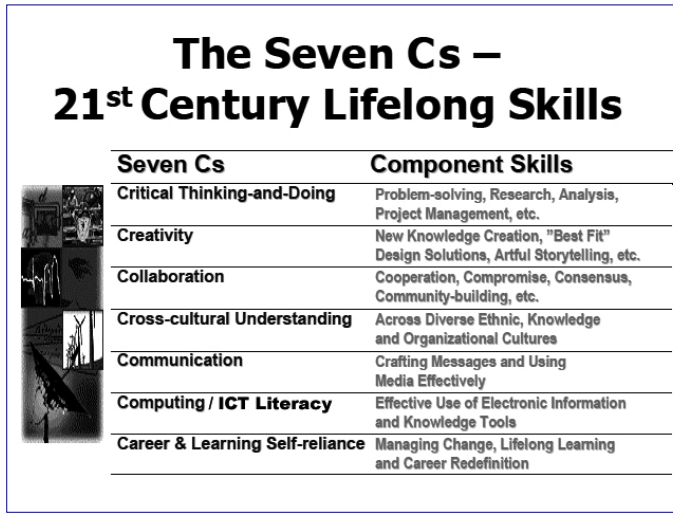
(Retrieved from http://www.p21.org/our-work/p21-framework)

A list of 21st Century skills is also provided by Tony Wagner (. In essence, this basically relates to a set of cognitive skills and soft skills that allows individuals to flexibly and promptly react to difficult, unusual or critical situations that may occur in their life. In this context, there is also a need to talk about resilience and self efficacy (Gavora, 2008, pp. 222–235), which an individual needs to develop and cultivate from an early age.

"Despite the fact that the current rapidly changing society has – in terms of its requirements for a clear vision of direction and a pragmatic view on the economic and political attributes of their personality; the scholastic preparation of individuals – which would meet these declared needs, continues to stagnate. This conservative view on the preparation of students for life, which continues to be applied despite scientific knowledge in the fields of Cognitive Science and Education, can cause severe social and especially – educational problems" (Jůvová, et al., 2015).

Stakeholders – in terms of both education policy and education and the business environment are engaging this progressive and innovative stream of thought based on interdisciplinary and holistic perceptions of the individual and educational reality. Here, it is worth mentioning the OECD, or the Microsoft, CISCO, ISTE, Education 2020 concepts (viz Fig. 2).

Figure 2
Seven 21st Century Lifelong Skills



Retrieved from http://education-2020.wikispaces.com/21st+Century+Learning

A similar list of skills and abilities for the 21st. Century is also provided by the International Society for Technology in Education, and this with reference to Bloom's Taxonomy of Educational Goals and Constructivist Philosophy (Brichacek, 2014).

These basic skills and abilities place emphasis on innovation, cooperation, global citizenship and critical thinking. Six core technology standards for students are defined in the ISTE (2012) National Educational Technology Standards (NETS):

- Creativity and Innovation.
- Communication and Collaboration.
- Research and Information Fluency.
- Critical Thinking, Problem-solving and Decision-making.
- Digital Citizenship.
- Technology Operations and Concepts.

1.1 Constructivism and 21st Century Skills

The requirement for the development of 21st Century Skills in students corresponds to a change in approach to the learning process – which is focused on self-regulated learning and pedagogical changes in the interaction between teacher and pupil in favour of students' activities.

The principles of self-organized learning (together) with the perspective of lifelong learning that exploit the use of e-learning capabilities and ICT are governed by a subjective didactic model, which was created on the basis of the Constructivist-systemic Theory of Knowledge and an understanding of Neurophysiology and Psycho-neuroimmunology (Kohlberg, 2010; Wilhelm, 2012; and Kösel, 2001).

Access to Subjective Didactics is derived from a systems approach to the aims, contents, methods and means relating to changes in the role of teachers and the requirement associated with this to change the quality of social interactions between teachers and students (Jůvová, et al., 2015). According to Siebert (1999, p. 20), three basic concepts of the Constructivist Theory of the Learning Process can be distinguished:

1. Learning is the reflection of teaching and does not take into account the possibility of the self-determination of the individual of the surrounding environment.
2. Through their own activities, individuals master that reality which contributes most to cognitive openness and is based on a single representative model.
3. Learning is an autonomously regulated cognitive system that interacts with its' own states that differentiates and modifies the independence of its own structures. This is a radically Constructivist viewpoint, which can be complemented by the application phase of Socio-constructivist Theory.

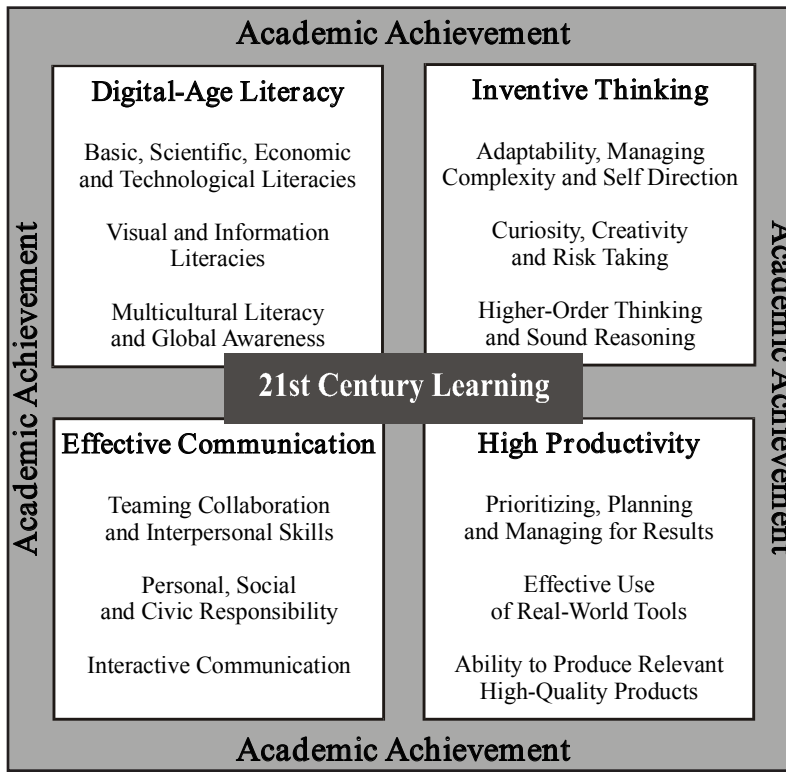
"Constructivism is a philosophy of learning founded on the premise that, by reflecting on our experiences, we construct our own understanding of the world we live in. Each

of us generates our own "rules" and "mental models," which we use to make sense of our experiences. Learning therefore, is simply the process of adjusting our mental models to accommodate new experiences" (Brooks, J. and M., 2011).

"Constructivists believe that, based on previous experience and knowledge, meaningful learning occurs when individuals construct their own meaning, rather than memorising answers and repeating "what I've learned". Therefore, one's own Constructivist curriculum is the refusal of a "one-size-fits-all" approach to learning and instead of this, the belief that the individual temselves'need the education" (Education 2020, 2015).

Five attributes of the Constructivist Concept of meaningful learning are mentioned by Jonassen, Peck and Wilson (1999, p. 15), and these are: Intentional Learning, Active Learning, Constructive Learning, Cooperative Learning, and Authentic Learning.

Figure 3
The frame of the 21st Century Learning



(Retrieved from: Digital Literacy. [online: http://digitalliteracy.us/21st-century-learning/])

2 Methodology and research aims

The selected research method was a Structured Content Analysis (Kerlinger, 1972; Mayring, 1993; Gavora, 2010). The aim was to determine the degree of implementation of 21st Century skills into the strategic documents defining educational and education curriculum in the Czech Republic.

A further aim was to analyse the relationships between selected categories and areas of 21st Century skills.

The materials under investigation are: The basic curricula document for Czech Primary Schools – The Education Framework for Basic Education (MŠMT, 2013), Core subjects of 21st Century skills listed in the P21 materials (http://www.p21.org/about-us/p21-framework); 21st Century Learning Design – Innovative Teaching and Learning Research; From Education Systems to the Learning Society (CISCO Systems, 2010).

Using Content Analysis method, we determined the following questions:
1. *How are these skills projected into the educational policy of the Czech Republic?*
2. *What is the concept of 21st Century skills in selected subjects?*

Selected categories and their relationships:
21st Century skills and pupils
21st Century skills and teachers
21st Century skills and educational interactions between teachers and pupils in education

2.1 Results

How are 21st Century skills projected into the educational policy of the Czech Republic?
In the current Educational Policy of the Czech Republic – 2020 Strategy document, emphasis is on the following essential features of contemporary education that correspond with 21st Century skills:
- Quality of education.
- Lifelong learning.
- Efficiency of learning processes – The Self-Learning Method.
- Information, communication and digital technology in teaching.

Teaching practice requirements: Mentoring, supervision, examples of good practice and support for further education of teachers (MŠMT, 2014).

The top-priority topics of the Educational Policy of the Czech Republic are:

- Open access to digital learning resources
- The development of pupils'/students' and teachers' digital competences
- The development of schools for digital education
- The support of development and innovation

Figure 4

Comparison of the core subjects included in P21 and the Czech Framework Plan:

Core subjects include – P21

- English, reading or language arts
- World languages
- Arts
- Mathematics
- Economics
- Science
- Geography
- History
- Government and Civics

Curriculum of the Czech Primary School

- Language and Communication (Czech Language and Literature, Foreign Language)
- Second Language
- Mathematics and its applications
- Information and Communication Technologies (ICT)
- People and the World
- People and Society (History, Civics)
- People and Nature (Physics, Chemistry, Biology, Geography)
- Art and Culture (Music, Art)
- People and Health (Health Education, Physical Education)
- The World of Work

Figure 5

A comparison of the Interdisciplinary themes of the P21 and Czech Framework plan:

Interdisciplinary themes – P21

- Global awareness,
- Financial, economic, business and entrepreneurial literacy,
- Civic literacy,
- Health literacy,
- Environmental literacy

Interdisciplinary themes – CZ

- Personal and Social Education
- Education for democratic citizenship
- Thinking in European and global context
- Multicultural Education
- Environmental Education
- Media Education

What is the perception of 21st Century skills for selected subjects?

Figure 6
A Comparison of the Component Skills of the Education 2020 and Skills from Education Systems to the Learning Society (CISCO Systems, 2010)

Seven Component 21st century skills (Education 2020)

- Critical Thinking & Problem-solving Research, Analysis, Synthesis, Project Management, etc.
- Creativity & Innovation, New Knowledge Creation, "Best Fit" Design Solutions, Artful Storytelling, etc.
- Collaboration, Teamwork & Leadership Cooperation, Compromise, Consensus, Community-building, etc.
- Cross-cultural Understanding across Diverse Ethnic, Knowledge & Organisational Cultures
- Communication & Media Fluency Crafting & Analysing Messages & Using Media Effectively
- Computing & ICT Fluency Effective Use of Electronic Information & Knowledge Tools
- Career & Learning – Self-reliance Managing Change, Lifelong Learning & Career Redefinition

Cognitive and non-socio-cognitive skills from Education Systems to the Learning Society (CISCO Systems, 2010)

Cognitive Skills

- Gathering, synthesising, and analysing information
- Working autonomously to a high standard with minimal supervision
- Leading other autonomous workers through influence
- Being creative and turning that creativity into action
- Thinking critically and asking the right questions
- Striving to understand others' perspectives and to understand the entirety of an issue
- Communicating effectively, often using technology
- Working ethically, firmly based in both your own society and the planet as a whole

Non-cognitive skills:

- Social Intelligence
- Emotional Resilience
- Enterprising Behaviour
- Inner Discipline

21st Century skills in relation to the Pupil category

In order to successfully develop 21st Century skills in pupils, emphasis is placed not only upon the development of Cognitive Abilities, but also upon so-called Soft Skills. In line with the intentions and principles of Pedagogical Constructivism, this has to with the following requirements (Cf. Brdička, 2003; Hejný, 2004; Molnár, Schubertová, Vaněk, 2007; Dostál, 2013; and Neumajer, 2014):

- An emphasis on activities and increased motivation of pupils to learn.
- A systems approach to problem-solving, seeking associations, association, an interdisciplinary transfers.
- Preserving the principles of linkage and relevance.

- The application of tuition methods according to the typology of the pupil (varying types of intelligence, personality, learning styles).
- An individual approach to pupils, based on their mental development.
- Two-way communication between teachers and pupils, teachers may learn from pupils
- Preparation for team-work – synergies.
- Activity-based learning, research-based learning.
- Communication and interaction with the pupil's family.
- Cooperation between subjects within and without the school, the community character of education.
- Working with mistakes and non-success.

21st Century skills in relation to the Teacher category

In the case of teachers, it is assumed that there are synergies with students' requirements, the ability of a teacher to self-educate themselves in the context of life-long learning, and to adequately and flexibly respond to social demands and changes brought about by the development of modern technologies.

In vocational training it is necessary to adapt to the paradigm shift in the teacher–pupil relationship and to accept the concept of self-managed learning in school practice.

Regarding teacher training, this has to do with opening up the tasks and perspectives that are reflected into the requirements for teacher personality characterised by the following fundamental phenomena:

- The development of soft skills.
- A perfect knowledge of course-content.
- Self-confidence, self-efficacy.
- A critical overview ability.
- Broadmindedness/Generosity and flexibility.
- A value-based orientation.

The basis for teachers' activities in the educational process is a comprehensive set of complementary teacher' activities that are founded on their professional competencies that are the sum of their theoretical knowledge and practical skills. Apart from these obvious educational activities, the interaction between teachers and pupils also reflects their personality and psychological traits, attitudes and the cultural capital that contribute to the teacher's individual perception and approach.

A teacher (who is) knowledgeable about the nature of the learning process that respects the student and who them holistically (in accordance with the bio-psychosocial concept of social personalities) and thereby reflects their personality and their performance. Only after extensive mastery of theory can they succeed in educational practice.

The premise of obtaining proper pedagogical qualification without prior thorough theoretical pedagogical psychological, personal and professional training is no longer sustainable. It is already too late for them to master this in practice. Teachers and novice teachers, are the bearers of progress rather than stagnation – and on the basis of their active research, they should contribute to predictions about the education sector (see Jůvová, et al. 2015).

21st century skills and the Teacher–Pupil relationship in education

In the interactions between teachers and pupils, this has to do with the meeting of two idiosyncratic individual systems, where first of all, it is necessary to achieve a common "tuning in" on the same wavelength – social and pedagogical consensus? Thus it follows:

- Motivation.
- Respect for the biological, psychological and social peculiarities of the pupil.
- Their readiness from the educational psychology perspective.
- Working with failure.

Conclusion

The requirement of lifelong learning – path is the goal:

- Personality preparation and pedagogical situation training in "protected environments".
- Crossing comfort zones.
- Transaction Analysis.
- The identification of pupils, teachers, school management, parents, and company needs.

Teachers must have sufficient professional competence and must have developed a comprehensive personal development program aimed at developing morality, sociability, character and respect for cultural and environmental values. Pupils, on the basis of the values and value-based relationships, create their own self-regulation system to all components of life that contribute to the quality of relationships in society.

The application methods of these ideas are reflected in teacher training colleges and the training of teachers in the Czech Republic – and especially, in the implementation of these requirements in pedagogical-psychological training subjects.

Even if, in our prognoses, one cannot precisely predict how technology will develop, nor how society will evolve, one must try to ensure that children in schools are prepared as best as possible for their future lives.

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Evaluation of Quality of University Education Exemplified by the Faculty of Physical Culture, Palacký University, Olomouc

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Abstract

Evaluation can be understood as a process of collecting and assessing empirical data in a context of theoretical background in order to gain practice-relevant information and data. The purpose of educational evaluation is to provide assessment of the whole educational reality. This is not merely testing educational outcomes but a much wider reflection of educational phenomena that serves both research-based and practical purposes. The evaluation process of university education in the Czech Republic does not match with most developed countries in terms of quality and number of research studies. In the long term, the development of the whole educational system cannot do without thorough scientific evaluation research studies that give evidence of the real state of education but can provide theoretical background and basis for practical measures. During the past several years Czech education has gradually been pervaded by an 'evaluation atmosphere'. This is indicated both by official educational policy documents and specific research studies into measuring educational outcomes or comparing the production of state and private schools, etc. This paper presents an overview of the issue of educational evaluation in universities and its theoretical background,

including a specific example of an evaluation process performed in one of the Faculties of Palacký University, Olomouc.

Key words: Assessment, educational work, education, teachers, university students.

Introduction

The Czech Republic does not reach the level of most developed countries in terms of number and quality of evaluation research studies. This is primarily due to neglecting this issue in the past decades, during which educational policy ideologists showed no interest in educational evaluation. Another cause is the fact that, contrary to other countries, current educational research in the Czech Republic has not addressed the needs of educational policy, particularly in the area of evaluation.

In order to change the situation in the area of educational evaluation it would be necessary to change the attitudes of stakeholders in education so that they accept and require evaluation analyses and research studies, and to teach educators active in the educational process and students of teacher courses to use educational evaluation tools, understand those tools, and also to provide institutional conditions for the scientific field of 'educational measurement and evaluation' as is usual in foreign countries.

During the past several years an 'evaluation atmosphere' in education has gradually been developed in the Czech Republic. This is indicated both by official educational policy documents and specific probes and research studies into measuring educational outcomes or comparing the production of state and private schools, etc. Another positive signal is that there are certain initiatives by some institutions and individuals to encourage evaluation activities. For example the Research Institute of Education in Prague has held regular seminars aimed at various topics of educational evaluation since 1995 (Průcha, 1996). "The missing methodology has been finally developed within the Quality to Schools project – use of objective quality management systems in the work and evaluation of schools, whose aim was to introduce a functional quality management system into the process of internal and external educational evaluation" (Perspektivy kvality, 2009).

Objective

The objective of the present paper is to provide an overview of the issue of educational evaluation in universities and its theoretical background, including an example of an evaluation process performed at the Faculty of Physical Culture, Palacký University, Olomouc.

Evaluation and assessment

The term evaluation is relatively new in the Czech language. The origin of the term comes from the Latin verb 'valere', which means be strong, valid, serious. From Latin the word was transferred to English as 'evaluation', and means to set a general value (Nezvalová, 2006).

The definitions of the terms 'assessment' and 'evaluation' are necessary for their correct understanding. In a general context, both terms are synonymous, i. e. identical or very close in meaning. In professional educational terminology (both Czech and foreign) there are subtle differences in the way both terms are used. As stated by Průcha (1995), evaluation covers a wider comprehensive meaning, i. e. evaluation summarizes the theory, methodology and practice of evaluating various educational phenomena. It is a professional term in scientific and research communication. Průcha (2000, 124) also clarifies the term of educational evaluation as an "educational discipline dealing with evaluating the phenomena of educational reality. This is a very wide range of evaluated areas; evaluation can cover virtually anything related to schools and their activities."

In English terminology the term 'evaluation' has a more complex meaning, and is used more often in research contexts. 'Evaluation' is a term introduced in the area of the theory of science and research. On the contrary, the term 'assessment' is rather used in the context of usual school practice, particularly with respect to assessing certain educational subjects, for example pupil assessment, teacher assessment, etc. There is also a concept however, in which 'assessment' is viewed as systematic collection of information and formulating conclusions about the knowledge and skills of a student and the quality and successfulness of education, as stated by Scriven (1991).

Nezvalová (2006) according to Bennet explains evaluation as a process of systematic collection and analysis of information according to certain criteria for the purposes of further decision making. This definition indicates that evaluation should:

- Be systematic, i. e. explicitly defined area and structure;
- Follow appropriate methodology;
- Be carried out regularly;
- Follow predetermined criteria;
- Be applicable in decision making and further planning (Nezvalová, 2006).

There are two types of evaluation: internal and external. Internal evaluation is commonly called self-evaluation and focuses on evaluating internal processes. The aims as well as methods, forms and measures of internal evaluation are set by the subject itself (individual or school).

External evaluation applies to overall functioning of the system. The aims are set from the outside, the measures and criteria are specified by the evaluator. The subject of external evaluation is usually the school. External evaluation is commonly performed

by the school inspectorate, school authority or by evaluation institutes such as Cermat, Scio, Kalibro, in foreign countries school evaluation is sometimes ordered by the parents. A disadvantage of external evaluation might be that the core of the problem is not sufficiently analysed and not all causes of the monitored phenomena are covered. Also, the irregular nature of external evaluation does not cover long-term development (Rýdl, Horská, Dvořáková and Roupec, 1998).

The term educational monitoring implies continuous data-based informing of the educational policy sphere and the public about the general conditions, course characteristics, results and benefits of educational processes. Monitoring is understood as long-term observation of a certain system, whose aim is to identify any changes and developmental trends. Monitoring is based upon collecting information and data on a regular basis and operates with indicators describing and assessing the system production or productivity. A key aspect is overcoming the limited perspective of individual participants. This fact is a precondition for systematic comparison (Janík, Knecht and Najvar et al., 2010).

Evaluation can be understood as a process of collecting and evaluating empirical data against a theoretical background in order to gain practice-relevant information and data. Evaluation research aims to gain information relevant to decision making and practical measures. Evaluation requires links established between empirical investigation and assessment based on norms, decision making and measures. Evaluation research thus produces three types of statements, i. e. experience-based statements, normative statements as a basis for assessment and prognostic statements with respect to future decision making and measures (Janík, Knecht and Najvar et al., 2010).

The term evaluation summarizes the theory, methodology and practice of all evaluation, it is a term used in the scientific area. On the contrary the term assessment is used in the context of usual school practice. Scriven (1991) states that the use of both terms is distributed according the respective field of activity: evaluation is a term used in the area of theory, science and research, whereas assessment is a term used by teachers, parents and non-educational public. The differences in the meanings of evaluation and assessment are truly subtle. From a semantic point of view there are almost no differences (there are only certain differences in the sphere of communication use), therefore, both terms can be used as synonyms in terms of their meaning. Foreign literature often includes a terminological expression 'evaluation and measurement'. This concept implies that in the context of evaluation research, measurement is the basic process. The meaning of both terms is very close, although the term measurement has a wider content in the field of education as it is a methodological means (Byčkovský, 1982).

Educational evaluation

The purpose of educational evaluation is to provide evaluation information about the whole educational practice. This is not merely testing of educational outcomes but a much wider reflection of educational phenomena used for both research and practical purposes. Based on a subject perspective, Průcha (1996) defined the areas that present the subject of interest and investigation and create the subject field of educational evaluation. These areas include: evaluation of educational needs; evaluation of educational programmes; evaluation of educational environments; evaluation of educational outcomes; evaluation of educational effects; evaluation of schools or educational institutions; evaluation of alternative schools or alternative education; evaluation based on the indicators of the educational system; evaluation of educational science or research; evaluation of the educational process (learning and teaching) (Janík, Knecht and Najvar et al., 2010).

In an effort to comprehensively describe the term evaluation, it appears practical to define the term using a set of features as defined by Průcha (1996):

- Educational evaluation is primarily a theoretical approach. It is a concept, according to which all phenomena of educational reality (educational processes, their programmes and functioning, educational outcomes, educational institutions, etc.) can and must be assessed in specific ways.
- At the same time, educational evaluation is a methodology, i. e. a set of instruments (special methods and techniques) and professional conventions to apply these instruments for the purposes of realization of this approach.
- Educational evaluation is a process, i. e. a set of activities ensured by an institutional and organizational research infrastructure, which practically realizes the approach using appropriate methodology. This process is aimed at collecting and analysing data reflecting a condition or development of certain phenomena of educational reality, i. e. at monitoring and measurement of these phenomena.
- As a process, educational evaluation takes place at various levels of educational practice, from assessing individuals or individual educational programmes to evaluating national outcomes of the educational system or international evaluation of educational systems in multiple countries.
- Educational evaluation has various spheres of application, both for scientific and research purposes (theoretical explanation of the 'behaviour' of the phenomena of educational reality), and for practical purposes (provides a basis for the management of educational institutions, their financing, etc.) (Průcha, 1996).

These characteristics imply that educational evaluation is a very complex and multifaceted phenomenon quality-wise. In professional terminology the term 'evaluation' has a general meaning of 'assessment'. In education this term includes identifying,

comparing and explaining data that describe the condition, quality, functioning and effectiveness of a school or an educational system or a part thereof. It further includes the assessment of educational processes, assessment of educational projects, assessment of educational outcomes, assessment of textbooks, etc. It plays a significant role in the process of revision and innovation of the educational system, it is important for planning strategies of its development, priorities, etc. It is an independent scientific discipline and is based upon a wide and thorough theoretical and methodological basis: educometry, effectiveness of education, evaluations of schools, IEA, Kalibro, comparative education, TIMSS (Průcha, Walterová and Mareš, 2003).

Evaluation process

Prior to evaluation Gard, Flannigan and Cluskey (2004) suggest that the evaluation team answer four important questions that will move the whole process forward. The questions are: what do we want to know; why do we want to know it; what should we measure; how should we measure it. In terms of developmental stages the evaluation process can be divided into six stages, which follow one after another and overlap. The stages are as follows:

- Motivation stage. Created at the time evaluation is needed, formulates a question why evaluation is required;
- Preparatory stage. Develops plans, intents and objectives and formulates conditions or rules;
- Realization stage. Plans are fulfilled, continuously updated and recorded;
- Interpretation stage. Space offered for assessment of collected data and information for a final report, the final report identifies future development priorities;
- Corrective stage. Applies the findings in order to strengthen the existing state;
- Metaevaluation stage. Completes the whole process but also presents an impulse for further evaluation (Poláchová and Vašťatková, 2010).

For the evaluation process to achieve the best results it must meet the '4E'. That is Effectiveness, i. e. things should be done in the right way and should be effectiveness-oriented; Efficiency, i. e. the right things should be done in a target-oriented way; Economy, i. e. things should be done for minimum costs; Equity, i. e. things should be done in a responsible, fair and lawful way (Poláchová and Vašťatková, 2010).

Educational research

The frequently proclaimed mission of educational research is 'service to education'. This is undoubtedly significant but not the only purpose of the existence of educational research. Another important mission is self-development and thus development of the whole educational science. This means that educational research should carry out activities directed inside the system itself that improve the system's own theory (as research has an own theory and paradigms). At the same time, educational research should develop new methods as a personal and material basis, etc. Any research neglecting the second objective of its own existence ends up stagnating or even in crisis. The reason and purpose of the existence of educational research is thus to produce findings about educational reality for various types of addressees and to carry out activities to propel and improve the system itself.

Educational research is an activity that primarily describes, analyses and also predicts the processes inside the whole educational system with respect to determining conditions – political, demographic, economic but also ideological. Educational research and development includes systematic and original investigation and related developmental aspects:

- Social, cultural, economic and political contexts, in which educational systems function;
- Educational intents;
- Teaching, learning and personal development processes;
- Work of educational employees;
- Organization of educational activities and resources;
- Political procedures and strategies to achieve educational objectives;
- Political, economic, social and cultural outcomes of education (Průcha, 2005).

Educational research is based on the theory that educational science has two components: theory and research. A theory is a sum of concepts, statements, hypotheses, formulated problems, scepticisms, etc. that in a systematic way model a certain part of reality; in case of educational theory they model educational reality. Generally speaking, research is an instrumental apparatus that saturates educational theory with data and findings about a certain reality. Both components are mutually complementary and determining, one cannot properly function without the other should serious science be involved. Professionals involved in educational reality (e. g. teachers) or commenting on educational reality (e. g. inspectors) or deciding on the development or financing (e. g. politicians) have different relationships to both components of educational science. Some tend to overestimate educational theory and regard educational research rather needless; others attribute little significance to educational theory and rather rely on field-based research findings; some can even do without both theory and research.

The position of educational research varies to a considerable extent between developed countries and the Czech Republic (Průcha, 2005). To clarify the concept of educational research, some description is required. Educational research:

- Is an activity focusing on educational reality;
- Aims to systematically describe, analyse and clarify various phenomena of educational reality;
- Focuses on the objects of educational reality that are of a quality differentiated nature, this implies the existence of various methods and approaches in educational research;
- Is an organized and institutionalized activity and is performed within scientific and other subjects (institutions, associations, information streams, publication media, etc.);
- Is an activity that is practical in essence, i. e. is based on human practice (induced by human practice) and is directed towards such practice through own results and effects;
- As any systematic activity is based on a certain theory, i. e. has a theoretical and practical part (instrumental);
- Has own ethics, i. e. set of moral values and norms that govern professional conduct of those who perform educational research (Průcha, 2005).

However, we must bear in mind that there are certain areas that cannot be addressed by educational research. These include normative issues; production of administrative findings that would immediately respond to the needs of relevant political authorities and educational practitioners, and issuing 'patents' to address various issues in education. On the other hand, there are areas that can be addressed by educational research. These include for example formulation of findings about education by means of basic research. Another option is to formulate questions, identify problems and explain these problems. Educational research can also produce findings that present a resource for policy makers, i. e. findings of an advisory (sometimes disputing) nature. These research-based findings together with information from other sources present 'a knowledge base' used by policy makers and practitioners (Průcha, 2005).

From a practical viewpoint it is often emphasised that educational science does not have 'a monopoly' on research because research can be performed by other subjects as well, not just professional researchers. The most frequently promoted method is a concept of action research. This concept is explained by Švec et al. (1998) as a type of research, whose primary aim is to instantly improve or alter a partial issue of educational reality (e. g. social climate in a single class). Action research is performed especially by practitioners (teachers, school management employees, etc.) in cooperation or upon consultation with professional researchers. Action research forces professional researchers to think about, in a responsible way, the needs of practical education and about methods of communicating research-based outcomes to the lay public.

As far as the applicability of the results of educational research is concerned, numerous researchers emphasise that such applicability must be ensured or facilitated by certain activities of the researchers themselves. This particularly concerns the requirements for communicability of research results; directness (i. e. respecting various information needs of individual groups of research users), appropriateness of communication (i. e. respecting the extent and style of presented information), etc. Currently in the Czech Republic there is no scientific body that would focus exclusively and systematically on educational research (the J. A. Komenský Educational Institute, Czechoslovak Academy of Sciences, was closed as a result of reduction of the Academy of Sciences of the Czech Republic). The only nation-wide educational research platform is the Czech Educational Research Association (ČAPV) (Průcha, 2005).

Evaluation of educational research

Our everyday informal interaction is filled with numerous judgements and assessments that intentionally or unintentionally help classify our social reality. This classification on a good-bad scale, beneficial-harmful scale, etc. comprises a hierarchical principle, which is implicitly based on our conviction. Evaluation research differs from our everyday judgements in that this conviction (most frequently in the position of public policy, scientific discourse, political ideology, etc.) is reflected (Kovář, 2010). The main reason for subjecting educational research to evaluation is that it is a human activity and because other human activates and creations are assessed, not excepting research. For these reasons, research evaluation methods are developed and applied.

Another reason is based on the specific nature of educational research. Educational research, as understood in developed countries and marked as 'research and development' is closely associated with educational practice; therefore, the degree of research advancement and productivity influences various educational policy decisions and approaches applied in everyday school life. For this reason a great deal of support is directed towards educational research and its institutional and financial aspects. Considering the expended funds, it is required that educational research be assessed in terms of quality, productivity, etc. Another specific reason is based in the membership of the Czech Republic in OECD (Organisation for Economic Cooperation and Development) and other international organizations. These organizations now include educational research and development indicators into their evaluation overviews and it might be anticipated that Czech educational research will have to be covered by these indicators (Průcha, 1996).

Educational evaluation

In common usage the meaning of the terms education and teaching coincides. These terms generally describe what happens in classrooms between teachers and students on an everyday basis. In professional language, the terms differ in meaning. Some professionals use the terms education and teaching as synonyms, while others use them in different ways. Both terms can be differentiated as follows. Teaching describes activities performed by a teacher, lecturer, etc. during the educational process in an interaction with the subjects of education. A synonymic term would be 'instruction'. Education is a wider term involving teaching (teacher activities), learning (pupil activities) and also the content of these activities, their objectives, conditions, outcomes, etc. An English equivalent to the polysemous term 'education' would be 'educational (instructional) process' (Průcha, 1996). According to Průcha, Walterová and Mareš (2003), this concept is also supported by the Dictionary of Education and is also in accordance with the general didactic concept by Maňák et al. (1994). Assessment of education in terms of conceptual procedures that define and measure effective or ineffective education supports and reproduces a knowledge production system (Magnusson, 2001).

Another interesting issue concerns the methods of exact assessment of the quality (level) of education. In practice this evaluation would usually take the form of inspection. School inspectors or other school management employees would assess schools and teachers, primarily based on lesson observation. This assessment was based rather on intuitive criteria, i. e. own educational experience and visions of an appropriate level of education. Obviously, this type of assessment could not provide precise and reliable data for educational evaluation. Since 1960s in many European countries (and finally also in the Czech Republic) the primary role of school inspection has changed from inspecting to monitoring and advising. At the same time, research instruments have been developed and improved to ensure reliable recording of the course of education (teaching) and its assessment and precise measurement (Průcha, 1996). Evaluation also supports the application of student assessment, verifies acquired knowledge and serves as a significant indicator for improving and measuring the quality of education (Mustafa and Chiang, 2006).

Evaluation methods

Evaluation methods are sometimes called evaluation instruments or methods of assessing the level of education. An evaluation instrument is a reliable method or technique of data collection for the purposes of own school assessment, or procedures supporting various stages of the evaluation process. There is a large number (up to several hundreds) techniques and procedures of educational evaluation published in professional

foreign journals or books. These techniques and procedures are specialized according to subjects, grades, age, etc. and it is not easy understand their system. According to a basic approach they can be divided into two large groups: objective (observation) techniques of educational evaluation and subjective (participation) techniques of educational evaluation.

Objective techniques of educational evaluation are based on observation. The observer (researcher or evaluator) is present during classes and uses a recording instrument (record sheet, voice recorder, camcorder, etc.) to record specified parameters of the educational process, e. g. number and type of the teacher's questions, etc. After that, the recorded course of education is analysed and assessed against predetermined criteria, i. e. conclusions are made about the quality of observed education. This method of evaluation is called objective as it maintains the same principle as in observing experiment in natural sciences, where a researcher must not interfere in the course of observed processes and must rely solely on scientifically recordable (measurable) aspects.

Subjective techniques of educational evaluation are based on a different principle – reports of class participants on certain educational aspects. This is most frequently teacher self-evaluation (self-reporting), i. e. teacher reports (interviews, diary reports, etc.) on own teaching activities, or pupil reports (or other subjects of education) on how they perceive education. Subjective educational evaluation by pupils has become a part of a wider assessment of educational environments (Průcha, 1996).

Assessment methods must be suitable for a particular process. Quality-based research methods (focus on how individuals and groups view, understand and interpret the world) as well as quantity-based research methods (describe certain phenomena using features designed to measure specific properties) are usually used in general assessment studies. The selection of research methods influences the details of the evaluation process, time and depth of the research (Seasons, 2003).

A specific area of educational evaluation is students' assessment of the quality of university education and the work of university lecturers. This technique primarily uses anonymous scale questionnaires (rating) focusing on individual courses, lecturers, etc. In 1980s this type of evaluation was used in some universities in the USA and elsewhere but later it was no longer used mainly due to increasing tension between assessing students and assessed lecturers. In our country this evaluation method is not used because of the same objections as in foreign countries. Generally speaking, educational evaluation includes a certain degree of imbalance as a majority of evaluation focuses on teacher activities whereas the assessment of student learning activities is rarely performed. The main obstacle might be that the teacher is a single subject whose activities are easily recordable, while the students present a larger or smaller group of subjects, whose individual activities are difficult to record at the same time (Průcha, 1996). A mutual comparison of both approaches raises a question which evaluation techniques are better. However, there is no positive answer that one of the two approaches is better than the other.

An optimum solution appears a combination of the two. If we want to achieve the most reliable assessment of education, both approaches must be used. If we want to assess the quality (level) of education in a reliable way, a large number of teachers/lessons must be investigated to offset inter-individual differences in teacher activities. In that case, however, it is unclear what the effect of the 'pupils' variable (classes with various compositions of pupil population) is. Alternatively, we must focus on education in various classes for a longer period of time, which keeps the 'pupils' variable constant and the evaluation process provides more realistic results compared with assessing various isolated lessons in various classes (Průcha, 1996).

Self-evaluation

The meaning of the term self-evaluation is explained in various ways in the Czech environment. For example in the approved fourth version of the Framework educational programme for basic education (RVP ZV) it is 'systematic assessment of school activities, the results of which are used as feedback for correction of own activities and as a basis for further functioning of the school' (Jeřábek et al., 2007, 110).

Various explanations of the term self-evaluation are found in various sources. For example Nezvalová (2006) according to Roupec explains self-evaluation as a systematically prepared and planned assessment directed towards predetermined objectives according to predefined criteria. Another explanation says that 'self-evaluation can be understood as a mechanism of continuous self-regulation of own educational work' (Rýdl, Horská, Dvořáková and Roupec, 1998, 19). Last but not least self-evaluation is defined as student-assessed quality of student work on the basis of evidence and explicit criteria with a view to produce better work in the future (Ross and Rolheiser, 2000).

The compound term self-evaluation implies own and original evaluation activity performed by the evaluator. An evaluation guide can be a teacher or a school as a whole. With respect to current trends and newly introduced responsibilities specified by the Education Act on producing school annual reports and own school assessment, available literature, with a few exceptions, focuses primarily on school self-evaluation. This requirement urges schools and their employees to jointly speak about the quality of their own work, recognize strengths and weaknesses, analyse mistakes, search for ideas for corrections and improvements, introduce changes. Of course the effort is not to introduce changes at any cost but also to maintain any existing high-quality aspects. Naturally, all these internal processes and external changes are primarily dependent on each individual teacher, who together with other colleagues co-develops and co-influences the school quality.

The main purpose of self-evaluation is to improve in all areas of educational reality. This process should be carried out continuously (Ďatková, 2009). Some evalua-

tion techniques take educational data from teacher self-evaluation or self-description (self-reporting). Self-evaluation data are gained from various sources (diary records, self-evaluation questionnaires, interviews, etc.) Self-evaluation techniques also include questionnaires sent through mail (mail survey), verbal or telephone questioning with the same content as written questioning, and teacher diary records that record time profiles of everyday teaching according to specific instructions (Průcha, 1996).

Example of evaluation process

The Faculty of Physical Culture is one of eight Faculties at Palacký University, Olomouc. The Faculty offers three study programmes; courses are delivered by lecturers from six Departments and one Institute that guarantee specific courses for students.

In the evaluation survey each assessed course was classified according the department where such course is delivered. The evaluation involved full-time as well as combined students. In the pilot study the evaluation covered courses for the academic year of 2011/2012. For this period, a total of 15,022 questionnaires were assessed. The number of assessed courses was 568 (322 courses in winter term 246 course in summer term). In winter term both forms of study involved a total of 93 lecturers, whereas in summer term it was 91 lecturers.

Educational evaluation at the Faculty of Physical Culture is specified by a Dean's methodological guideline that defines the methods of evaluation (Methodological guideline on performing educational evaluation at the Faculty of Physical Culture, Palacký University, Olomouc No. 8/2011) effective as of 3 October 2011. Before the evaluation was commenced the lecturers were informed about the course of evaluation by means of an information leaflet on a noticeboard by the entrance to the Faculty building for the lecturers not to forget to evaluate their course. Upon completion of individual courses, at the end of winter and summer terms, the students were given evaluation questionnaires by their lecturers. This provided sufficient space for evaluation of individual courses.

A significant step to achieve reliable conclusions was that the students filled in the questionnaires anonymously and their answers were used solely for the purposes of evaluation. The evaluation questionnaire consisted of ten questions rated on a scale from 1 (definitely not) to 6 (definitely yes); the students were supposed to indicate the best possible answer on the scale. The questions covered the structured nature and quality of classes and personality and educational qualities of the lecturer. At the end of the questionnaire the students had an opportunity to add a verbal comment in case the questions were insufficient or if they wanted to address a specific issue.

For the academic year of 2011/2012 a total of 15022 evaluation questionnaires were evaluated. In winter term the number in the full-time study was 6070; in the combined

study 3070. In summer term the number in the full-time study was 3117; in the combined study 2765. The results indicate that the education in Bachelor's and follow-up Master's programmes at the Faculty of Physical Culture is of a high quality level.

At the end of February and June (end of summer term) the heads of the Faculty Departments and the Institute received detailed evaluation results. Specific evaluation results were then communicated to the lecturers and analysed; further procedures or measures to improve the quality of education were proposed. They were also told which departments have outstanding lectures and which lecturers "need to think about their attitude and educational skills" (Dostálová, 2011).

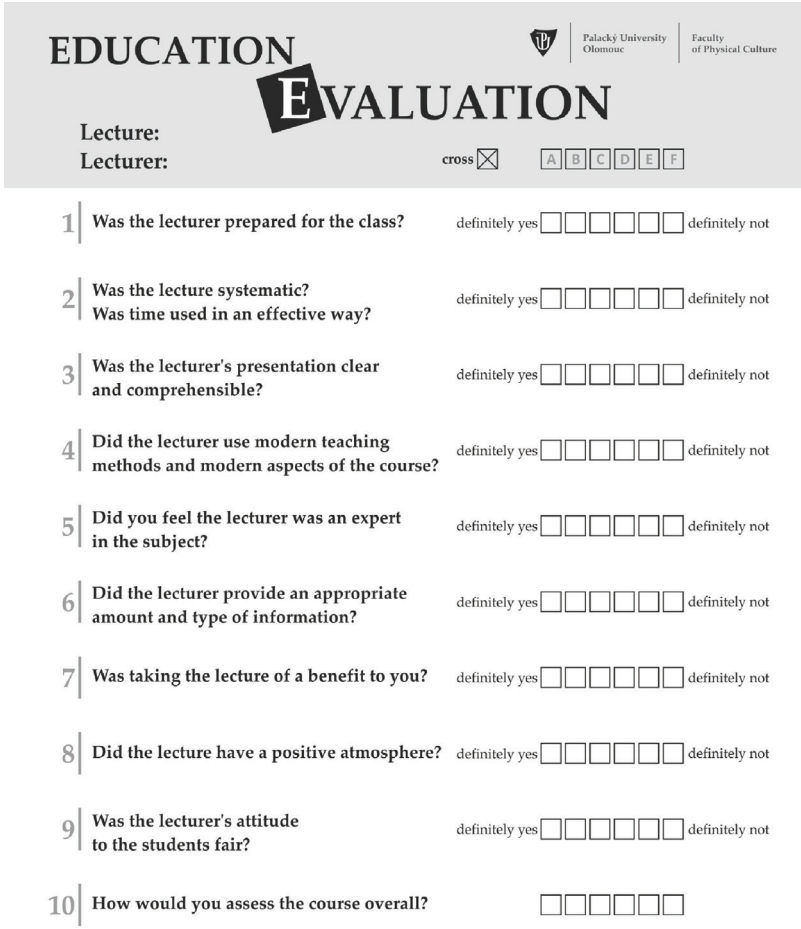
Probably the most significant element of the whole evaluation process was getting feedback for the lecturers, who had an opportunity to find out how their work was assessed by the students. They also learned which positives about their classes or themselves the students liked and what the students believed to be insufficient. Such assessment should not be considered by the lecturers as something negative but rather as an opportunity to improve and move forward in their teaching. Also the heads of departments received information about the quality of education, individual lecturers, educational process and the provision of material conditions.

Each lecturer received the evaluation results for each course with scores for individual questions illustrated by means of a frequency graph, and an overall score. Below the graph space was provided for the students' comments. The lecturers were also informed about the number of students involved in assessing the courses. The results of evaluation of each course could be printed on a standard A4 sheet (number of pages depends on the number of assessing students and number of additional comments). The same information was presented to the heads of the Departments and the Institute.

All evaluated courses were also ordered from the highest to the lowest score for each period separately for each term, specifying the number of evaluation questionnaires for each course. All additional comments were also separately assessed, again for each form of study. The results compared the quality of education by scores and also by comments that were further compared. These results indicated top quality education, average education but there were also issues associated with the position of a specific course, its inclusion in the system of education, content, material provision or directly with the personality of the lecturer (professional expertise, presentation skills, attitude to students, education-related requirements), etc. In the context of all evaluation results for a specific period, the heads of the Departments and the Institute we informed whether they have an 'excellent lecturer' or if there are educational issues.

Figure 1

Educational Evaluation Questionnaire, Faculty of Physical Culture, Palacký University, Olomouc



EDUCATION EVALUATION

Palacký University Olomouc | Faculty of Physical Culture

Lecture:
Lecturer:

cross ☒ A B C D E F

1	Was the lecturer prepared for the class?	definitely yes ☐☐☐☐☐☐ definitely not
2	Was the lecture systematic? Was time used in an effective way?	definitely yes ☐☐☐☐☐☐ definitely not
3	Was the lecturer's presentation clear and comprehensible?	definitely yes ☐☐☐☐☐☐ definitely not
4	Did the lecturer use modern teaching methods and modern aspects of the course?	definitely yes ☐☐☐☐☐☐ definitely not
5	Did you feel the lecturer was an expert in the subject?	definitely yes ☐☐☐☐☐☐ definitely not
6	Did the lecturer provide an appropriate amount and type of information?	definitely yes ☐☐☐☐☐☐ definitely not
7	Was taking the lecture of a benefit to you?	definitely yes ☐☐☐☐☐☐ definitely not
8	Did the lecture have a positive atmosphere?	definitely yes ☐☐☐☐☐☐ definitely not
9	Was the lecturer's attitude to the students fair?	definitely yes ☐☐☐☐☐☐ definitely not
10	How would you assess the course overall?	☐☐☐☐☐☐

Personal comments:

Thank you for filling in this evaluation questionnaire.

Evaluation prospects

With respect to the need for objective assessment of the real state of education, theoretical explanation of this state and development of a basis for practical measures, evaluation surveys, through which required data on the quality of education, departments, courses and lecturers are obtained, will be carried out in future on a regular basis. From a long-term perspective, various periods can be compared and the development in terms of quality and excellence can be monitored.

Regarding the fact that the evaluation process is of a dynamic nature and constantly develops, some survey questions have been reformulated or particularized and some formal and graphical adjustments to the evaluation questionnaire have been performed. The question that remains is the number of survey questions, whether ten is enough to cover all aspects. There are also other issues such as more detailed assessment, processing and last but not least higher printing costs.

Another significant aspect after a certain period of the evaluation process is a decreased level of students' cooperation in completing evaluation questionnaires for a large number of courses, which is visible towards the end of the evaluation period. Other limitations include the time that elapses from data collection through a detailed analysis, submission of results and publication of the evaluation report. Collection of evaluation questionnaires is always completed on a specific date; questionnaires submitted after this date are included in evaluation for the following period. An issue is the return rate of record sheets towards the end of the evaluation period, which often concurs with completion of the course and an exam. A solution could be an electronic evaluation system, however, there are also some specifics and issues.

Conclusion

The theoretical background of evaluation points to a need for evaluating empirical data in order to obtain required information that can be directly applied in practical environments. The purpose is to cover the whole educational process and, based on a detailed analysis, revise and innovate the educational system. A specific area of education is assessment of the quality of university education and the work of university lecturers. On a specific example of an analysis of the evaluation process at the Faculty of Physical Culture we covered the main features and specifics of university evaluation. The analysis was performed using an evaluation survey consisting of ten questions. The results were mainly positive. The purpose of this pilot study was to demonstrate that in the long run the development of the whole educational system cannot do without thorough and scientifically based evaluation surveys that not only objectively show

the real state of education but can also theoretically explain this state and develop a basis for practical measures.

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21st Century skills: a perspective from England

Jon White

Abstract

A review of the system of education in England is provided. A review of literature of 21st century skills and what their place might be in a curriculum is presented. There is discussion of how 21st century skills are developed in early years, primary and secondary stages. Post-16 and higher education provision are critically explored, with the findings of an institutional research project applied to the existing literature.

The conclusion proposes that the pedagogical pressures of performativity make it challenging to introduce 21st century skills to the primary and secondary phases of education, largely due to the issues of how to assess the development of these skills. Nevertheless, there is a clear imperative to support teachers in both the development and assessment of these skills across the full age range.

Key words: performativity, collaboration, assessment, ATC21S, JISC

Introduction and theoretical background

What is an educated citizen? This is a question which has been debated for many years and will be explored further in this review. The question is to be examined with a view that a truly educated population is not necessarily one in which individuals possess a set of qualifications, but where their education has led to a set of shared values in which individual citizens have a high degree of self awareness and a strong sense of

social identity. The contention is that this is not something which can suddenly be acquired through a class, or even through leadership within a school, but is a reflection of the norms and values of the society in which the citizen develops. If there is a belief that education is a specific product, able to be quantified and measured, then there is a concern that the skills necessary for effective development in the 21st century will not be delivered. (ATCS, 2013)

It may therefore be appropriate to ask about the skills, knowledge and attitudes likely to be required for the next generation of citizens and to begin developing them in the learning communities in which our next generation of trainee teachers are operating. We need to ensure that they are ready to deliver what is needed to succeed in an uncertain future. This review considers the current strategies in place in the main stages of education in England and asks if they are fit for purpose in the current climate.

Bernstein (1970) famously suggested that "Education cannot compensate for Society" and there may be some truth in this assertion. It recognises that education alone is unable to mitigate the effects of poverty and social deprivation. All teachers know that there will be children in their classes who have consistent and continual support form families who value education. Alongside this first group will be children whose talents and abilities may not shine in school, but who are nevertheless also destined to be citizens of the next generation. Nevertheless, both groups are required to experience a lengthy education at the expense of the State and the later group will be likely to emerge from this with their social and economic status unchanged. (Mercer & Littleton, 2007). In promoting the education of the next generation of teachers and learners, there is a necessity to continually reflect on the aims and values being promoted and ask ourselves if we are demonstrating innovation in teaching and learning or are content to maintain the status quo.

To set the context in which children England learn, I have provided a short summary. Beginning with the first experience of formal education, most British children will find themselves in an environment termed the Early Years Foundation Stage. This is a framework designed for children in settings from the very youngest (often in childcare form as young as three months) to the end of the academic year in which they become five years old. Following this, children will move into Key Stage 1 (5–7 yrs) and then into Key Stage 2 (8–11 yrs). This marks the end of their Primary School education and they move into the Secondary stage. This is characterised by becoming gradually more specialised in the subjects studied as they move into Key Stage 3 (11–14) and then into their General Certificate of Secondary Education years (Key Stage 4: 15–16 years). Many young people will then continue into Further Education (16–18 years), with an increasing number then going to University. Some will take a break from education, resulting in the University population being predominantly (but not entirely) composed of people in their late teens and early twenties.

The next generation of teachers are predicted to be entering a world radically different from the last generation. Simply having specialist knowledge beyond the level of the young minds in front of them will not be enough. The digital technology available today makes the possession of factual information somewhat obsolete: we all know that we can search for material on almost any subject can be achieved in seconds. The school of the future will be unlikely to have much in common with the schools of the past. (Schleicher, 2010). The structure of the school day and the material on the curriculum will reflect the values of the 21st century society. Whether these developments increase access to social justice for all is a theme to which we will return later.

However, some things will remain constant. Long-standing teaching and learning methods will be unlikely to change greatly. Children will retain their sense of curiosity and wonder. Employers will recruit employees who can co-operate and communicate. Working life is gradually becoming more technologically focussed, with a need for the workforce to know how to continually adapt and innovate. Therefore it is a disservice to the learners not to consider how the skills needed to manage their lives in the future.

Defining the skills needed to succeed in the workplace of the future is, of course, challenging. (21st Century Science, 2011) There will be both new and traditional skills needed: an internet search of "workplace skills" reveals a great number of diverse definitions. Some of the most useful research in this field has been led by an international collaboration between governments, academics and technology industry to produce guidance on 21st century skills. Assessment and Teaching of 21st Century Skills (ATC21S). Following an extensive review of the available literature, the ATC21S partners identified four key categories using the acronym KSAVE (knowledge, skills, attitudes, values and ethics). Broadly speaking, they are

1. Ways of thinking: creativity, criticality, metacognition
2. Ways of working: communication and collaboration
3. Tools for working: information and ICT literacy
4. Ways of living in the world: citizenship and cultural competence (Binkley et al., 2012).

It is a working framework being proposed, with which not everyone will agree. Nevertheless, this provides the basis for some discussion in relation to the extent to which these skills are being developed at the different stages of the present system.

In the first instance, there appears to be an implicit expectation that the appropriate skills will be supported within a framework for the very youngest children. The early learning goals of the Early Years Foundation Stage (EYFS, 2014) and it is on four guiding principles that underpin practice; these are

1. That every child is unique; they are constantly learning and can become resilient, capable, confident and self-assured
2. Children learn to be strong and independent through positive relationships

3. Children learn and develop well in enabling environments
4. Children learn at different rates

To support these principles, the EYFS sets out early learning goals, with the prime areas of

a. Communication and language
b. Physical development
c. Personal, social and emotional development

In addition to these three prime areas, there are four specific areas through which the prime areas are strengthened and applied. These are

1. Literacy
2. Mathematics
3. Understanding the world and
4. Expressive arts and design

Settings are required to deliver this framework through planned and purposeful play, with appropriate adult interaction. The quality assurance process required that the leaching and learning is seen to involve

i. Playing and exploring
ii. Active learning and
iii. Creating and thinking critically

While much of the framework is welcomed by practitioners and early years' teachers, there is an emphasis on assessment of progress in all areas, beginning when each child is between two and three years old. By the time a child reaches five years old, a detailed profile has been created. The effectiveness of the teaching is used to measure the quality of provision, judged on the progress made by each child.

However, there remains an emphasis on the measureable elements of this provision and it is widely recognised that simply measuring progress in key areas (reading, mathematics and knowledge and understanding of the world) will be the ways in which a setting is judged. Therefore it is natural for the settings to place great importance on ensuring children develop well in these areas. As a result, a consequence is that if it cannot be measured, it falls into a lower priority. Many practitioners express concern over the time devoted to the development of those skills ACTC21S consider to be the most important for the citizens of the next generation (James, 2011).

Things continue much the same into secondary school. However, the popularity of subjects such as Psychology and Sociology is indicative of the increasing interest in subjects requiring a demonstration of critical thinking. The so-called soft skill of critical thinking, in which pupils undertake programmes of study and take exams where there

are no "right" answers. This requires teachers to be trained in the art of managing class discussion as they require small groups and, crucially, require the pupils to actively engage with risk: they may have to overcome the fear that there is no right answer and as a consequence, they may fail! (Black, 2010) This does not readily appear to be a strategy many head teachers wish to embrace (Sternberg, 1987).

Instead, secondary schools embrace the soft skills are largely through promotion of extra-curricular activities (Haensly et al, 1985) Sport, community service and travel opportunities give pupils the time to appropriate the ATC21S categories. Within some schools, there are debating societies and drama clubs: these all contribute in a constructive way (Penney & Harris, 1997). However, their success often depends on the passion and commitment of a particular individual teacher; they are rarely part of a local or regional strategy (Baumfield and Oberski, 1998). Nevertheless, there are formal programmes, such as the AQA Extended Project Qualification and the internationally respected International Baccalaurate (IB), but the former is not widely recognised by University Admissions tutors and the IB is taken by a small number of the most able pupils.

As such the picture for 21st century skill development in schools is bleak, what is the picture in the further education sector? This has a more direct focus on vocational training, providing opportunities for both school leavers and people who are taking a new career direction. This is largely employer led, with partnerships being created with colleges and other training providers. For example, Rolls-Royce, a huge multinational based in Derby (UK) provides training for its employees at all levels, driving their career ambitions and supporting their career development. The UK government is supporting this training in the form of higher apprenticeships, starting over 20,000 in the last two years. It is recognised that this training provides not only specific work skills, but supports the development of their English, maths and ICT levels. (Department for Business, Innovation and Skills, 2015)

However, this approach continues to be challenged by some authorities (New Visions Group, 2014). There is concern that there are two systems in place: an academic system, where students acquire formal academic qualifications such as A levels. This runs alongside a more vocational pathway, where students develop skills for employment. If one of the goals of education is to reduce the social divide between rich and poor, the process of reform needs to continue towards bringing the academic and vocational sectors closer together. This will have the dual benefit of making the academic pathway a more effective preparation for employment, while at the same time raising the status of vocational pathways. The careers education, information and guidance service would be a key partner in delivering such provision often seen as being able to unite two systems, promote diversity and blend traditional and 21st century skills (Chevalier, 2011).

A key recommendation of the ATC21S review was to support the development of Tools for Working, defined as digital literacy in the workforce. The Joint Information

Systems Committee (JISC) is a public body designed to support research into the use of information and communications technology in post-16 and higher education. JISC is funded by the post-16 and Higher Education Funding Council (HEFC), suggesting that this is an organisation whose contribution to the sector is valued.

JISC provides a working definition of digital literacy, understood to be those capabilities which fit an individual for working, living and learning. It is also considered to embrace medial literacy and life planning. This is the normalisation of digital literacy in mainstream practice through developing specialist roles, opportunities for research and through engagement with stakeholders such as professional associations, employers and sector bodies.

Not all Higher Education institutions are direct partners of JISC projects. Nevertheless, the Higher Education sector uses the JISC frameworks for a degree of self monitoring. This was the basis of a recent research project called "Digital Derby". This was an on-line survey conducted by the Learning Enhancement and Innovation / Technology Enhanced Learning (LEI / TEL) divisions within the University of Derby. It was sent out to all students and staff. The survey is included in the appendix of this review. Approximately four weeks were allowed for respondents to complete the survey, which was returned anonymously for analysis. Students and staff are frequently in receipt of this type of research and the high return rate is attributed to the good levels of communication between students, staff and LEI / TEL.

The findings will be used to identify training needs of both students and staff, with a particular emphasis on making realistic and appropriate recommendations for practice. The survey explored seven main areas. Some key findings include:

Attitudes towards personal use of technology

- Students were not seen as early adopters of new technology in University, but were more likely than staff to use a wider range of tools in their personal life.
- Students and staff had similar levels of enthusiasm for new digital tools.

Attitudes towards studying using technology

- Students were more confident in using learning technology when studying when compared to staff studying for CPD.

Skills development

- Both students and staff felt that the most common approach to developing their skills using digital tools were curiosity (self-taught with some informal training), peer support (using on-line manuals).

Encouragement to adopt new digital technologies

- Both staff and students agreed that new technology had to be easy to use and have direct application to their professional practice.

Tool usage

- The most popular devices used by staff and students were laptops and smartphones.
- Desktop PCs were favoured by staff.
- Announcements and Turn-it-in were the most frequently used tools within Course Resources.

As a result of these findings, a series of recommendations were made.

1. Further exploration of digital literacy practice is needed. To gain a clearer picture of how students and staff are using technology, a series of focus groups and case studies are recommended.
2. Further examination of the effectiveness of University provision is needed. An institutional audit is required, in which departmental and college provision is explored.
3. New technologies require active promotion. Support and guidance for students and staff needs to be available as part of the University service; the library is the point of first contact for such provision.
4. Digital literacy needs to be embedded in the curriculum. Programme design, assessment (both formative and summative) and teaching activities need to be audited to ensure that appropriate digital skills are being promoted.

Conclusions

The recommendations relating to digital literacy from the research at the University of Derby match those made by JISC. There is a clear need for skills development, but to achieve this effectively, there is a commitment to time and a more supportive infrastructure. Peer-learning and peer-supported exploration is desirable at all levels and in all roles. The need for a regular audit of how the barriers to the use of technology are perceived is an essential part of this process, as there are a range of issues raised by staff and students across a range of age-groups (Gardner, 2006)

These conclusions do not only relate to digital literacy, but to the range of ATC21S defined skills. With the transition from an industrial base to a knowledge and service base, the advanced economies are recognising that the ways in which we learn and then work are evolving. Our social relationships are also being transformed. People at work are expected to be active innovators and pro-active in their teams. Simple routines, operating at a technical level and a thing of the past. 21st century employees need to be able to collaborate and adapt in order to solve complex problems at a speed unimaginable until recently (Jenkins, 2006)

Teachers and the educational establishment recognise the importance of students being able to acquire 21st century skills. This is explicit in the EYFS framework and im-

plicit in the journey through primary and secondary education. It re-emerges post-16, as students prepare to enter employment, training and higher education.

In a performative environment, educationalists will need to begin to ask difficult questions about how these critical skills will be assessed. Teachers will need to re-focus on the skills rather than the knowledge outcomes and this will require a re-orientation in their teaching: it is happening already for the youngest children and in the post-16 sector. There needs to be a concerted re-focus on how these skills are promoted in order to genuinely prepare the next generation of students for the world they will inhabit.

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Appendix 1: Digital Derby Introduction to the Survey

Digital Derby

Digital Tools Staff Audit

I would like to invite you to take part in a survey that forms part of the 'Digital Derby Project' being led by Learning Enhancement's TEL team. The purpose of this survey is to establish the current attitudes and preferences of staff relating to the use of digital tools at the University of Derby. The survey will be available until the 29th January. The information provided will be used to inform the development of a framework for the promotion, development and delivery of digital literacies for staff and students.

The objectives of this survey are:

- To determine the attitudes of staff towards digital tools and practice;
- To determine staff preferences for support and development relating to digital tools;
- To determine the digital tools and technologies currently used by staff;

The survey is divided into four sections and takes only a few minutes to complete. Responses are anonymous unless you choose to provide us with your contact details. The survey is available electronically at:
Online Version or you can download and print a copy of the survey here – Printable Version
We would like to maximise participation in order to ensure that as many staff voices can be heard as possible, so please promote completion of the survey to your colleagues. If you would like to find out more about the 'Digital Derby Project' then please the blog or contact us via learningtechs@derby.ac.uk.
Thank you
Technology Enhanced Learning
Learning Enhancement

- Digital Tools Staff Audit
- Introduction to Digital Derby
- Project Blog
- Useful Links
- Digital Derby – Digital Tools Survey Results
- Update February 2015
- Student Digital Tools survey launched!
- Survey Update

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Appendix 2: Digital Derby questionnare

EvaSys	Digital Derby - Digital Tools Audit	Electric Paper

Mark as shown: ☐ ☒ ☐ ☐ ☐ Please use a ball-point pen or a thin felt tip. This form will be processed automatically.
Correction: ☐ ■ ☐ ☒ ☐ Please follow the examples shown on the left hand side to help optimize the reading results.

1. About you

1.1 What is your main professional role at the University?
☐ Academic ☐ Professional Support ☐ Other

1.2 Which academic college or support department do you mainly work for?

☐ College of Arts	☐ College of Business	☐ College of Education
☐ College of Engineering and Technology	☐ College of Health and Social Care	☐ College of Law, Humanities and Social Sciences
☐ College of Life and Natural Sciences	☐ University of Derby Online Learning	☐ Buxton and Leek College
☐ Learning Enhancement	☐ Business and Student Services	☐ Careers and Employment Service
☐ Estates	☐ Executive	☐ Finance
☐ Human Resources	☐ International	☐ IT Services
☐ Marketing and Communications	☐ Strategic Partnership Unit	

1.3 Other (Please specify)

1.4 How long have you been employed at the University of Derby?
☐ Less than a year ☐ 1 - 2 Years ☐ 3 - 5 Years
☐ 6 - 10 Years ☐ 10 Years +

2. Attitude towards digital tools

Throughout this survey the words 'digital tools' are used to refer to 'a piece of technology, which could be hardware, software or an online service, that you use either for personal or professional reasons'.

Personal Use
Please rate your agreement to the following statements:

		Strongly Agree				Strongly Disagree
2.1	I use a greater range of tools in my personal life than I do at work	☐	☐	☐	☐	☐
2.2	Worries about privacy have restricted my personal use of digital tools	☐	☐	☐	☐	☐
2.3	Concerns about the impact on my professional image have impacted my personal use of digital tools	☐	☐	☐	☐	☐
2.4	I am concerned that using digital tools will have a negative impact on my work/life balance	☐	☐	☐	☐	☐
2.5	I am enthusiastic about using new digital tools	☐	☐	☐	☐	☐

2.6 At which stage would you be comfortable with adopting new technology
☐ Early adoption ☐ Established ☐ Industry standard

2.7 My personal use of technology has impacted on me
☐ Positively ☐ Negatively ☐ No Influence
☐ Mixed

The introduction of a competence-based curriculum in Spain: From the Primary school to the training of teachers

Jordi Pamies, Asuncion Blanco, Jesus Granados Sanchez, Maria Villanueva

Abstract

In the last years, most of the educational systems in Europe and elsewhere have shifted to a competence-based approach. The aim of this paper is to present how the main Spanish educational reforms of 2006 and 2013 have incorporated the concept of competence, and how it has been used to structure the curriculum in Primary and Secondary Education. The paper defines the competences of compulsory education and their main features, and it also highlights how the shift in policy has affected in the typology of competences. The study is based on a document and content analysis methodology and is focused in Spanish educational laws, at both national and regional level. The paper ends with the implications the competence-based curriculum has on initial teacher training and showcases how the Universitat Autonoma de Barcelona has implemented it in the degrees of the Faculty of Education.

Key words: Competences, Spanish educational system, teacher training, Primary school degree, curriculum, professional master degree in teaching

Introduction

The needs and demands of the knowledge society, the introduction of the information technologies to the everydaylife as well as the globalisation of the labor market, have affected the nature and meaning of the learning and teaching processes and brought the need to guarantee to everybody the achivement of new key competences for their personal and social development. International reports (PISA, 2006, 2009, 2012; TIMSS, 2007) indicate that one out of five pupils are not able to achieve the basic competences in their compulsory schooling to join succesfuly their role in society; other studies (MEN, 2010, p. 13) state that in the horizon 2020 only 15 % of jobs will be for unqualified people.

The OECD[1] defined the term competence as the "capacity to answer complex demands and to work in an appropiate way involving the ability to meet complex demands, by drawing on and mobilising psychosocial resources (including skills and attitudes) in a particular context" (OECD, 2002, pp. 4). In the same direction, the European Commission stressed also the need to equip people with 'new skills for new jobs' and defined competences as the knowledge, skills and attitudes required for a successful life in a knowledge society (E.U., 2008).

The succesive EU frameworks "Education and Training 2010" and "Education and Training 2020" (2009) stablished common strategic objectives for Member States, including a set of principles to achieve those objectives, as well as common working methods with priority areas for each periodic work cycle. The *International Conference on the New Millennium Learners*, (OECD, 2009) introduced also the concept of *21st Century skills and competencies*, as addressed to allow young people to contribute to a system based in knowledge instead of industry (Ananadiu and Claro, 2009).

The Spanish Education Act (2006) incorporated the core competences as one of the elements of the curriculum and evaluation. In its article 6, the curriculum was defined as a series of objectives, basic skills, content and criteria assessment. As the Spanish Constitution enacts 17 autonomous regions with their own Statutory Laws and Parliaments, some of them, as in the case of Catalonia, have a special profile in their curriculum because of differentiated languages and school practices that are reflected in their school system as well as in the training of teachers. There, the curricular adaptation was stablished also by two decrees in 2007.[2] They represent the particular adaptation of the evidence that today's labour force has to be equipped with the set of skills and competencies which are suited to the knowledge economies and are mainly supported or enhanced by ICT.

[1] The term was defined in the project *Definition and Selection of Competencies (DeSeCo)* Rychen; Salganik, (2003).

[2] Decree 142/2007, stablishing the Primary School Curriculum (DOGC núm. 4915).

- Decree 143/2007, stablishing de Secondary school curriculm (DOGC núm. 4915)

The official document *Consolidation of the basic competencies as essencial element of the curriculum* (IFIIE, 2011) contains the measures impulsed by diverse regions in terms of research, actions taken in teachers training, existing support materials, information sessions, and so on. These measures are, in general, related to two conceptual models: a socio-constructivist one based on Delors' four types of learning: learning to know, learning to do, learning to be and learning to live together; and on a cognitive model, in which knowledge and skills are just valued as a previous step for "learning to do" or as a useful application of competencies (IFIIE, 2011, p. 5).

In the annex 1 of the *Organic Act for Education* is written: "…the incorporation of basic competencies to the curriculum allows to emphasize those apprenticeship that are considered as fundamental from the point of view of an integrative planning and orientated to the application of the adquired knowledge". This confers their basic character. This law suffered a modification by the *"Organic Law for the Improvement of the Quality in Education"* (LOMCE 2013). It introduced some variations and among them, the shift from "basic competencies" to "key competencies" and the reduction from eight competences to seven, being considered just as a complement "to the traditional learning of contents" (LOE, 2006:3). This explains the real orientation of the reform.

According to Sarramona, a Catalan pedagogist, "should the school just worry about some aspects of learning but not about those related of their application to the daily life?, or, should it worry preferably about how pupils acquire the skills and strategies that are useful in everyday life? Moreover, is this preparation for 'daily life' including preparation for labour market?" (Sarramona, 2000, p. 3).

The aim of this paper is to present the role and application of 21st century competences in the Spanish educational system through the analysis of the Primary and Secondary curriculum and also that of initial teacher training.

1 Methodology

The methodology of our study is based on document and content analysis and has been developed at two levels: the first one is the analysis of the Primary and Secondary education curriculums, through the official regulations (LOE, 2006) and its modifications (LOMCE, 2013). The compared analysis of these regulations highlights the diferencies and continuities between both poposals in relation to the use and conceptualization of competencies. The same procedure has been carried out with the decrees for the adaptation of the curriculum in the Catalan school system (DOGC, 4215). The study also focuses on the regulations concerning the instructions for the organisation and management of these core competences. The second level of study focuses on the process of implementation of the competence-based curriculum in the training of teachers, and an example is given in order to ilustrate its application.

1.1 Outcomes of the study

The Spanish educational system is inspired by general principles, such as the quality and equity for all, the school inclusion and the transmission of values of personal freedom, responsibility, democracy, solidarity, respect and justice. Education is conceived as a long life learning and it should strength flexibility to be adapted to the diversity of capacities, interests and needs of pupils as well as to the changes that society is facing. The curriculum also follows a problem solving approach and tries to address and avoid gender discrimination.

The current competences for Primary Education are defined in Article 2 of the 2014 decree. The seven competencies are: the linguistic competence, mathematic competence, science and technology competence, digital competence, social and civic competence, sense of initiative and cultural expression. Table 1 shows a comparison of these competences with other frameworks of reference.

Table 1
The core competences in the curriculum

E. U. Framework of Reference	21st century competences	Spain
Communication in mother tongue Comunication in other languages	Effective Oral and Written Communication Critical Thinking	Competence in linguistic communication. Cross- cultural understanding
Mathematic, science and technology competence	Problem Solving and resolution	Mathematic competence Knowledge
		Interaction with the physical environment
Digital competences	Accessing and Analyzing Information	Information and digital competences
To learn how to learn	Critical thinking	To learn how to learn
Social and citizenship competences.	Collaboration and Leadership	Social and citizenship competences
Sense of initiative and entrepreneurship	Flexibility and adaptability Initiative and Entrepreneurialism	Personal autonomy and initiative.
Awareness and cultural expression	Creativity	Cultural and artistic competence

The Spanish Education Department and the Education Departments from regional governments have promoted a programme for the consolidation of basic competences as an essential element of the curriculum. A "General diagnostic evaluation" has been implemented at 4rth level of Primary Education (young people aged 10) and 2nd year of Secondary Education (young peple aged 14) with the objective to evaluate the attainment of basic competences in linguistic communication, mathematic competence, interaction and knowledge with physical world, and social and civic competence. At their turn, the departments of regional governments evaluate also the basic competences

of their territoy; they have an internal character for the schools as a way to introduce modifications and to improve school practices.

The Department of Education annually approves the instructions for the organization and functioning of schools; since 2010, these resolutions contain specific measures devoted to core competencies and among them, the need to consolidate the role of ICT both in teaching and learning processes. The annual instructions enhance also the need for changes in the methods of evaluation and assessment and the organisation and management of schools, in order to adapt to the demands of a curriculum based in competences. Schools have to clearly state in their educational project what are the objectives that ensure the attainment of basic competences, and this implies the need to improve their practice through a specialised training for school teachers and leaders.

In the Primary school curriculum, a first group of competences with a transversal scope can be found: they are essencial for the construction of knowledge and constitute the basis for personal development. A second group is related to general culture and personal worldview. Nevertheless, according an international report (Eurydice, 2012) these competences do not have an exact connection with the basic competences established in the curriculum of the compulsory stages because there is not any exclusive area or subject for developing each basic competence.

The competence in linguistic communication is meant as the use of language as a tool for oral and written communication, the understanding of reality, the construction of knowledge and the regulation of behaviour and emotions. In Spain, the different regional Departments of Education have developed strategic programmes (2010–2020) focussing on the linguistic competence through the support of school libraries, which are considered as centers of resources and information to promote reading and independent learning. Among these programmes two can be highlighted: one devoted to reading in digital era (2011) and another to promote the press in the classroom to stimulate reading habits and to promote teaching strategies for the search and selection of information and to promote critical thinking. "Leer.es" (Reading.es)[3] is also a resource for schools. Regarding the competence in foreign languages, a programme is devoted to its improvement through diverse projects such as PALE (support programe for teaching and learning foreign languages, 2010–2020) designed both for the linguistic competence of teachers and the linguistic immersion for pupils.

The mathematic competence is the use of the basic operations and the logical reasoning to produce and interprete informations, to know quantitative and spatial aspects of the reality and to solve problems related to the daily life and work. It is promoted through a compulsory subject along all ten years of schooling.

The third competence-knowledge and interaction with the physical world is addressed to understand facts, to predict consequences and to facilitate activities addressed to the achievement of better life conditions.

[3] http://leer.es. Accessed 15/04/2015

The digital competence has been defined as the skills to search, to achieve, to process and to communicate information and to transform it in knowledge, and it includes the use of ICT as generator, transfer and exchange of knowledge. The digital competence has not been subjected to evaluation in national evaluations up to the moment but it exists a strategy for its development through national programes[4]. On the other hand, there are specific initiatives to promote the digital competence in the last years of Primary Education and the two first years of Secondary Education. These initiatives are promoting the use of digital classrooms, Internet connection, teachers training and digital learning materials[5].

The 'Social and civic competence' is developed through the entire curriculum of compulsory education and focuses on the ability to live in a plural society and to understand the world we live in. Since 2006 to the approval of the last Education Act (LOMCE, 2013), citizenship education was taught as a separate compulsory subject entitled *Education for Citizenship and Human Rights* in one of the two grades of Primary (ages 10–12) and in one of the last three years of Secondary (ages 13–16); 'Ethical and civic education' in school year 10 (15–16 years old). In the new educational law, these subjects desapeared.Competence in cultural and artistic fields consists in understanding and appreciating the diversity of cultural manifestations and to use them as a source for personal enrichment and to value them as part of cultural heritage. At the same time, it tries to develop and express ideas, experiences and feelings in a creative way through music, visual arts and theatre, verbal and body language, among others.

To learn how to learn focus the ability to improve learning in an autonomous way, to cope with uncertainty and to find different responses and solutions to problems.

The competence in personal autonomy and initiative refers to the personal and collective responsibility of transforming ideas into actions. The Education Act of 2006 set up the objective of achieving this competence together with the entrepreneurial spirit. These competences were boosted from subjects as Artistic education or Technology, but also in a transversal way. They were focussed on the development of personal initiative, group work, responsibility, self steem and self confidence, curiosity, critical sense and creativity. In the case of Catalonia, the Primary School curriculum has defined a transversal competence entitled "Autonomy and personal initiative". In Secondary Education, the programme *"Young entrepreneurs"* is offered as an optional course, and in some cases it is integrated in other subjects (MEN, 2010). With the modifications of the Education Act in 2013, this competence is more relevant, as it is reflected in point 2 of chapter 6 (LOMCE, 2013).

[4] Programme for consolidating Basic Competences as a essential element of the curriculum' (2010–2011) and 'Programme for Deepening Knowledge (Profundiza)' (2010–2011).

[5] The most ambitious programe, *Escuela 2.0*, contains different programes as *Agrega2* and educ@CONTIC http://www.agrega2.es/web/ http://www.educacontic.es/

The Competence-based curriculum at the Universitat Autonoma of Barcelona: a new perspective

At Higher Education level, the framework of reference in Spain was the *Tuning project* (2003). The conclusions of this international work were the starting point for the definition of competences for the degree profiles in European universities, while developing an approach to (re-)design, develop, implement, evaluate and enhance quality in first, second and third cycle of university degree programmes.[6] The Spanish National Agency for Quality and Acreditation (ANECA) and the Catalan National Agency of University Quality (AQU) took the Tuning proposal as an impulse towards the implementation of the competence approach at university level. Each degree was defined by its specific core competences but also by the generic ones (Consell Escolar de Catalunya, 2008). In year 2010, new degrees were approved in accordance with the European Higher Education Area (EHEA) regulatons that stablished a four years degrees of 240 ECTS and a final Degree Dissertation based on a research study or an innovative proposal.

The Spanish official regulations concerning the reform of the university degrees within the framework of the European Space of Higher Education established the general and basic competences to be achieved by all graduate students as it can be seen in table 2:

Table 2
Basic competences of University graduates

Ability to advance in knowledge from the Secondary studies to an advanced level with the support of textbooks but also with specialised literature of the specific field.
Ability to apply knowledge into professional work. To argue and solve problems in their field of study
To collect and interprete relevant data, argue on social, scientific and/or ethic relevant issues
To transmit information, ideas, problems and solutions to both general or specialised audience
To develope learning skills with great level of autonomy to be applied in a further study

[6] TUNING Educational Structures in Europe started in 2000 as a project to implement the political objectives of the Bologna Process and, at a later stage, the Lisbon Strategy to the higher educational sector. Over time Tuning has become a process or an approach to (re-)designing, develop, implement, evaluate and enhance quality first, second and third cycle degree programmes.

The Universitat Autonoma of Barcelona, in the process of adaptation of its studies to the new structure, added four competences that were considered as general and that were expected to be adquired also through the different subjects and academic activities (see Table 3).

Table 3
General competences to be achieved by graduates at the UAB

To develop critical thinking and to communicate in a effective way in more than two languages.
To develop strategies for an autonomous and individual learning
To repect diversity and plurality of ideas, persons and situations.
To be able of generating innovative and competitive ideas, both in research and in other professional activities

1.2 21st century competences in intial Teacher Training

Currently, the Faculty of Education has 2836 students and 314 lecturers[7] and offers four degrees: Early Childhood and Primary Education teaching, Education Studies and Social studies. In the context of the curriculum reform debate, some methodological questions arose related to the efficient achievement of these competences and about their evaluation. Some of the specific competences could be faced from specific subjects but there was a need of an instrument to assure the transversal knowledge and competences for all students willing to work in the field of education and not fully covered by specific curricular areas. This need became in a proposal that merged the objectives of the curriculum with the objective of the Faculty to create new degrees with a basic common training for teachers, pedagogists and social educators as to train professionals able to work in interdisciplinar groups.

The Faculty made a bet for what was called *Common Basic Training* to fulfill these objectives. Three subjects were conceived as a learning package or module and were considered as a common basic framework (36 ECTS). These subjects were placed at the first year of all degrees (Infant and Primary teaching, Education Studies and Social Education) as a way to support the interdisciplinar work of the professionals in education as well as to facilitate the mobility within studies (see Table 4).

[7] Figures for academic course 2014–2015.

Table 4
Common basic training at the Faculty of Education

Subject	ECTS
Education and educational contexts	12
Educational communication and interaction	12
Society, Science and Culture	12

Each subject (12 ECTS) has the objective to facilitate to students the building of their own fundamental learning process making them aware about the mutual influences between science, society, technological development and discourse strategies. Due to the high amount of students, the team of teachers involved in this module is large and requires a very complex management and organisation.

The structure of this Module requires a wide team of teachers from different fields of knowledge (pedagogy, health and natural sciences, geography, history, literature, philosophy, visual arts, music, and so on) willing and aiming to find a common framework and some points of confluence where to organise an interdisciplinar work with an innovative methodology. In one of these subjects, *Society, Science and Culture,* the team of teachers undertook a step further in search of a crossdisciplinar methodology that allows a new perspective on the way of working with students. This team is now involved in a research on the evaluation of this methodology after six years of application.

1.3 Competences in the Primary School Degree

The Primary Education degree aims to provide training to work as a teacher for the 6 to 12 age group in compulsory education. Candidates can opt for a general school training or to specialise in musical education, physical education, foreign languages or inclusive education. In Table 5, the basic, specific and crosscurricular skills are compared twith the 21st Century competences; some academic subjects have been highlighted as they directly focus on these competences.

Table 5
Primary School Degree competences

21st Century competences	GRADE	
	Basic competences/ Specific competences/ Transversal competences	Subjects
	To manage work-related information and use it properly. To analyse critically the work done.	
Critical Thinking and Doing	To analyse and recognise socio-emotional behaviours and to develop those required for a good professional development.	Linguistic Reception at School
Creativity	To work in teams in the same field and also in those interdisciplinar	
Collaboration	To adopt an ethical attitude and acting in accordance with the ethical professional principles. To keep a respectful attitude towards one's natural, social and cultural environments in order to to promote sustainable values and practices.	Educational Communication and Interaction II
Cross-cultural Understanding	To willingly participate in meetings and events of their own institution.	
Communication	To use information and communication technologies to learn, communicate and share in educational contexts.	Society, Science and Culture
Computing ICT Literacy	To have a postitive attitude towards life long learning.	
Career & Learning Self-reliance		Social Context and School Management

1.4 Competences in Master Degree in Secondary school teaching

Master degrees constitute the second cycle of university education. Student-Teachers undertaking a Master degree are expected to acquire specialised education in academic and professional areas as well as to be initiated in the field of educational research. In the case of Secondary Education, graduated students in different faculties need to enrol in a professional master in secondary teaching (60 ECTS). In Table 6, the basic competences for this degree are compared with those on the 21st century reference and the subjects that specifically are dealing with the development and achievement of those competences:

Table 6
Competences in Master Degree

21st century competences	GRADE	
	Master Degree in Secondary and Vocational schools Teaching	
	Basic competences/ Specific competences/Transversal competences	Specific Subjects
Critical Thinking and Doing	To develop critical thinking and reasoning and to communicate in an effective way both in mother tongue and in other languages.	Social and Educational Psychology Training
Creativity	To generate innovative and competitive proposals regarding research and professional activity.	
Collaboration	To work in teams and to develope attitudes of participation and cooperation as an active member of the community. To be able to work and participate in the planning of the school curriculum, to apply individual and collective methodologies and to adapt them to students' diversity.	
Cross-cultural Understanding	To respect the diversity of ideas, persons and situations. To plan and design learning espaces with special attention to equity, emotional and values education, equal gender opportunities, citizenship and respect to Human Rights.	Specific Module for each specialiality
Communication	To find out, to process and communicate information and to transform them into knowledge to be applied in the teaching-learning processes of each subject. To communicate in an effective way, verbal and non verbal.	
Computing and ICT Literacy	To be able to use ICT in a effectively and integrated way.	
Career & Learning Self-reliance	To develop strategies of individual learning.	Practicum and Master's Dissertation

2 Final reflections

The Spanish educational system experienced a great shift in earliest nineties: Primary and Secondary Education curricula changed from a conception based on conceptual knowledge that was meant to be learn by heart, to a educational system that focused on learning knowledge, skills, attitudes and values. That shift implied a massive training of in-service teachers. More than one decade after, the incorporation of the competence-based approach has shaken again the confort zone of teachers, but this time lower training opportunities have been provided.

Taking into account this period of academic years, one thing has became evident: a competence-based curriculum is challenging the teaching methods, the role and perspective of teachers and the role and personal involvement of students. Under our

opinion and experience, we have found out that the main barriers that are preventing a successful implementation of the competence-based approach are:

- Despite the reforms and efforts for implementing the competence-based approach, there are many internal contracdictions in the educational system that hinder a proper development;
- It persists a disciplinar way of teaching and learning that does not help in the development of interdisciplinarity and crossdisciplinarity, what would help to work under the competence perspective. Disciplinarity prevents students and teachers to think holistically, to work cooperatively and to be more creative;
- Teachers are struggling with the assessment of competences achievements. It is not fully clear how to handle it, and how to split it into learning outcomes units of assessment;
- At the Universidad Autonoma de Barcelona the number of students per class is over eighty and it is seen as a barrier for working and assessing properly the achievement of the competences;
- There are not stable teaching groups at the university that are committed with the project and is properly trained for crosscurricular work;
- Schools and universities still have problems of full access to the ICT resources;
- Innovation is not rewarded as it should be and teachers are not stimulated.

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The status of twenty-first century skills within the University of Milan-Bicocca's Degree Programme in Primary Education

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Abstract

This paper describes the extent to which 21st Century Skills are provided for in both teacher training curriculum documents and educational practices (courses, workshops and teaching practice) in the context of the Degree Course in Primary Education offered by the University of Milan-Bicocca. Our observations are based on a diachronic analysis of the degree course from its introduction in 1999 up to the most recent education reforms. We also assess the extent to which these skills feature in the National Curricular Guidelines for Primary Education. Although twenty-first century skills are not explicitly referred to in the third level curriculum documents, they are implicitly well represented in the key transversal themes running through the five-year degree programme; while they receive clear and specific mention in the ministerial guideline documents.

Key words: 21st Century Skills; Teacher Training; National Curricula.

Introduction

It is critical to make provision for the development of twenty-first century skills, insofar as education is continuously required to adjust to broader societal changes. We must prepare our students to face these changes, which affect the cultural, economic, and domestic spheres. The skills demanded by twenty-first century society encompass affective and aesthetic as well as cognitive abilities, and cater for the needs of both individual children and society as a whole. It follows that examining how these competences are viewed and promoted in teacher training courses and in teacher practices in schools, is particularly relevant to assessing how our country is educating its future citizens.

In order to put the Italian situation into context, we first briefly outline the history of teacher training in recent years, in particular at our own university of Milan-Bicocca. In 1999, Italy introduced a new Degree in Primary Education, which then became the only recognized qualification for infant school (3–6 years) and primary school (6–10 years) teachers. This was the translation into practice of the proposal, which had been debated for decades, to provide university-level training as opposed to high-school programmes for future teachers, through the development of ad hoc undergraduate courses.

The decision to provide such a new course of studies at the University of Milan-Bicocca originated within the Department of Educational Human Sciences, at the initiative of a group of professors in the areas of history, philosophy, education and the human and natural sciences, whose aim was to promote the interdisciplinary study of educational processes. From the outset, the degree programme was characterized by a strong emphasis on research in educational contexts, with the development and refinement of methods and instruments for field observation and for managing communication among the various social actors involved in the school system (pupils, parents, teachers, and other stakeholders) (Teruggi & Bettinelli, 2010).

The group that set up the degree programme shared a vision of teachers as reflective practitioners (Schön, 2006) who reflect on and during their practice, in order to address the ever-changing challenges posed by their profession. The competences that trainee teachers were expected to develop included: holding up-to-date knowledge and being able to metacognitively reflect on the process of acquiring it; having the ability to observe contexts and relationships in order to design meaningful educational interventions; knowing how to listen to and understand students with a view to managing communication with and among pupils, together with families; reflecting and sharing with colleagues about the work carried out; and recording and evaluating teaching and learning activities. For these objectives to be met, the course was designed to combine traditional modules, delivered using innovative teaching methods, with practical course work and workshops conducted with a small number of students (25–30), as well as periods of teaching practice in infant and primary schools.

Again in 1999, a competitive selection process was held to recruit teachers and head teachers to cooperate with the University in designing and implementing the crucial teaching practice component of the degree programme. The role of these figures has been to ensure a close working relationship between the university and schools, supervise students' teaching practice and contribute to the creation of a network of schools across the local area. A key characteristic of the course has been the fact that it offers two different modes of teaching practice: direct and indirect. "Direct" teaching practice is carried out in schools, while "indirect" takes place at the university among groups of students and a supervisor. The latter mode may be thought of as a space for reflecting on what is happening at the practical level. This dimension of making the link between theory and practice has been the focus of a national research project[1] that analysed supervisors' routine activities in order to define their professional profile (Laneve & Pascolini, 2014).

In reflecting on the practices that make up and characterise the Degree Course in Primary Education, it is of key importance to emphasize the use of the workshop method. From the outset, a distinctive feature of the course has been the fact that many of its modules include workshops, which may be on either education or subject-related topics. The value of the workshops lies in their dynamic nature "… as cognitive, operational and relational experience among adults based on:

- collaborative learning in small and large groups;
- real-life tasks providing the opportunity to observe, experiment, compare, enquire, hypothesize, produce;
- critical interpretation and creative production;
- meta-reflection on the processes implemented; mainly procedural as opposed to declarative contents;
- a high level of interaction between lecturers and students" (Varani, 2014, p. 187).

Admission to the degree course is based on a national entrance test and the number of places is defined on an annual basis by the Education Ministry. Currently, Milan-Bicocca University has a total of approximately 1,800 students enrolled on the five-year programme.

Given our own direct involvement in the training of future teachers, and in answer to the challenge laid down by the VoiceS project, we enquired how our degree course addresses the need for twentieth-century skills, considered essential for the education of the future generations. In attempting to answer our research question, we also

[1] The Universities involved in this study were Bari, Cattolica (Brescia), Macerata, Milan-Bicocca; Milan SILSIS, Naples, Padua-Verona, Palermo, Perugia, Turin.
Note that the research also included the SILSIS, that is to say, the postgraduate courses in education for secondary school teachers.

analysed the *Indicazioni Nazionali per la Scuola del Primo Ciclo* (2012)[2], given that there is a close relationship between the recommendations of the Education Ministry and the educational offering contained in the degree course. Therefore, the current article reviews both our degree programme and the national guidelines with a view to determining the extent to which they provide for the development of twenty-first century skills. To this end, we analysed the relevant university and ministerial documents, as well as interviewing key informants at the University of Milan-Bicocca.

1 Methodology

In order to study the phenomenon in context and respond to our research question: how do our teacher training curriculum and the Italian National Guidelines provide for the development of twenty-first century skills and competences for New Millennium Learners in the OECD, we chose a case study research strategy. This empirical approach allowed us to focus on "a bounded system", our university's teacher training course and the National Curriculum, which we examined, observed and described in order to identify their key components. Robert Stake (1995) describes this kind of case study as 'holistic', because by focusing on a given issue in a given context it is possible to capture the essentials of the case.

We used several different data sources (Yin 2009): internal university documentation (current syllabus for the degree course), scientific publications, interviews with key informants, official documents issued by the Ministry of Education.

All written documents and interview transcripts were analysed following constructed categories or themes that became the category system. As Mayring (2002, 114) explains, "by using this category system, the aspects, which are to be filtered from the material, are defined". In our study, the aspects to be filtered from the collected data were fragments of text related to twenty-first century skills, that is to say, we combed our data for all references to these particular competences. We then carried out a comparative analysis, with the aim of identifying similarities and differences among the data sources (Bassey, 1999), in particular between our university teacher training course and the national curricular guidelines.

In this kind of approach to analyzing documents, the investigator's role in constructing the meaning of the text is predictable. Therefore, we drew on two different perspectives (triangulation) from within the university degree course. Triangulating the data is a means of clarifying the meaning of the context in which the category under analysis occurs (Bryman, 2004). In this way, we gained a fuller picture of how the Milan-

[2] The reference here is to the national guidelines for the infant-primary and junior high school curricula issued in 2012.

Bicocca teacher training course compared to the National Curriculum in relation to the skills required for the new millenium.

As stated above, the categories chosen were based on twenty-first century skills, in particular the following: Critical Thinking and Problem Solving, Collaboration Across Networks and Leading by Influence, Assessing and Analyzing Information, Effective Oral and Written Communication, Agility and Adaptability, Initiative and Entrepreneurialism, Curiosity and Imagination.

1.1 Data analysis

Twenty-first century skills in the National Guidelines

A highly innovative aspect of the national guideline document is the fact that the curricula for the various levels of schooling are centred around competences. By the end of infant, primary and lower secondary school (11–14 years) cycles, students are expected to have developed given sets of competences related to both fields of experience and specific school subjects. These objectives provide teachers with a clear reference framework, suggesting the type of cultural and teaching programmes to be implemented and helping to focus educational action on the student's holistic development. Many of the competences identified in the document are transversal as opposed to subject related; in particular, it is stated that all subject-specific learning programmes must contribute to the development of the key competences required for lifelong learning defined by the European Parliament and Council (Recommendation of 18 December 2006). These last-mentioned competences are the outcome of a major scientific and cultural debate in which Italy played an active part. They overlap significantly with the skills included in our analytical categories, as the following examples show:

Effective Oral and Written Communication, is divided into two sub-competences: *communication in the mother tongue*, which is the ability to express and interpret concepts, thoughts, feelings, facts and opinions in both oral and written form (listening, speaking, reading and writing) and to interact linguistically in an appropriate and creative way in a full range of societal and cultural contexts, including education and training, work, home and leisure settings; and *communication in foreign languages*, which also includes skills such as mediation and intercultural understanding.

Collaboration Across Networks and Leading by Influence, is partly reflected in the objective of digital competence, which involves the confident and critical use of information society technology (IST) for work, free time and communication purposes. This in turn relies on basic skills in information and communication technology (ICT) such as using computers to source, evaluate, store, produce, present and exchange information as well as to communicate and engage in collaborative networking via the Internet. With regard to collaboration, the document places strong emphasis on the relational dimension which in turn demands *social competences*. These are personal, interpersonal

and intercultural competence and all forms of behaviour that equip individuals to participate in an effective and constructive way in social and working life, particularly in societies that are becoming increasingly diversified, and to resolve conflict when the need arises.

Initiative and Entrepreneurialism are included in the national guidelines in their own right and are defined as the ability to turn ideas into action. This involves creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives.

Assessing and analysing information, is partly reflected in the competences listed under *learning to learn*, that is to say, the ability to pursue and organise one's own learning, including effective management of time and information, either individually or in groups. This set of skills includes being able to acquire, process and assimilate new knowledge, as well as the ability to seek out and avail of opportunities for orientation. In addition, it encompasses awareness of one's own learning processes and needs, identification of learning opportunities and the capacity to overcome obstacles to successful learning. This last aspect is also related to the skills grouped under the heading of critical thinking and problem solving.

Critical Thinking and Problem Solving account for a part of the skills prescribed for the subject areas of mathematics and science. The document divides these areas into *mathematical competence* defined as the ability to develop and apply mathematical thinking in order to solve a range of problems in everyday situations, and *competences in science* understood as the mastery, use and application of knowledge and methodologies that explain the natural world in order to identify questions and draw evidence-based conclusions.

Finally, Curiosity and Imagination come under the heading of *cultural awareness and expression*, which has to do with the importance of the creative expression of ideas, experiences and emotions in a range of media, including music, performing arts, literature, and the visual arts.

As this analysis shows, the ministerial document calls for the development of many of the so-called twenty-first century skills. However, the short time lapse since the introduction of the new curriculum along with the difficulties inherent in effecting any educational change, mean that the document may not yet have had a significant impact on teaching practices in all Italian schools. On the other hand, the rising levels of cultural and linguistic diversity within class groups, the impact of information technology on teaching and learning processes, and the growing proportion of teachers with university training, lead us to suppose that there may be increasing awareness of the need to provide our future citizens with this broad skills base. Most especially, of the need to provide students with a training that enables them to activate and exploit their own resources – knowledge, abilities, attitudes, emotions – in order to successfully deal with the situations posed to them by daily life situations.

1.2 Twenty-First Century Skills in the Degree Course in Primary Education offered by Milan-Bicocca University

The most recent educational measure concerning teacher training came into force in Italy with the Ministerial Decree n° 249 of 2010, which states that "The five-year degree course in Primary Education promotes advanced theoretical and practical training in psycho-pedagogical, methodological, didactic, technological and research disciplines. It also provides specific training for the reception and inclusion of pupils with disabilities[3]."

The official curriculum of our own Degree Course expresses students' expected learning outcomes in terms of the Descriptors used in the European Qualifications Framework (DM 16/03/2007, Art. 3, Comma 7). These expected outcomes may be summarized as follows:

- *Knowledge and understanding.* By the end of their academic training, graduates must possess: in-depth knowledge of the field of educational science; knowledge and understanding of how to cater for students' needs and prevent learning difficulties; basic knowledge regarding pupils with disability and an understanding of how to care for their needs and provide personalized educational interventions; knowledge of information technology and of all the new technologies designed for use in the classroom.
- *Applying knowledge and understanding.* By the end of their academic training, graduates will have acquired: the capacity to create an authentic educational relationship; the capacity to identify and define educational priorities; the capacity to structure subject knowledge into teaching programmes; the capacity to generate a welcoming and inclusive atmosphere in class, that encourages the inclusion of pupils with disability, with learning difficulties or of different nationalities, cultures and religions; the capacity to design educational action drawing on a variety of methodologies; the capacity to document their work, monitor their educational interventions and provide suitable instruments for assessing student learning outcomes.
- *Making judgements.* By the end of their academic training, graduates must display the following aptitudes: awareness of the ethical and cultural responsibility associated with exercising the teaching profession; aptitude for interpreting students' needs and behaviours; aptitude for problematizing educational situations and events, analysing them in depth and reflecting about them; aptitude for taking into account alternative solutions to problems and making decisions in line with pupils' educational needs; aptitude for making judgements about educational situations

[3] Note that in Italy, from 1974 onwards, all pupils with disabilities (including serious disabilities) have had the right to attend ordinary classes and schools (at every level of schooling). This is an unalienable right: it is a penal offence for a school to refuse to enrol a student with disability. The right to inclusion has also been extended to early childhood and university education (Art. 12, Law 104/92).

and events; aptitude for valuing their own professional training and the effectiveness of their teaching methods; aptitude for adopting innovative teaching methods.

- *Communication skills.* By the end of their academic training, graduates must possess: the capacity to moderate verbal and non-verbal interaction in class; the ability to dialogue with colleagues at staff meetings; the ability to organize and present the objectives and nature of their teaching activities; the ability to clearly communicate learning outcomes and possible solutions for difficulties encountered to the pupils and their families, as well as to the other teachers; the capacity to establish a positive relationship with the pupils' families; the ability to use the digital communication tools available to schools. The acquisition of these learning outcomes is transversal to the entire degree programme.
- *Learning skills.* By the end of their academic training, graduates will have developed a set of learning abilities equipping them for lifelong learning: an interest in the teaching profession and the desire to advance their knowledge and improve their practice of it; aptitude for broadening their educational and methodological knowledge base; willingness to explore the perspectives of educational, methodological, technological and media research; aptitude for self-sustaining and self-regulating their own learning via independent bibliographical research and motivated participation in ongoing training programmes.

As this summary of the descriptors shows, while twenty-first century skills are not specifically mentioned in the outline degree programme they feature transversally in virtually all the descriptors. For example, Critical Thinking and Problem Solving may be identified within the descriptor on making independent judgements: similarly, Effective Oral and Written Communication is included in the communication skills descriptor.

1.3 Twenty-first century skills in the words of key informants

The final step in our analysis was to investigate the status of twenty-first century skills in educational practices (the course modules, workshops and teaching practice offered by our degree programme) by interviewing key informants (dean, head of the degree course, professors and students – both graduates and undergraduates). Our analysis of the interview transcripts enabled us to identify, for each of these skills, the relevant activities conducted with the students. These activities, reported below, provide us with a basis for initial reflection.

Concerning Critical Thinking and Problem Solving the entire approach of the degree programme is to stimulate independent and critical thinking. Students are frequently provided with opportunities to think for themselves. For example, during course modules, different perspectives and theories are presented, compared, and situated in their historical context and students are encouraged to explicitly express their own ideas and

reflections about them. As the professors we interviewed pointed out, lessons rarely follow a traditional lecture-style format, but are an alternating sequence of explanations, dialogue and interaction, in the course of which the students are continuously being stimulated to expand their own knowledge base. The same is true of the learning materials chosen for the courses, in that they generally comprehend a range of authors and texts reflecting different viewpoints. With regard to assessment criteria, again we may state that the students are not asked to repeat contents without adding an element of personal opinion. Assessment make take a range of forms from open questions, to conceptual maps, to problem scenarios, to group assignments.

The use of critical thinking and problem scenarios features even more strongly in the workshops, independently of subject area, and the teaching practice supervision groups. Here, work on case studies, analysis of protocols and materials for children and teachers, role-play, and the use of active technologies allow students to learn by doing and to experience a continuous alternating of deductive and inductive thinking, as well as developing their capacity to relate to others and make decisions collaboratively. As one of our students stated: *"This series of workshops has been very interesting: I had the opportunity to reflect upon and better understand the importance of verbal and non-verbal communication. I already had the chance to study this topic in my books, but having the opportunity to try it out first hand is a different experience. This Faculty is preparing us to become teachers and workshops like these help us to improve our knowledge."*

During direct teaching practice, this skill is even more strongly required, initially mainly in the context of observation practices, and subsequently in the context of the trainee teacher's direct participation in class activities. As reflected in the words of one of our students during a teacher training placements *"…we had the opportunity to grapple with the issues that teachers face on a daily basis. Like teachers, we addressed the needs, knowledge, specific needs of a particular class: we planned specific activities and materials to meet the needs of each individual student"*. Here too the students are required to deal with problem scenarios in a hands-on context, later having the opportunity to analyse and reflect on the experience in the setting of their indirect teaching practice group.

Regarding the skill Accessing and Analyzing Information we found that all the course modules make constant use of information sourced on Internet and by searching international databases. Students are taught to bring a critical approach to bear on these information searches and to explicitly report the search methods used for their research projects. Many courses are offered in an e-learning format, and many assess students' ability to make critical use of databases. Students have access to international databases, electronic journals and eBooks both at the University library and remotely from home or other locations. Ad hoc seminars have also been designed to help students learn how to carry out research on line for their practical or theoretical assignments. Support materials are also available on the University library website. Furthermore students can avail of personalized support from library staff when they

need to carry out a particularly challenging information search. All of these activities are designed to encourage critical and competent use of the information collected.

Concerning the skill set Effective Oral and Written Communication, a series of initiatives have been undertaken in recent years. The indirect teaching practice component of the degree programme now includes a focus on the creation of a range of discursive genres (from PowerPoint presentations to the student's final report on each annual period of teaching practice) using collaborative writing approaches. Specifically, students are encouraged to collaborate on the planning and revising stages of each text that they produce, as exemplified in the following excerpt from an interview with a student: *"… on more than one occasion we were required to reason amongst ourselves: during the planning phase we had many doubts, arising from our exchanges with other students and the supervisor (How should I shape my ideas? How can I be clear enough?)"*.

The use of digital media and environments to communicate and work collaboratively is also on the increase. For students with difficulty in writing, ad hoc workshops have been designed to provide individual guidance to enhance writing skills. As stated earlier, oral communication is fostered throughout the entire degree programme thanks to the dialogical and interactive mode of delivery of course and workshop contents, and is considered a vital competence for the defence of students' master's theses. The linguistic competence and conceptual clarity displayed by the final year student during the *viva voce* examination is viewed as an indispensable part of the skill set of a future teacher.

With regard to the Collaboration Across Networks and Leading by Influence area of competence, in addition to the digitally supported collaborative writing activities mentioned earlier, all course modules are provided with a shared platform. The structure and mode of use of this communicative resource depends on the ICT competence of individual professors. Consequently, the platforms range from highly interactive, with the facility for forums, question and answer pages, sharing of materials, and the collaborative construction of a variety of products, to an extremely limited use of this resource, for example to publish PowerPoint lesson notes. On their part, the students create their own shared spaces, such as Facebook and WhatsApp groups, in which to interact and exchange information (notes, advice, course information, etc.).

With regard to the skills under the heading Curiosity and Imagination, some courses, workshops and teaching practice periods are designed to strongly promote the exploration of spaces and materials (Smith, 2008), others the ability to design teaching programmes, others the use of video recordings and photography as a mode of research and planning (Goldman, 2009), and still others a variety of research techniques to stimulate new thinking and ideas – ultimately the students acquire awareness of the teaching profession as a complex occupation that requires constant intellectual curiosity and a good imagination.

Finally, the skills Agility and Adaptability and Initiative and Entrepreneurialism, although transversal to the entire degree programme, were less tangibly described by the key informants. Certainly, the teaching practice component of their training progressively facilitates students in becoming more independent in developing, monitoring and evaluating teaching and learning programmes. Their teaching practice placements require them to display the capacity to adapt to a specific school environment, as well as a personal sense of initiative.

Conclusion

To conclude our study, after interviewing key informants from within the degree programme itself, we held a focus group discussion on the theme of twenty-first century skills with a group of teachers who are members of the VoiceS project. From the preliminary data collected by administering[4] a questionnaire to 20 teachers and teaching practice supervisors, it emerged that in their teaching practice at school the competence most worked on with their pupils is Curiosity and Imagination, while that which they are least successful in stimulating is Collaboration across Networks and Problem Solving. In training the undergraduate students under their supervision, they reported that Critical Thinking and Problem Solving is the area of competence that they are most successful at fostering, while the two competences that they least manage to promote are Initiative and Entrepreneurialism, and Collaboration across Networks and Problem Solving.

Final Reflections

This preliminary analysis of the status of twenty-first century skills in training guidelines and programme outlines and in the actual training practices currently being implemented with future teachers brings to light some aspects that we believe will need to be addressed in the future. Our findings suggest that the set of skills included under the heading Initiative and Entrepreneurialism receives hardly any mention in the official documents and, even more importantly, does not seem to be taken into account in current educational practice at either the university or school levels. The second competence that clearly needs to receive more attention than at present is Collaboration across Networks and Problem Solving. Although the university is technologically well-equipped, the academic staff overall has yet to reach an optimum level of competence in using it and exploiting its potential to work together with diverse groups to facilitate the exchange of ideas to achieve a goal, make decisions, and solve problems.

[4] The questionnaire was administered at the beginning of the project meeting held on 8th Aprile 2015.

In contrast, the university students themselves display the ability to generate results collaboratively across a variety of contexts without direct authority.

On the positive side, one of the most significant competences for the informants in our study was the capacity to engage in critical thinking. For both primary school and university-level teachers developing critical thinking represented a key value. A value that they view as "non-negotiable", as one of the university professors explained "…we like to think of a teacher that asks questions, promotes reflection and exchange, that invites [pupils] to look for possible alternatives, new pathways, in other words a critical and reflective teacher."

Looking to the future, given the limits of the present study, we believe that it will be necessary to carry out an analysis of teaching practices directly in schools with a view to assessing whether and how they foster twenty-first century skills. An investigation that would shed light on exactly what is happening inside classrooms. Data sources might include ethnographic observation and documentation produced by the students themselves. Such a study may be facilitated and carried out by the research group of supervisors and infant, primary and secondary school teachers that is an offshoot of VoiceS, and that will provide us with the opportunity to explore in depth the relationship between twenty-first century skills and teacher practices. The current study, meanwhile, has pointed up the value of a range of existing practices, thematising and stimulates focused reflection on them, as well as highlighting the steps that still need to be taken. It is important that these results be disseminated in order to provide a common ground for reflection going forward.

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Competences in Teacher Education at Schwyz University of Teacher Education (PHSZ), and the Swiss Education Policy

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Abstract

Based on the current discussion on 21st century skills this contribution gives a short overview of the present situation in Switzerland and at PHSZ[1] in particular. What are the aims of education policy and what has already been achieved in this process? As this analysis has shown, the biggest challenge is to ensure a smooth and timely educational paradigm shift to competence orientation at universities of teacher education and schools. This means a change from teaching factual knowledge to the development of competences needed to acquire the necessary knowledge in a fast-changing society. This gradual integration is challenging and requires basic adaptations to the curriculum and to the current teacher education and teaching practice. The new Curriculum 21 has been developed to take on this challenge through all school levels.

Key words: 21st century skills, competences, Curriculum 21, teacher education, PHSZ, Switzerland

[1] Pädagogische Hochschule Schwyz; http://www.phsz.ch

Introduction

What competences does the next generation need und how can they be taught adequately to young learners? In our fast-changing and globalized world and in light of the complex challenges of our society such questions are of central interest. In the last decade, the implementation of competence-oriented education and the evaluation of the output of educational processes have become a central topic and primary concern in the international and national context as well (Rychen & Salganik, 2003; OECD, 2005; Ananiadou & Claro 2009).

These educational endeavours are also a central topic in the Swiss education system. For this reason, the Swiss-German Conference of Cantonal Ministers of Education (D-EDK) worked on a common competence-oriented curriculum for all of the German-speaking cantons[2] (D-EDK, 2014a) from 2010–2014 to harmonise both state education (kindergarten to secondary level) and pre-service and in-service teacher training. Each individual canton can now decide on when the curriculum will be introduced; according to current information, most of the cantons plan this implementation between 2017 and 2019 (D-EDK, 2014a, p. 15).

Teacher education is mainly the task of the universities of education throughout Switzerland, including the Schwyz University of Education (PHSZ). Located in Central Switzerland, PHSZ is one of the smallest of these institutions with approximately 320 students, and may be considered as exemplary for other smaller institutes. With this background in mind, this article sets out to locate 21st century skills within the key competences as used in the current paradigm shift of the Swiss Curriculum 21, in the education of primary school teachers and research at the Schwyz University of Teacher Education.

1 Framing the meaning of 21st century skills in a Swiss context

There are many definitions of 21st century skills, which can be interpreted with different headings and nuances depending on country and institution. The four core Cs lie at the heart of these skills: Critical thinking, communication, collaboration, and creativity. Whereas the term '21st century skills' is widely used, in a Swiss context this term is rarely encountered. Instead 'competences' is the current buzz word which can be found in the main education-related documents used for coordinating Curriculum 21, the

[2] The French speaking cantons have developed a comparable curriculum with the 'PER' (Plan d'Études Romand) (http://www.plandetudes.ch/per); in the Italian speaking canton, Ticino, the curriculum is currently being revised.

Organisation for Economic Co-operation and Development (OECD) documents, and regional documents such as those from the PHSZ.

According to OECD (Ananiadou & Claro, 2009, p. 8) the difference between skills and competences is described as follows: "A competence is more than just knowledge or skills. It involves the ability to meet complex demands, by drawing on and mobilising psychosocial resources (including skills and attitudes) in a particular context. For example, the ability to communicate effectively is a competence that may draw on an individual's knowledge of language, practical IT skills and attitudes towards those with whom he or she is communicating." (Rychen & Salganik, 2003). Thus it becomes clear that by focusing on competences, a wider dimension is addressed.

The OECD (2005, p. 5) defines three categories of key competencies: interacting in socially heterogeneous groups, acting autonomously, and using tools interactively, all necessary prerequisites for a successful life. In a further document the OECD (2013, p. 46) stresses that these skills need to be developed, activated and put to effective use. Each key competency must fulfill the following (OECD 2005, p. 4): "Contribute to valued outcomes for societies and individuals; help individuals meet important demands in a wide variety of contexts; and be important not just for specialists but for all individuals." 21st century skills imply the ability to reach beyond knowledge and skills in order to better "tackle complex tasks" (OECD, 2005, p. 8) and master the growing demands of our ever-changing society.

For the purposes of this article in a Swiss context the definition of 21st century skills will be integrated into the term 'competences' as it becomes clear that by focusing on these, a wider dimension which integrates skills is addressed. The Swiss Curriculum 21 orients itself on the definition described by Weinert (2001, p. 27) as such: The learnable or acquired cognitive skills and abilities which are necessary to solve certain problems, as well as the motivational, volitional and social readiness to do so successfully in a variety of situations. (article author's translation). Reusser (2014, p. 327) goes on to add that competences not only stand for a connection between level-appropriate subject knowledge, content- and process-related ability and skills, but also a willingness and readiness to reflect, and to develop strategies in the different areas in order to grow. According to OECD (2005, p. 9) reflectiveness is at the heart of this process, implying "… the use of metacognitive skills (thinking about thinking), creative abilities and taking a critical stance."

2 The Swiss Curriculum 21 and the Competences

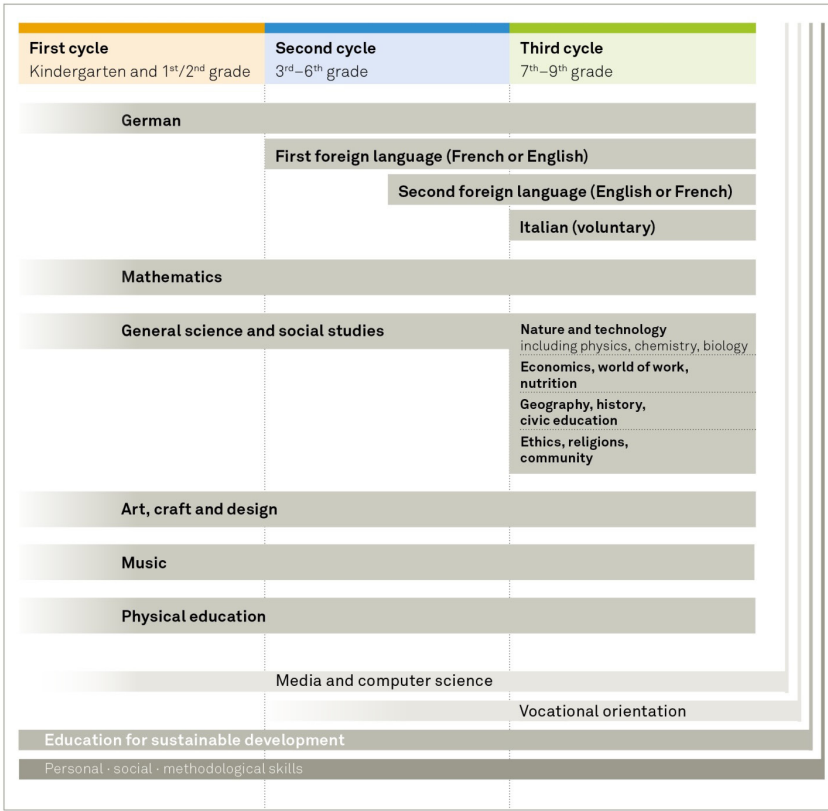
One of the key factors currently affecting the curriculum at the PHSZ, and indeed throughout all of the German-speaking part of Switzerland, is the introduction Curriculum 21. The 21 may symbolically stand for 21st century skills, or a curriculum for the 21st century, but in effect, the number 21 represents the number of German-speaking cantons which will implement the new curriculum. As Switzerland is a highly federalist country, to date each canton has had the authority to develop its own separate curriculum. The new curriculum is meant to unite these 21 cantons educationally (D-EDK, 2014a, p. 4), and in doing so, account for the global state of the world and migration within Switzerland. It has, in fact, not been without resistance that Curriculum 21 is currently being introduced and adopted in the different cantons, and some will soon be voting on whether to adopt this "restrictive" curriculum or not.

As of writing, the canton of Schwyz, for which the PHSZ primarily trains future teachers, has not yet decided which path to follow. However, the Curriculum 21 is already having an influence on the training of future teachers at all the universities of primary and secondary education, including the PHSZ. Curriculum 21 states which subjects and interdisciplinary competences, described in terms of skills and abilities, are to be covered during compulsory schooling from kindergarten to secondary level (see figure 1). The basic requirements, points of orientation and consequent competence levels will be described for each cycle for the six subject areas (languages, mathematics, general science and social studies, art-craft-design, music and physical education). In each subject description the competences are clearly defined and linked, where appropriate, to other subjects and/or further competences. Interdisciplinary, personal, methodological and social competences (e. g. critical thinking and reflection) are linked to subject-specific competences (D-EDK, 2014b, p. 13–16).

This format results in more transparency as to where different subjects are linked, making it easier to develop a better network of information between the individual subjects and encourage cross-curricular teaching (D-EDK, 2014b, p. 6–7). One such example is the link between foreign languages and German, the school language D-EDK, 2015a, p. 1). It is explicitly stated in Curriculum 21 that learners should be able to transfer learning strategies from their first language of instruction[3] to foreign language instruction and by doing so, further strengthen their understanding of the school language. Communicative competence and cultural tolerance are further aims found in the general subject of language, forming a common theme throughout the languages.

[3] In the German speaking part of Switzerland regional dialects are spoken. These are diverse and can vary considerably to 'standard' German, the language of school instruction. For this reason many people consider 'standard' German to be the first foreign language.

Figure 1
Overview of the cycles and subject areas (D-EDK, 2014a, p. 11)



Note: The translation of the original German version was made in cooperation with the D-EDK.

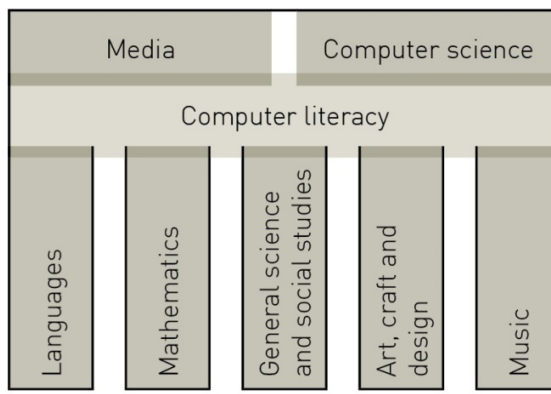
The most obvious skills relating to 21st century skills are found in the curricular module media and computer science (D-EDK, 2014c). The curriculum differentiates between the areas of competency in media and computer science, and competences in the usage of information and communication technology for learning purposes, every day usage and for future professional work and development (see figure 2). While media und computer science are taught as an individual subject, computer literacy is applied in the six main subjects mentioned above. Soft skills such as social competence and the ability to communicate and participate in a digitally global world using a variety of tools and devices (D-EDK, 2014c, p. 2), including those which have yet to be developed, are

integral in media and computer science, forming a further important focus. These skills are a central area of research at the PHSZ and will be described in more detail further on.

Through vocational orientation, the second interdisciplinary subject, young people should acquire competences necessary for their vocational education and further schooling. This field of study helps learners develop important 21st century skills for their adult life, with the main focus in the third cycle building bridges between public schooling and apprenticeship, which include the four competence areas (D-EDK, 2015b, p. 1–2): development of learners' personalities; preparation for the working world; decision-making and dealing with conflict; and planning, implementation and documentation.

With the introduction of the new curriculum, education for sustainable development (ESD)[4] will also become a compulsory part of the Swiss educational system (see figure 1). ESD stands for a holistic principle, and interdisciplinary education concept which "… empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society for present and future generations, while respecting cultural diversity." (UNESCO 2014b, p. 12). To achieve these competencies, children must be made aware of sustainability at an early age by focusing on cross-curricular topics (D-EDK, 2014b, p. 17–18). Thanks to the different specialist groups, "foundation education 21" as national competence and service centre[5], plus existing didactic materials (Künzli et al., 2008; Muheim et al., 2014) ESD is already anchored in Swiss education.

Figure 2
Structure of curricular module media and computer science (D-EDK 2014c, p. 6)



[4] Since the UN decade 2005–2014, the ESD has become a worldwide central educational concern (UNESCO 2014a).

[5] htpp://www.education21.ch

2.1 Implementation of change at PHSZ

The training approach

In order for teachers to acquire or strengthen their own key competences and help their learners acquire them, work needs to be done in teacher education. In accordance with the European Bologna Declaration of 1999[6] and European Qualification Framework[7], changes in the methodology are being advanced and implemented at a national level in order to better prepare future teachers for 21st century education. The shift from teaching to learning, described by Barr and Tagg as early as 1995, has since become a mantra in teacher education. The focus is no longer simply on factual knowledge and how to transfer it to the learners, but on promoting inquiry, critical thinking and reflection of the future teachers. In the OECD document "Preparing teachers and Developing School Leaders for the 21st Century" the necessity of the change in focus in teacher education is described as such: "A generation ago, when teachers could reasonably expect that what they taught would last for a lifetime, teaching a fixed syllabus of content was at the centre of education in most countries. Today, where individuals can access content on search engines, where routine rule based knowledge is being digitalised or outsourced, and where jobs are changing rapidly, teachers need to enable people to become lifelong learners, to manage non-rule-based complex ways of thinking and complex ways of working that computers cannot take over easily" (Schleicher, 2012, p. 35).

Teachers also need to be prepared for lifelong learning: "In short, the kind of education needed today requires teachers to be high-level knowledge workers who constantly advance their own professional knowledge as well as that of their profession." (Schleicher, 2012, p. 36) and so the training needs to help future teachers develop these skills. This is where the shift from teaching to learning becomes an important element in teacher education (Wildt, 2005, p. 2). In the area of critical and inquiry-based teaching the PHSZ has taken a dedicated step to include problem- or project- based learning (PBL) as an integral method of training, thereby encouraging autonomous learning. The theoretical basis of this approach is derived from a constructivist view of learning. Through their personal experience with this approach, strengthened through reflection of their own learning process, it is hoped that these future teachers in turn will be more adept and willing to apply such an approach in their own classrooms.

To account for the change of approach PBL requires, the attendance requirements have changed to allow students time for self-organized learning, giving them time to ask, research, and answer study-related questions. The methodology is being taught in the form of the "didactic double-decker": do-reflect-transfer, so that students will have the necessary experience and reflection to be able to use it for their own primary

[6] http://www.ehea.info

[7] http://www.eqf-ref.eu

school classes. The time necessary for such an approach is also accounted for in the semester timetables, and supported through the use of blended and on-line content.

Intercultural competences are important in our globalised world, and especially so in a multilingual country like Switzerland, which is by nature multi-cultural with its four national languages[8]. Multi-lingual and cultural exchange programmes are fully supported at PHSZ and all students studying to become primary school teachers are required to do a three week assistant teachership in either an English-speaking or French-speaking region. These exchanges plus a four week language stay abroad enable students to gain an insight into another school system and expand their cultural knowledge of the country whose language they will be teaching and are both requisites of Curriculum 21 and the competences required in language teaching (Hutterli, 2012).

2.2 Participation in international projects

Since its beginnings, PHSZ has played an active part in European projects, especially important to date to keep its voice in Europe and to maintain the contacts with its partners. PHSZ has participated in EU Comenius projects such as FACE IT (2007–2009), ETSize (2010–2011) and VoiceS (2012–2015). Taking part in similar projects in the future might contribute to achieving some of the goals stipulated in Curriculum 21, in particular with relation to the section on the first foreign language English in canton Schwyz, FA1E.5 (Language(s) in Focus), Awareness of linguistic diversity and FS1E.6 Cultures in Focus. Although the lingua franca of these EU projects is English, communicating with the partner countries in their own language is beneficial, mutually rewarding and positively looked on with a view to plurilingualism, which is an important aspect in the coordination of language teaching in Switzerland (Hutterli, 2012). These projects will most certainly play a role in encouraging tolerance in the students and helping them nurture a tolerant attitude in their own classes.

3 Examples of research in digital media

The Institute for Media in Schools (IMS) is the research department within the PHSZ. As its name suggests, IMS places a strong focus on the use of digital media and how the development of competences to facilitate teaching and learning processes in this field can be furthered in the classroom to prepare children best to live in the information society. It also considers the implications for universities of teacher education. However, implementation is only slowly taking place in the primary classroom. In recent

[8] Switzerland's four official languages ranked by number of speakers: German, French, Italian and Romansch (a derivative of Latin). In all regions two foreign languages are taught from primary school, at least one of which must be an official language. The other foreign language is usually English.

years it has been examining questions of this kind through a series of projects, funded by Swiss National Science Foundation and other partners. Apart from many empirical projects, it has been developing practical solutions and methods for schools. Below is a short selection which illustrates how key competences in digital media and literacy are being researched.

For some years now, the Institute for Media and Schools has been working in collaboration with the Goldau primary school[9] to examine its activities in daily school practice. Since 2009 the project school has been experimenting with the potential uses of smartphones in teaching and learning and has been extended to cover the use of BYOD (Bring your own device) (Döbeli Honegger & Neff, 2011).

With support from the Swiss National Science Foundation, IMS has been conducting a series of quasi-experimental studies to determine the conditions under which the use of computer games for classroom instruction results in increased motivation and engagement with the instructional content. It is specifically investigating the importance of collateral learning tasks and teacher support for the learning process using games. One such research project conducted by IMS, Awwware.CH[10], is a browser-based online game to promote media competency in children and adolescents and to examine the use of 'serious games' in instruction and its effect on both cognitive and motivational learning gains. Its findings revealed that the fun aspect when learning with computer games played a smaller role than previously expected (Iten & Petko, 2014).

IMS's work is based on established theories and problem-solving approaches, but also applies specifically relevant development methods and uses empirical procedures to test their solutions in actual practice. For a long time, pedagogical development was mainly regarded as an application field for discoveries made in educational research. Today, the boundaries between basic and applied research are much more fluid. In this regard, the "design-based research" approach to development has shown great promise for stimulating theory building. PHSZ regularly holds digital state-of-the art conferences presenting the latest projects by leading speakers from Switzerland and abroad. For example, the conference from May 2015 entitled 'Do IT yourself' discusses the competences defined in media and computer science in Curriculum 21 and how to implement them in the classroom.

Conclusions

Although the term "21st century skills" is not mentioned in any official national document nor within the PHSZ, by looking at the examples presented in teacher education, international projects and research it is possible to locate the key competences and

[9] For detailed information (but only in German) see the website http://www.projektschule-goldau.ch

[10] http://www.awwware.ch

find elements of 21st century skills in the PHSZ teacher education programme and in its realisation of the new curriculum with the change in paradigm. In the context of teacher education at PHSZ, classroom practice is implemented and assessed in these areas. As such, this is not the area of resistance and students are generally open to innovation and change as they have not yet become set in their ways. They are given ample time for their teaching practicum and are supported both by a practising teacher and a mentor from PHSZ. There is a continuous cycle of reflection parallel to their teaching experience.

However, the major challenge with which PHSZ is confronted is the integration of these skills into primary school education. This change requires a more cross-curricular approach in order to draw on the interdisciplinary competences in enquiry and critical thinking, reflection, and social skills (D-EDK, 2014b, p. 13). New course books, different teaching methods, and, most difficult of all, a wider set of competences for the teachers will be necessary. Constructive feedback and a focus on how far the learners' competences have developed will build a stark contrast to the current 'error culture'[11].

With practising teachers, especially those with many years of experience, there is a tendency to reject wide-reaching change. Teachers use much of their time and energy to be trained in areas where they may or may not see the relevance. In order to coordinate the new Curriculum 21 successfully throughout the canton of Schwyz, a strategy has been developed in which the introduction and implementation is supported not just from the top, but directly from within the ranks of the teachers. This means that the necessary support and qualification of teachers must cover two subsequent areas: both the individual ability for competence-based teaching, and the collective professionalisation of each school for the mutual realisation of the curriculum (Lersch & Schreder, 2013, p. 27). For this reason lecturers and staff from PHSZ will train a group of volunteers such as teachers, heads of schools, and advisors; the latter will then develop and test materials in school settings. These materials will be used in the next stage of training the teachers. It is assumed that by reducing the 'top-down' effect, the training will be met with less resistance and the new curriculum will be successfully adopted.

This paper has described one scenario in the current educational landscape in Switzerland. It cannot be assumed that other educational institutes hold the same views or have chosen the same path of action. Yet, considering the fact that the new education policy is being adapted throughout the German-speaking part of Switzerland, the issues will be similar. It remains to be seen how sustainable the effect of competence-based teaching will be for future generations of teachers and learners. A further study in ten years' time would be appropriate to provide more definite information.

[11] In German 'Fehlerkultur' where the focus is on what the learner has not yet achieved rather than where he or she stands on their pathway towards learning.

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Essential Skills for 21st Century Teachers in Turkey: Uludag University Example

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Abstract

This article explores applications of 21st century skills in higher education curriculum, specifically in teacher education. The authors discuss why preservice teachers need to be taught in an environment that students will be equipped with the 21st century skills and competences which help them to develop their own teaching skills and the technology skills of their students. The study is based on document analysis methodology and is focused on higher education competences in Turkey. The paper ends with implications for teacher education institutions which will implement 21st century skills competences in their curriculum.

Key words: 21st century skills, Turkish higher education, teacher education, competency, curriculum

Introduction

Today's students, in our context pre-service teachers, were born in a variety of technologies and have been described as "digital natives" (Prensky, 2001). This generation speak the language of technology from birth. Therefore, teachers must be familiar and comfortable using digital technology in order to keep up with an ever-changing tech-

nology context and students who no longer process information sequentially (Lambert and Cuper, 2008).

Although such technology provides easy and fast communication, it is also important for pre-service teachers to think critically about their learning and teaching so they can realize their place in a rapidly changing society. Initiatives such as the Partnership for 21st skills (www.21stcenturyskills.org) and the Cisco/Intel/Microsoft assessment and teaching of 21st century skills project (www.atc21s.org) also advocates that new century will demand new set of skills and competences for teachers, educational researchers, policy makers, politicians, and employers in order for them to function effectively at work and as citizens (Ananiadou and Claro, 2009). Supporters of 21st century skills movement also argue for the need for school reforms meeting new society's needs.

Besides school reforms in terms of well-chosen and planned courses that include core teaching knowledge, it is also important to organize prospective teachers' skills and experiences so that they can apply these skills in the classroom. This part is probably the most difficult aspect of constructing teacher education programs. In order for prospective teachers to learn how to teach in 21st century, three challenges are reported (Darling-Hammond, 2006a): first, teachers of 21st century need to know that teaching is quite different from their own experience as students in traditional classrooms; second, teaching now requires not only to "think like a teacher" but also to "act as a teacher", meaning that teachers need not only to know but also to be able to do a variety of things simultaneously; and finally new teachers should have the ability to deal with complex problems of the classroom and provide prompt respond in order to keep up with the changing nature of today's classrooms. A study examining seven exemplar teacher education programs shows that all programs had common features. Darling-Hammond (2006b) reports them as:

- a common, clear vision of good teaching that permeates all course work and clinical experiences, creating a coherent set of learning experiences;
- well-defined standards of professional practice and performance that are used to guide and evaluate course work and clinical work;
- a strong core curriculum taught in the context of practice and grounded in knowledge of child and adolescent development and learning, an under- standing of social and cultural contexts, curriculum, assessment, and subject matter pedagogy;
- extended clinical experiences—at least 30 weeks of supervised practicum and student teaching opportunities in each program—that are carefully chosen to support the ideas presented in simultaneous, closely interwoven course work;
- extensive use of case methods, teacher research, performance assessments, and portfolio evaluation that apply learning to real problems of practice;
- explicit strategies to help students to confront their own deep-seated beliefs and assumptions about learning and students and to learn about the experiences of people different from themselves;

- strong relationships, common knowledge, and shared beliefs among school- and university-based faculty jointly engaged in transforming teaching, schooling, and teacher education.

As it can be seen from this report, 21st century skills that new teachers should have are different from 20th century skills due to the emergence of sophisticated technologies. These technologies, commonly called Web 2.0 technologies, are changing both the nature of "perennial skills" and creating new "contextual skills" unique to digital natives (Dede, 2010). The distinction between perennial skills and contextual skills is important, because the curriculum of most of the teacher education programs include perennial skills, very few of them are able to adapt their curriculum to contextual skills. Unlike 20th century teachers who design courses to present information to solve routine problems, 21st century teachers and their students should be able to filter data from their experiences and contextual skills to think critically and solve sophisticated problems.

In traditional teacher education curriculum, little effort is given to build communication skills to engage well-structured interactions. The common method is face to face communication in which students develop few capabilities through dialogue within a common workspace. In the new curriculum though, teachers and students need to meet all kinds of communication tools to experience a variety of Web 2.0 technologies and find their best way of learning and teaching method.

Beyond curricular issues, current teacher education programs lack 21st century teaching and learning requirements in part because assessment tests do not measure 21st century competences. Tests usually measure perennial skills but do not give students an opportunity to reflect their knowledge and experiences to transfer their understandings to real life situations.

Another reason of 21st century skills underemphasized in today's teacher education curriculum is the lack of professional development. Because new teachers, policy makers and local authorities need to unlearn previous beliefs, assumptions and methods applicable in 20th century schools, and learn new ways of thinking, communicating, problem solving, and life and career skills. In order to alter schooling deeply, it takes more than the superficial changes.

The Framework for 21st Century Skills

Although there are a few different frameworks for 21st century skills, such as, Partnership for 21st Century Skills (2006), the Metiri Group and NCREL (2003), the American Association of Colleges and Universities (2007), and the Organization for Economic Cooperation and Development (2005), in the current study P21 was used as the framework since it is the most detailed and widely adopted framework than any of the others.

Partnership for 21st Century Skills (P21)

The P21 Framework represents both 21st century student outcomes (as represented by the arches of the rainbow) and support systems (as represented by the pools at the bottom). The elements (skills, competences, knowledge, etc.) in this framework are the ones new teachers/students need to master to succeed in the 21st century schools.

The curriculum of teacher education programs must integrate these elements by blending content knowledge, skills, expertise and literacies into the courses. On order to be successful, new teachers must be able to master core subjects. The core subjects include:

- English, reading or language arts
- World languages
- Art
- Mathematics
- Economics
- Science
- Geography
- History
- Government and civics

Furthermore, according to P21 framework students must be able to understand academic content at higher levels. It is suggested that this can be done by integrating interdisciplinary themes into the core subjects. The following are some of the topics that teacher education programs should integrate into the core subjects:

- Global awareness
- Financial, Economic, Business and Entrepreneurial literacy
- Civic literacy
- Healthy literacy
- Environmental literacy

Other important topics that educators should integrate into their lessons include:

- Learning and Innovation Skills
- Creativity and innovation
- Critical thinking and problem solving
- Communications and collaboration
- Collaborate with others
- Information, media and technology skills
- Life and Career skills

Methodology

The study is based on document analysis. First, curriculum of teacher education programs at Uludag University Faculty of Education (UUFoE) is examined. Both core courses and elective courses are analyzed to find out if they cover the necessary skills, competences and knowledge that new teachers need to master to be successful in 21st century schools. Second, the university's educational strategy plans are examined to see how much they cover 21st century skills elements in the framework. Final examination focused on the implementation of curriculum change throughout UUFoE. Courses and their final outputs were given as examples to show their consistency with 21st century skills requirements.

Findings

Document analysis was begun with course contents and finding the match in the P21 Framework. The elements of the Framework and related courses are presented in below tables. Table 1 shows Learning and Innovation Skills (LIS) and the related courses at UUFoE. Learning and innovation skills increasingly are being recognized at the Faculty of Education. For example, Entrepreneurship course is a core course that all 3rd year students have to take during their university life. It is in the University's strategy plan that graduates will have adequate knowledge about entrepreneurship and have the necessary skills to create and act innovative ideas in their work life after graduation. It is also offered Project Development and Management courses for two semesters so that teacher trainees will be able to plan, develop, and implement innovative projects at schools. Youth Projects Development course is another course offered for 2nd year teacher trainees to present European Union's funds on Youth Projects, especially projects which K-12 schools can involve as a partner. In addition, Creative Drama course has a considerable place in supporting innovative thinking skills at UUFoE.

Table 1
Courses related to P21 Learning and Innovation Skills

Courses offered at Faculty of Education	Target Group	Learning and Innovation Skills Covered
• Entrepreneurship	all 3rd year students – approx. 10 000 students throughout the university	• Use a wide range of idea creation techniques (such as brainstorming) • Create new and worthwhile ideas (both incremental and radical concepts) • Elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts • Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur • Develop, implement and communicate new ideas to others effectively • Be open and responsive to new and diverse perspectives; incorporate group input and feedback into the work • Demonstrate originality and inventiveness in work and understand the real world limits to adopting new ideas • View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes
• Project Development and Management I-II • Youth Projects Development	4th year students – approx 80 students/year 2nd year students – approx 80 students/year	• Create new and worthwhile ideas (both incremental and radical concepts) • Elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts • Develop, implement and communicate new ideas to others effectively • Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur
• Computer Literacy I–II	all 1st year students at Faculty of Education – approx 1200 students/year	• Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur • View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes
• Creative Drama	1st and 3rd year students at Faculty of Education – approx 200 students/year	• Use a wide range of idea creation techniques (such as brainstorming) • Create new and worthwhile ideas (both incremental and radical concepts) • Elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts

Table 2 shows Information, Media and Technology Skills (IMTS) and the related courses at UUFoE. Computer Literacy I-II courses are offered to all 1st year teacher trainees in order to provide necessary technology skills. In addition, there are a variety of courses providing IMTS at the Faculty. Some of them are presented at table 2 with covered IMTS goals.

Table 2
Courses related to P21 Information, Media and Technology Skills

Courses offered at Faculty of Education	Target Group	Information, Media and Technology Skills Covered
• Computer Literacy I-II	1st year students at Faculty of Education – approx 1200 students/year	• Understand and utilize the most appropriate media creation tools, characteristics and conventions • Understand and effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments • Use technology as a tool to research, organize, evaluate and communicate information • Use digital technologies (computers, PDAs, media players, GPS, etc.), communication/networking tools and social networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy • Apply a fundamental understanding of the ethical/ legal issues surrounding the access and use of information technologies
• Teaching Science and Technology	all 3rd year students at Faculty of Education Dept. of Primary Education– approx 200 students/year	• Use information accurately and creatively for the issue or problem at hand • Manage the flow of information from a wide variety of sources • Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information
• Instructional Technologies and Material Design	all 2nd year students at Faculty of Education – approx 1200 students/year	• Understand and utilize the most appropriate media creation tools, characteristics and conventions • Understand and effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments
• Computer Programming Languages I–II	2nd year students at Faculty of Education – Dept. of CEIT – approx. 200 students/year	• Use technology as a tool to research, organize, evaluate and communicate information
• Graphics and Animation in Education	2nd year students at Faculty of Education – Dept. of CEIT – approx. 100 students/year	• Use digital technologies (computers, PDAs, media players, GPS, etc.), communication/networking tools and social networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy

It is more important to have critical thinking skills and content knowledge in todays' life and work environment. In order to be successful, new teachers should be able to develop adequate life and career skills (LCS). Table 3 presents some examples of the current courses offered at UUFoE providing LCS. Especially Community service Application course is the perfect match in this category. Entrepreneurship is another course covering LCS.

Table 3
Courses related to P21 Life and Career Skills

Courses offered at Faculty of Education	Target Group	Life and Career Skills Covered
• Community Service Applications a. Identify current problems of society and prepare projects as a solution to them b. Develop positive attitudes to take part as volunteers in community service activities c. Develop projects for social problems d. Organize conferences, seminars, concerts or exhibitions e. Give seminars to different stakeholders in the society	all 3rd year/4th year students at Faculty of Education – approx. 1200 students/year	• Set goals with tangible and intangible success criteria • Balance tactical (short-term) and strategic (long-term) goals • Utilize time and manage workload efficiently • Monitor, define, prioritize and complete tasks without direct oversight • Go beyond basic mastery of skills and/or curriculum to explore and expand • One's own learning and opportunities to gain expertise • Demonstrate initiative to advance skill levels towards a professional level • Demonstrate commitment to learning as a lifelong process • Reflect critically on past experiences in order to inform future progress • Act responsibly with the interests of the larger community in mind
• Project Development and Management I-II • Youth Projects Development	4th year students – approx 80 students/year 2nd year students – approx 80 students/year	• Set goals with tangible and intangible success criteria • Balance tactical (short-term) and strategic (long-term) goals • Utilize time and manage workload efficiently
• Entrepreneurship	all 3rd year students – approx. 10000 students throughout the university	• Set and meet goals, even in the face of obstacles and competing pressures • Prioritize, plan and manage work to achieve the intended result • Demonstrate additional attributes associated with producing high quality products • Use interpersonal and problem-solving skills to influence and guide others toward a goal • Leverage strengths of others to accomplish a common goal • Inspire others to reach their very best via example and selflessness • Demonstrate integrity and ethical behavior in using influence and power

Mastery of core subjects and 21st century themes is essential for all students (new teachers) in the 21st century. In addition to these subjects, it also important to promote global awareness, civic literacy, entrepreneurial literacy, health literacy and environmental literacy. Table 4 presents how our curriculum covers those core subjects and literacies.

Table 4
Courses related to P21 Core Subjects

Courses offered at Faculty of Education	Target Group	Core Subjects Covered
• Community Service Applications	all 3rd year/4th year students at Faculty of Education – approx. 1200 students/year	• Using 21st century skills to understand and address global issues • Learning from and working collaboratively with individuals representing diverse cultures, religions and lifestyles in a spirit of mutual respect and open dialogue in personal, work and community contexts • Understanding other nations and cultures, including the use of non-English languages • Participating effectively in civic life through knowing how to stay informed and understanding governmental processes • Exercising the rights and obligations of citizenship at local, state, national and global levels • Understanding the local and global implications of civic decisions
• Environmental Education	all 2nd year students at Faculty of Education Dept. Of Primary Education – approx. 100 students/year	• Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, • Climate, land, food, energy, water and ecosystems • Demonstrate knowledge and understanding of society's impact on the natural world (e. g., population growth, population development, resource consumption rate, etc.) • Investigate and analyze environmental issues, and make accurate conclusions about effective solutions • Take individual and collective action towards addressing environmental challenges (e. g., participating in global actions, designing solutions that • inspire action on environmental issues)
• Entrepreneurship	all 3rd year students – approx. 10 000 students throughout the university	• Knowing how to make appropriate personal economic choices • Understanding the role of the economy in society • Using entrepreneurial skills to enhance workplace productivity and career options

Conclusion

In many countries the introduction of 21st century skills and competencies in the teacher education curriculum or standards in the context of a general reform. Turkey is one of them. Especially after FATIH project, a project providing tablets and smartboards in every classroom nationwide, ICT-related and entrepreneurial skills gained more attention. Teaching ICT as a separate school subject is essential in Turkey, unlike countries that have reached a certain level of "ICT-maturity" where ICT has penetrated people's lives, including schools (Ananiadou and Claro, 2009). It is the same with entrepreneurship in education. It is a fairly new subject in Turkey and it is given a great importance in educational reforms and curriculum of teacher education. In Turkey, there are national guidelines for teaching specific subjects or competencies, as schools and teachers are dependent and expected to follow these guidelines.

Teacher trainees are expected to be familiar with their country's curricular objectives, covering 21st century skills, and to use these documents when planning their lessons, so it is important to include these skills in their undergraduate training. In addition, there should be in-service training programs in place for familiarizing teachers with the new policies and teaching and assessment of 21st century skills.

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21st century skills at Saxion Teacher Trainer Education Hengelo

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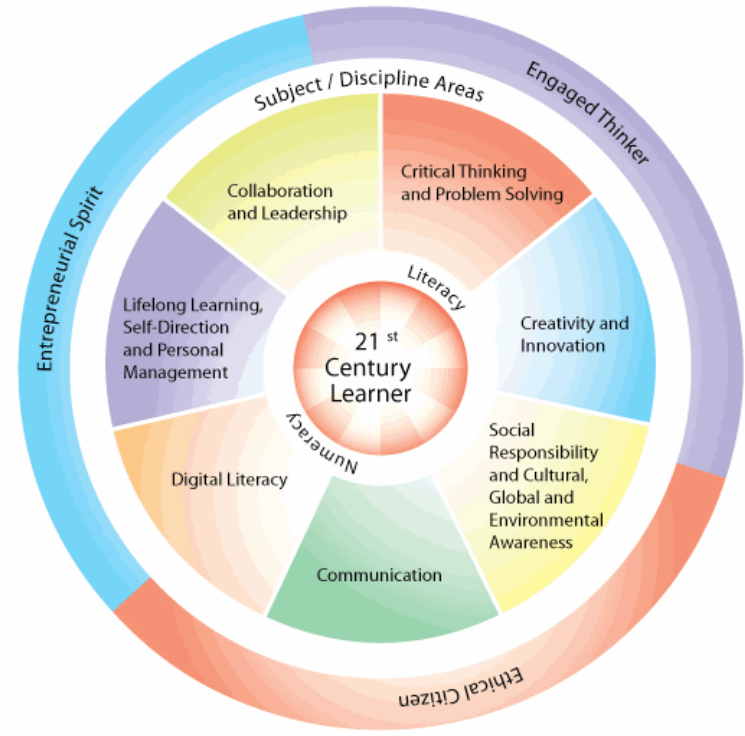
Our society is evolving, and the society change also our education. As a result of the development of the knowledge society and the result of our efforts it is essential that students and children at school are given the opportunity to acquire the right skills. Skills and competences need to function well in the knowledge society, to work and to develop by themselves for life‚21st century skills'. The degree of change in the world requires us to rethink restructuring of education and learning relationship between students, teachers, and knowledge. This is an important reason to change our curriculum of the Saxion Teacher Training Education.

This year (2015) we started with a new program for all third year students. In the curriculum of the teacher training Hengelo we used the 21st century skills as one of the basis for the design. It involves the acquisition of 21st century skills in students in primary school but also experienced this by themselves.

Lectures at Saxion wanted to stimulate more entrepreneurship, encourage critical thinking, creative thinking etc. The lectures decided to use the model of Kennisnet (2011) as a starting point.

Model Kennisnet



(http://www.kennisnet.nl/themas/21st-century-skills/)

With a group of lectures with different expertises we started to brainstorm about themes, goals, contents ect. The model is used for the design of the substantive goals and the assessment.

Curriculumdesign

In the first period of the academic third year students begin their specialization period. We decided to organize this period differently according to the principles of the 21st century skills. Students are part of small workgroups (max. 10 students), we call them DOT's (learning community). The group is instructed to develop new education

materials for children in the primary school. There are several conditions where the material must meet:

1. It will stimulate students in the elementary school skills and competencies of the 21st century
2. it must be innovative
3. integration of various disciplines
4. encourages thinking skills
5. etc.

Every DOT-group have a lecture. They come together once a week, one hour. Then they talk about instructioncollege, read the literature, and experience in practice. The initiative lies with the student the lecture is listener and tries to bring coherence.

After eight weeks the education material will be finished. Every group have made tutorial and will present the education material in an Pitch. Afterwards, students are substantively questioned in discussion groups by different lectures.

Summarizing:

- The test (tutorial, pitch and discussion), and the design of the small workgroups stimulates some 21st century skills in students.
- The commission makes students aware of boosting skills in elementary school children
- The lecture takes on a different role, he will be more coach

The first experiences are very positive. Students are motivated and committed. Lectures are enthusiastic and more aware of their different role. Next year we will develop this further with more lectures. We are convinced that we can thus contribute to changes in the primary education.

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People with physical disabilities on the labour market – abilities required for work self-fulfilment

Lucie Procházková

Abstract

Finding success on the labour market by people with disabilities is influenced by several factors: their readiness and motivation, the available opportunities, the attitudes of employers and the society, as well as the preparedness of the labour market and the work environment to incorporate them into the work stream. Social and economic advancements demand that the youth be equipped with skills and competences contributing to their full-fledged integration. Objectives: The aim of the research presented herein was to ascertain the experience of people with physical disabilities with the labour market (work conditions, job search reasons, obstacles, etc.). Methods: The main technique of the qualitative research was a semi-structured interview. Participants were people with congenital and acquired restricted mobility (here as a result of multiple sclerosis) with work experience. Based on the obtained information, we formulated the skills and competences that can be seen as necessary for employment in the 21st century. Results: The barriers experienced by people with disabilities in the work environment arise from their disabilities as well as the attitudes of their employers, their openness and friendliness. The overall attitude of the society towards people with disabilities is also perceived as significant.

Keywords: work experience, work self-fulfilment, skills and competences, people with disabilities, attitudes, obstacles

Introduction and Theoretical basis

Undoubtedly, work is a prerequisite for full-value integration in social life for every human being. Work allows people to achieve recognition, provides them with the possibility of self-fulfilment and social interaction (cf. Procházková 2009, Bieker 2005). Work divides time into working hours and free time, allows regular and systematic activities that go beyond personal purposes, and links working people with the social reality. Thanks to work, people can take on new social roles.

In terms of gainful occupation, Zwierlein (in Niehaus, Montana 1997, p. 18) understands work as *"a planned and vigorous action […] that primarily serves to ensure existence and the satisfaction of needs"*. Considering the importance of this earning role, Jahoda (1983) distinguishes two functions: overt and latent. The overt work function ensures livelihood through achieving earnings. Latent (hidden) functions refer to those functions that a person usually does not realize. The economic focus of work would thus be the overt function, while the latent (hidden) importance bestowing a meaningful life impletion. These functions can also be seen in the factors (Langmeier, Krejčířová 2006) that in varying degrees motivate people when looking for a job (to gain material benefits, motivation to help people, possibility of self-fulfilment, opportunity to find friendly contacts).

Paid work represents an opportunity to become more independent. Employment allows people to obtain a new status in the society; those "living mainly on social benefits" (people with disabilities are often seen like this) become persons gainfully employed who also pay taxes and insurance contributions (Procházková 2009). In addition to changes in the perceptions and attitudes of the society, work forces them to plan and manage their time, and has a positive impact on their self-perception and self-confidence as well as on the meaning of their own lives and motivations.

For people with physical disabilities, work has a specific meaning also because it is *"publicly visible evidence of their performance and readiness to performance, individual skills are evident rather than the deficits"* (Bieker, 2005, p. 16). Inability to fulfil the job role, be gainfully employed, to take care of themselves or their families, or be useful, is reflected in the quality of life of individuals (consequences in the economic and social status, disturbed identity and self-perception, social isolation that may result in deterioration of the whole personality).

1 Unemployment and its reasons

Unemployment threatens more certain groups of people that also include people with disabilities. The reasons for high unemployment among people with disabilities can be found both on the part of employers and the persons with disabilities themselves. Many employers do not have experience with people with disabilities even in normal life, they are not aware of their capabilities and limitations. They cannot imagine what it means to employ a person with a disability, how to integrate such a person into their companies (cf. Procházková 2009, Hrdá 2007). Many people only think of persons with physical disabilities as people in wheelchairs (cf. Novosad 2011, Wolf 2009). The first things they, therefore, reflect upon are (only) the barrier environment, the inability to perform certain activities and limited overall performance, or they are afraid of higher morbidity.

In its questionnaire survey, the Ministry of Labour and Social Affairs generally dealt with the status of people with disabilities on the labour market. Lack of education and professional qualifications for employment was identified as a significant barrier. Furthermore, almost 21% of the respondents stated that they suffer from deprivation, anxiety and resignation. Another barrier may arise due to limited working capacity and unwillingness to commute or move (VÚPSV, 2011). In people with restricted mobility, commuting can often represent a major (and everyday) concern or a decisive factor in whether to accept a particular job.

Barriers in employment and their impact on satisfaction in people with multiple sclerosis were addressed by Rumrill (Rumrill et al., 2004). The respondents mainly reported barriers in access to work, working conditions and the social environment (temperature in the workplace, the presence of stairs, parking distance). Other obstacles are caused by problems associated with the illness itself (inability to work full-time, low energy, memory problems). Finally, the respondents stated concerns about their future work self-fulfilment due to disease progression.

In the employer, we can see fear of new and unfamiliar things; they do not know how to communicate with these people, how they should behave towards them, they may feel embarrassed, etc. The problems may also include concerns about the high cost of creating jobs suitable for people with disabilities (Michálek, Matysková, 2011). The pressure of competition resulting from the global market enforces greater rationalization and automation while workers are required to perform better and better or are replaced with machines (Bieker, 2005). In people with disabilities, the fundamental cause of difficulties in finding or keeping work is especially their substandard or inadequate education. Furthermore, they have unrealistic ideas about their future careers, lack awareness of the labour market, feature poor social and communication competences as well as insufficient motivation (Procházková in Bartoňová, Vítková et al. 2010).

2 Changes in the 21st century

Due to developments in the society and in the economy, young people must harbour such abilities (skills) and competences that will enable them to benefit from the emerging forms of socialization. Thanks to them, they will be able to actively contribute to the economic development of the system that is dominated by knowledge. These abilities are referred to as the skills and competences characteristic of the 21st century and have to focus on the needs of emerging models of economy and social development rather than to adapt to the industrial mode of production, as has been the case (Ananiadou, Claro 2009).

Education in the school environment and beyond should contribute to shaping social values and attitudes. However, these cannot be acquired only in the school environment; experience and contact with the challenges of everyday life are necessary as well. Practical skills and experience increase the chances on the labour market and positively affect interpersonal relationships, acceptance of differences and the willingness to adapt.

In the 21st century, people will require a set of other skills and competences than the hitherto to function effectively at work as well as citizens beyond work (Dede 2007). This need must be reflected by schools and the education system in preparing students for life after school. Likewise, it must reflected by universities in the preparation of future teachers. It is important not only what knowledge young people acquire during the education process but whether they are able to use their knowledge and skills in everyday life.

In the OECD study focused on the skills and competences for the 21st century, the competences are divided into three dimensions: information, communication, and ethical and social impact (Ananiadou, Claro 2009). People must be able not only to acquire information but also to work with it, draw connections and perceive it as a basis for new ideas. Information is thus understood as a source and as a product. Communication plays an important role in preparing for life in a community where people represent themselves, their opinions and attitudes, being able to express them and also accept the opinions of others. Communication includes the ability to cooperate (teamwork), flexibility, adaptability, but also the ability to communicate effectively. The dimension of ethical and social impact refers to differences in the society and the social responsibility of everyone where the action of one individual can affect the entire society.

3 Experiences of people with physical disabilities with the labour market – results of researches

Within the research project *"Special needs of pupils in the context of the Framework Education Programme for Basic Education"* (MSM0021622443, principal investigator prof. Dr. M. Vítková, CSc.), we addressed the topic of work and employment of people with disabilities from many angles. This paper summarizes the results of qualitative researches based on semi-structured interviews focused on the experiences of people with disabilities with the labour market. The surveys were conducted on people with congenital and people with acquired physical disabilities.

The aim of one research was to identify the experiences of people with congenital physical disabilities with the labour market, obstacles that they perceive and their reasons for seeking employment (Procházková in Opatřilová 2013). There were three criteria for selecting informants: congenital physical disability (here cerebral palsy, muscular disease, spina bifida), age 25–40 years and the existing labour market experience. A total of 13 interviews were conducted (8 with men, 5 with women).

Informants of the other research were people with acquired limited mobility as a result of multiple sclerosis (MS). The aim was to determine the influence of multiple sclerosis on work and job execution. We mainly focused on the possible restrictions, on the work climate and the working conditions, and generally on the opportunities in the labour market (Ondrová, Procházková in Bartoňová, Vítková 2013). The criteria for their selection coincided with the criteria in the previous investigation. In addition to the existence of MS, the criteria were productive age (25–55 years) and employment history. The research group eventually consisted of 7 informants (5 women, 2 men) aged 30–55 years. Four informants had university degrees, while three informants graduated from secondary vocational schools. At the time of the research, three of them were already unemployed; two employed informants belonged to the group of self-employed persons.

4 Summary of the researches and discussion

The main factors influencing the work self-fulfilment in people with (physical) disabilities are represented by the general perception of people with disabilities in the intact society, the disability itself, employers' attitudes, the barriers in the environment, and the system settings. These research surveys dealt with work experience in two groups of people with limited mobility, congenital and acquired during life. In the results of both surveys, we can observe concordances that specifically relate to restricted mobility and its implications for performing work. Nevertheless, we also perceive differences that may be associated with the time of disability formation and disability nature.

First, we focus on the differences. Individuals with congenital disabilities (e. g. cerebral palsy) are confronted with certain limitations already from birth and never experienced the situation of finding a job without this handicap. People with acquired disabilities often get their first job before having major health problems and the change sets in later. After acquiring the disability the people fear of physical labour or failure to cope with the pace of work. They distress over changes in the labour collective and fear of how they would be accepted by a new team. When forced to find a new job, informants also considered whether to mention the existence of their disease or not.

Failure in finding a job of people with congenital disabilities are associated with health conditions but relate to the "unserious" conduct of employers and to the general situation in the labour market as well. Informants are aware of the restrictions that can be caused by a physical disability; however, they point to hasty conclusions and evaluations of the employers resulting from the fact that they often do not get the opportunity to present their own abilities. Employers particularly notice the limitations in movement, the crutches or the wheelchair, and not what the person can offer. If a person has a significant physical disability, eventually also combined with a communication disorder, many people assume that such persons also have intellectual disability. This is often the general perception of the society that people with disabilities meet.

Another difference can be seen in the permanency or alterations to the health condition. MS as well as muscle diseases have a progressive course. In these people, it can be expected that their health will deteriorate, which will be also reflected in their work performance. In the opinion of persons with multiple sclerosis, the most serious factors affecting the ability to work are those associated with the disease (symptoms, progression, fatigue) as well as nonmedical factors (age, education, previous practice and work experience). Disease progression and the inability to fulfil job duties are a common reason for leaving the job.

Adjustments to working conditions and the work environment are regarded as necessary for staying in employment. A Canadian research among women with multiple sclerosis (Dyck, Jongbloed 2000) shows that the adjustment of work conditions can greatly enhance people's ability to continue in their work. This requirement has been also cited by informants in our survey. The most helpful measure would be readjustment of working time. Informants would welcome flexible working hours, the opportunity to rest during the day, part-time work with flexible distribution of working hours during the week; working from home would also be an alternative.

In many areas, the experiences and attitudes of informants concur – e. g. barriers at workplace and on the way to work (depends on the weather and the current health status). Difficulties in performing a job are also similar (they vary depending on which movements can be or cannot be performed and how long the person is able to concentrate on work). Compliance is also apparent in the reasons and motivation (or lack of motivation) to work. The key reasons include the need for self-fulfilment, social contacts

and meaningful fulfilment of the day. Work gives the people a sense of importance and usefulness, and also helps them to cope with psychic problems. People with congenital disabilities want the work to be useful; people with acquired disabilities want the same to remain useful. According to Bradley (sec. cit. Bradley et al. 2004 in Roessler et al. 2011), employment allows people not to perceive just limitations and disability but rather to see themselves as independent and self-sufficient persons.

Financial reasons are more emphasized in people with congenital disabilities. In the Czech Republic with regards to health condition and reduced working capacity, most people with disabilities at productive age receive disability pension. But it does not always allow them to lead a life according to their expectations. Our informants consistently state that people have a distorted idea of the amount of disability pensions and may, therefore, feel that it is sufficient. Another problem is the overall perception of financial support for people with disabilities as an advantage. The informants emphasize that this is a misconception. In people with acquired disabilities, financial difficulties may appear as a result of the deterioration of health, inability to perform their original job and its potential loss. The earning allows both groups to lead an independent and self-determined life.

Successful integration of persons with (physical) disabilities requires an open and friendly approach on the part of employers, colleagues at the workplace, and the entire society. Adjustments to the work environment (barrier-free), working conditions (flexible working hours etc.) and workloads are major contributors in acquiring or preserving jobs for people with disabilities. The willingness of people with disabilities to work on themselves is important as well.

Conclusion

With regard to the competences specified in the aforementioned OECD study and divided into three dimensions – information, communication, and ethical and social impact (Ananiadou, Claro 2009, p. 8–10) – it is possible to formulate competences currently necessary for successful work self-fulfilment of people with (not only physical) disabilities. Sufficient information, which must be clear, accessible and relevant, can be considered a crucial factor. People with disabilities need to know where to search for information, how to respond and how to use it for other purposes. In case of employment, it may be information regarding the profession, what is required, where to look for job offers, how to write a CV and a cover letter, how to sell own skills and competences, etc. Employers require the ability to work with new technologies and willingness to learn new things. These skills are increasingly proving to be essential and will be taken for granted in the future. In people with disabilities, new technologies can facilitate access

to information and also allow or facilitate communication and thus compensate for the limitations caused by disabilities.

Communication is a basic human need. It plays an important role in the development of human personality, in integration into the society as well as in the process of teaching and learning. In people with disabilities, we can encounter impaired communication skills with both verbal and nonverbal components. Competences in communication include not only the active component but also the ability to listen to and accept the opinions of others, the ability to cooperate and adapt to the environment in which the person exists. In the work environment, the mentioned technologies may contribute to active involvement of people in the work process as well as beyond it.

The development of communicative competences is emphasized already during training. One of the outputs of the Framework Education Programme for Basic Education (FEP BE 2007, p. 15) is *"the use of the acquired communicative skills to build relationships needed for adequate coexistence and quality cooperation with other people"*. This aspect thus extends into the social and ethical dimensions that relate to social responsibility and impacts of the action of every person.

Modern information and communication technologies blend through all dimensions, and contribute to informedness, communication as well as social interactions. However, they may be tempted to non-compliance with certain language or social rules and lead to depersonalization. In the work sphere, they allow people to work from home, support flexibility (working hours, work place) and can contribute to prejudice-free behaviour. The prospective employer or client is not influenced by the physical appearance of the given person (job seeker) but focuses on the offered skills and services.

Individual dimensions and competences blend together and complement each other. The learning of these features takes place both in the school environment and outside it. People react to everyday experiences, the development of the society, and to the economic and political development. They are always acquiring knowledge, skills and competences that will enable them to obtain and fulfil the role of full-fledged, active and participatory members of the society.

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The impact of direct child assistance strategy as an approach for rehabilitating children and youths with disabilities: a baseline survey of the three senatorial districts of cross river state of Nigeria

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Abstract

The direct child assistance (DCA) service approach is a core strategy used by the Liliane Funds in providing rehabilitation to children and youths under its care across the world. This quality service delivery strategy is provided in partnership with organizations with similar mission and vision through mediators and field workers. The baseline study examined the successes of the programme so far in the area under survey. Emphasis was on core areas of interest in the rehabilitation process such as Education, Social, Medical, Economic independence, Interpersonal relationships and in recent times Enabling environment. The aim of the study is to find out the impact of the programme on the children and youths, their families and community adjustment, parents and care givers basically on the areas of focus and participation in the rehabilitation process. A total of 150 participants drawn from children and youths who previously and currently benefit from this programme, representatives of partner organizations and Mediators who are

actually involved in the delivery of the packaged services to beneficiaries in schools, training centres and shops, hospitals and at their door steps. Five research questions were posed reflecting the five core focus areas. Also, interview guide which provided smooth transmission of discussion with informants were drawn. Interview was conducted on a face to face contact with participants by the researcher. A simple percent statistical tool was used to describe the outcome of results. The result revealed that 80% of children and youths, who are beneficiaries, cooperated with the rehabilitation and could set goals and work toward achieving them. It also revealed that success was more recorded in the areas of education and medical rehabilitation, with social and interpersonal relationship scoring only 45%. 17% constituted dropout from the programme due to lack of parental participation, truancy on the part of the children/youths and sometimes due to more handicapping conditions. Mention also was made of inadequate financial allocations for mediators to execute the programme.

Key words: Direct child assistance strategy, Rehabilitation process, inclusion, family and community adjustment, enablling environment.

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Introduction

Disability is not just a health problem; it is a complex phenomenon reflecting the interaction between features of victims and features of the society in which they find themselves (Liliane Fund 2013). Overcoming the difficulties faced by children with disabilities is imperative requiring deliberate interventions to remove environmental and social barriers thereby empowering the children and youths with disability to become active actors in their own lifelong process of rehabilitation and overall development. "For many years now, direct child assistance has been our core strategy in the delivery of needed services to our children and youths. Our primary focus is on the child's personal needs" (Liliane Funds, 2013). One landmark achievement of the Catholic Church in Ogoja and its environs has been its unchallenging record of service to humanity. This the church has carried on over the years either single handed or through collaborating with other bodies. Hence, it is on record that services to the disabled and their families in Nigeria have been provided by a joint efforts of the Missionaries, Government,

Voluntary Organizations, Philanthropists and International bodies since the turn of the century (Ajobiewe, 2000).

The focus of this paper is to closely examine among others, the success and failures of the use of direct child assistance rehabilitation programme of the Liliane Fundations Netherlands as delivered through the programme and services for the disabled of the Catholic Diocese of Ogoja and its environs. Major focus points were family adjustment including interpersonal relationship, family relationship, social activities, community groups and religious activities. Others highlights of the programme focus areas are Education, Social participation, Medical services and enabling environment that would facilitate inclusion of the disabled in to the mainstream of the society.

This baseline study described the condition and strategy under which services for people with disability were provided prior to the partnership enjoyed now between the Liliane Foundation and the Catholic Church in Ogoja Diocese and its environs. The study examined the intervention period to determine progress or any lack thereof.

How can observation and asking of question make the difference in righting the wrongs in most families and communities with children who are disabled for adequate adjustment to the reality of the situation? As the programme for children with disabilities gradually expand, the need for collaboration and partnerships in service delivery becomes imperative with stakeholders looking beyond the children's characteristics but rather focus on the child's personal needs and special demands of the environment. This is a prominent feature and a motivating factor in the direct child assistance strategy.

The following five research questions were put forward to guide the study:

- To what extent does family and community adjustment enhance a rehabilitation process and acceptance of the disabled child?
- To what does educational rehabilitation contribute to the overall development of a disabled individual?
- What role can a person with a disability play in the fight against social forces that stand on his or her way in living a fulfilled life?
- To what extent can the environment be explored to make life better for an individual with disability?
- To what extent does attending to individual child's needs delivery in terms of progress or positive change from focusing on a group or organization?

The survey is limited to Cross River State and included are ten Local Government Areas out of the eighteen in the state. A total of 150 participants were drawn to be interviewed. The subjects were selected from children who might have been beneficiaries of the direct child assistance rehabilitation programme of the Liliane Funds within the study area or still in the process of rehabilitation in the focus areas of Education, Medical, Social, Economic, Family and community adjustment and enabling environment for inclusive practices. Also included in this study were Representative of the partner

organizations and their Mediators and Field workers. Not least among the participants were the parents of the children with disabilities who currently are receiving assistance or must have completed training in any one or more of the focus rehabilitation areas.

The study is significant in many ways. First of all, it served as an appraisal of the project inputs and outputs revealing progress and lacks. Secondly, the strengths and weaknesses of this direct child assistance strategy is x-rayed and necessary amends or adjustments are noted. More so it is a vital tool for assessing the cooperation and involvement of parents and care givers, other family members, children and youths with disabilities and teachers. Other trainers on vocational skills and Disabled people organizations in terms of commitments and participation and the need to continue or discontinue or improve on the strategy to ensure more results that would create and build an inclusive society for all including the children with special needs in general and the disabled in particular.

To support the outcome of this study, a brief professional review of related literature was undertaken to ascertain facts linked to the phenomenon.

The Family and Community adjustment as an ingredient for effective rehabilitation of a disabled child:

The direct child's assistance strategy in the rehabilitation process recognizes the family as one of the major forces in the environment which influences the child "normal or special". Jordan, Gallagher, Huntinger and Karnes (1992) noted that if we expect to be effective in special education, we have to work with the family in our efforts to help the child. This is more especially when we are dealing with a child with disability. The point of contact between the child and the environment is the family. The association is lifelong and complex. In their discussion of the bond which glued the family and the child, Turnbull, Summers and Brotherson (1986) identified and listed seven areas of responsibilities which the family shoulders. These include:

- Economic: In this case, the family is committed to generating income for the payment of bills and investments.
- Domestic and health care: The family is in charge of provision of food, clothing and security.
- Recreation: The family is responsible for initiating and providing respite and diversion to reduce stress for the children and other members of the family.
- Self identity: Creating and making it possible for children to develop a sense of belonging is very useful and paramount in children and most essential for those with disabilities.
- Affection: Expression of love and companionship provides a great deal of respite to and reassures the child with disability of acceptance and security.
- Socialization: Helping children generally and disabled in particular to develop interpersonal relationships and skills through social interactions is of great importance in every rehabilitation process and is highly encouraged in the direct child assistance

strategy by involving the disabled child in practical social activities within and out of his/her immediate family.

Education and vocational: This has to do with ensuring that homework is done by the child and assisting the child make a career choice is an important role of the family. Commenting on the reactions of most parents to the birth of a handicapped child into a family, Kirk, Gallagher and Anastassiow (1993) identified two major crises faced by such parents and which influence their reactions. These crises include:

"Symbolic death" of the child they were expecting and for whom they had set goals for successful education and financial security. They consider their dreams a lost hope.

Providing daily care for the child: The feeling is that the child may not develop along the usual pattern to become an independent adult, a situation which weighs heavily on such parents setting in confusion and trouble and of course blames and accusations.

The Direct child assistance approach to rehabilitation process capitalizes on these enviable roles of the family and the negative influence of the crises that sets in as a result of the birth of a handicapped child to insist that delivering the needed services to the child must begin with the child's family and/or caregivers.

In his contributions on the issue of family and community adjustment, Basharu (1983) posited that "life in itself is more than a job". According to him, life consists of a variety of wide range of experiences of settings which encompasses family, community, religious, occupations and interpersonal relationships. He is of the view that for any all round development of an individual child with disability; a rehabilitation process must concern itself with all of these activities noting that there is no sharp line between a person's vocational adjustment and his family and community adjustment. Basharu contends that family and community adjustment is not very easy but should however be explored and exploited to the advantage of the individual with a disability. In most cases, the efforts by many individuals with disabilities who try to be assimilated into the society especially into the work and play of the community is met with resistance as the community may not be ready to accommodate him/her without reservations. This occurs both in a formal and informal groups like work place among people who are suppose to even be colleagues, churches among worshippers, markets among buyers and sellers, and even in a most shocking and frightening cases in a one to one interpersonal relationship (Olayi, 2013).

Olayi in retracing some of his most dehumanizing experiences aptly stated that the society is yet to be transformed from the negative influence of ancient fears and anxieties perpetuated by myths and cultural beliefs about disability in our society. To him however, the battle is to seek relentlessly self fulfilment and actualization in the face of stiff opposition from un-daunting agents of discrimination and exclusion. This he contends must rage on until the attitudinal barriers to social inclusion and self fulfilment by the disabled are ranted down by laws and wrestled out by successes and observable

positive changes and role play by the Government, Advocacy groups, Parents, Teachers, Disabled groups and associations through education and social justice.

It is pertinent to note here that the type and quality of life and interpersonal relationships a child with disability develops and attained is seriously conditioned by his/her personality, his or her interest and the situation in which one finds him/herself or lives. The direct child assistance strategy believes by a realistic rehabilitation package if properly delivered can contribute to the effectiveness of the individual disabled child's interpersonal relationships by:

1 Removing over dependency on sighted guide in the case of a blind or visually impaired for mobility

1.1 Job creation and empowerment of the disabled child

1.1.1 Helping the child to understand him/herself fully

Family Relationships

Any well packaged and delivered rehabilitation programme especially through direct child assistance can do well to improve upon the level of family ties shattered by birth of the handicapped child. Evidence abounds that families tend to draw closer mostly at the initial stage of crises, but it stand to lose some of its corrosive effects to divisive elements of the family relationships when the crises depends. It is this latent fears and anxieties about disability that the rehabilitation service provider focuses on when implementing direct child assistance programme. The individual becomes employed, can work and earn income with which he or she can alleviate the family's economic problems and help contribute to the development of his or her society and as well enhance his/her acceptance status.

Social Activities

Generally, leisure time is a vital recreation that cushioned the effect of stress in people. Any rehabilitation should as well concern itself with developing this worthwhile programme of experience in the life of a disabled child. Although not all leisure time activities are available for participation by individuals with disabilities, care should be taken to select activities depending on type, level and impact of the handicapping condition.

Community Groups

Rehabilitation pursuit that aims at preparing an individual with disability to participate in community functions is and can be rewarding. Although belonging to any commu-

nity group formal or informal, is an individual decision, showcasing ones worth and talent can be well presented in opportunities offered by such community groups like service clubs, Religious organizations, Political and Civic clubs, Intellectual groups or Sporting clubs, age grade associations etc (Basharu, 1983).

Religious groups

Developing in the disabled individual a cordial relationship with the creator is important too. Turning to religious faith for supports is a common practice with many who run into problems. This is not indifferent with individuals with disabilities. Sometimes, ones ties with his or her religious faith become a strengthening force and an avenue for self spiritual and social actualization for many handicapped individuals. In fact, apart from spiritual adjustment of the individual disabled child, religious group provides assurance in terms of acceptance as the individual is often carried along as he or she is encouraged to join in prayer groups or associations and choir and musical group. This kind of participation gives joy and helps the individual to contribute his or her quota to the growth of the church or association.

Enabling Environment

Apart from working with the family and community to create an enabling environment for acceptance and coexistence, this area of activity has just been introduced by the Dutch Office of the Liliane Funds for mediator to implement as direct child assistance core activities. This aspect of the programme promotes participation by the disabled child in the society towards achieving inclusion (Liliane Funds 2013). According to the Organization, "this offers more enriched and sustainable results and positive changes for the children with disabilities". It as well addresses the barriers the children face or experience in their communities.

Creating enabling environment through community level intervention involves parents, neighbours, teachers, administrators, social workers, health workers, clubs and indeed associations of disabled persons themselves and should aim on improving the physical environment and attitudes toward the disabled as well as grass root policies that would influence participation and acceptance of the disabled in education, political, medical services and every day today activities without exclusion by discrimination and marginalization (UNESCO, 1994, Inclusion International, 2006, Kisanji, 1999). In order to ensure accessibility of the environment for participation by children with disability, the following activities can be of help to planners and implementers of the rehabilitation programme:

Counselling and training of parents and/or care givers.

Creating and sustaining awareness about the needs of the disabled among parents, neighbours, teachers and other community members on the need to accept children

with disabilities in their schools, classrooms, skills training centres, community groups, social clubs etc.

Training and retraining teachers on better skills and competencies in coping with and managing children with disabilities in their classrooms.

Formation of advocacy and lobbying groups with stakeholders and politicians.

Engaging on small scale adjustment of the physical environment on school compounds and homes to improve on accessibility especially for wheelchair users and others.

Facilitating and setting up of Organization of Disabled People and self help groups.

Education

Realizing the importance of education for fighting and reducing the impact of disability in the people living with disabilities, individuals, voluntary organizations, philanthropists and Governments working for and with disability groups or organizations should try to ensure that it is prominent in their design of programme and services among others. Quality education is one of the keys to empowerment. Realizing self esteem and lifting people out of poverty (Sight Savers, 2012). Realizing the need for education, Article 26 of the Universal Declaration on Human Rights provided for the right to education aimed at the full development of every child, youth and adult (UNESCO, 2006). UNESCO noted that in spite of this great need for education, about 77million children are not enrolled in schools and that at least 25 million of them have one form of disability or another.

Contributing to this appalling situation, World Bank (2003) stated that not more than 5 percent of children with disabilities do complete even a primary school education. Going to school in the viewpoint of Inclusion International (2006) is one of the few rite of passages shared in countries the world over. It outlined the benefits to include:

School is where we make friends to last a life time.

School is where we learn about the rules that govern our communities and our nation.

Going to school and getting the right education brings about personality development thus promoting understanding, tolerance and friendships.

Driven into the theme "Education", Sight Savers International noted that access to quality education for disabled children is not a policy priority in many countries. From experience over time, the organization went on to state that lobbying for the visually impaired children is most effective as part of an advocacy for the inclusion of all disabled children, bearing in mind that the diversity of learning needs must be addressed for any sustainable results (Sight Savers International, 2012). Emphasizing on the objective of sticking on the child's personal needs while implementing the direct child as-

sistance rehabilitation programme, the Liliane Foundation observed that teachers have a responsibility to educate all the children in their classrooms but do not always have the skills and knowledge to cater for those with special needs (Liliane Funds 2013). They advised that rehabilitation personnel should provide within the limited resources at their disposal through awareness programmes the needed information to the teachers.

Results

Dealing with special needs children directly by focusing on their personal needs through mediators and field workers remains an important strategy for rehabilitation service delivery. Several facts revealed by this study show that this strategy expose more of the actual state of mind of family members including parents and care givers as well as the handicapped children themselves about the associated problem of disability.

Generally, the parents of the handicapped children under the programme studied expressed their emotional constraints about their children's conditions. They stated that there are still many barriers to be overcome including frustrations, disappointment, and a sense of failure resulting from the fact that one member of the family is disabled. This revelation corroborates the claim of Adedoja, who posited that the consequent effect of a disabled child in a family is that the position of the child with disability is not "normal". This picture was visibly observable by field workers on visit to parents and children in their homes. Also, there was evidence of difficulties in the adjustment of parents and family members to the problem they face as a result of their children's abnormality. Only 53% of families and children with disabilities show acceptance of their conditions and positive disposition after a series of counselling meeting and other interventions.

Similarly, participants in the study who were mostly disabled children acknowledged that it is not very easy to adjust to any significant level of total comfort for both the affected children, family members and friends. This is a match with the position of Basharu (1983), who posited that family and community adjustment for handicapped persons, is not very easy no matter how hard a handicapped individual tries to achieve, "Assimilation" into the work and play of the community is and may be not without reservations.

Prominent among the successes recorded as found in the study was the impact of the rehabilitation process on interpersonal and family relationships. Most parents, caregivers and field workers reported a 65 percent improvement on evidence of acceptance as indicated by warm friendships between the disabled and their non disabled children/peers. This also was noticeable in marriages and rearing children and maintaining families. Also in joining community groups, participating in community events and decision making as well as contributing to building up personal and family status and economy.

On social and recreational activities, participants contributions during the interview and discussions show a positive result as more than 60 percent of the disabled beneficiaries mostly the Blind and visually impaired were reported to be involved in club activities within and outside school. Church prayer and choir groups, indoor and outdoor games and sports, debates and quiz clubs etc. Discussants who were parents or care givers expressed delights in their children and wards level of social engagements and interactions.

Although there is reasonable evidence of a number of disabled children integrated into regular schools majority of who are blind and visually impaired students on the Liliane funds direct child assistance programme, there were still some level of ignorance as shown in the rejection of admission and placement of disabled children by school heads arguing that such children are meant for their own special schools. The study however revealed a fascinating approach of inclusive practice by the three main special schools in the state, one for the Blind and visually impaired and two others for a mixed categories where "normal" children are rather admitted into the special schools to learn alongside their disabled peers.

Mediators and field workers reported lack of funds for effective management of the programme especially where children are to move from home to local schools. This shortage of funds affects supply of study materials and equipment, transport to and from school on daily basis, other needs etc. Another frustrating observation made by the field workers and some disabled participants was on existing believes on ancient and outdated superstition which grip the Nigerian and African society about people with disabilities, as this ignorance and ugly practice will account for continuous barrier against courtships for the disabled.

The study reported a number of dropouts of the rehabilitation process due to uncooperative attitudes of some parents and caregivers and a level of ignorance and truancy on the part of the enlisted children with disabilities.

One very vital point stress in the study was the revelation that it is impossible to effectively and successfully provide any rehabilitation service delivery without working on the environment which the individual child lives and is to live after completion of a rehabilitation process for a lifelong living.

Conclusion

To conclude this paper, the writer would like to note that the aim of any rehabilitation process for special needs children of any kind, type and form is to make for optimal functioning of the child. In this vein, Partner organization including voluntary agencies/organizations, philanthropists, missionaries, Governments and international agencies should close ranks to ensure that those aspects of the environment that make for

frustration of the individual efforts at maximal and realistic functioning are minimized through realistic and well implemented goals. Besides, every child undergoing a rehabilitation process needs be adjusted to his or her handicap vis-à-vis the environment where the individual finds him or herself.

The rehabilitation programme objectives, facilitators, parents and other members of the family should as a matter of concern make available for the child the enabling environment stimulating enough to make him or her face the challenges of competition and self identity.

The challenge to as many organizations and Agencies like the Liliane Funds Netherlands, parents, Governments and professionals is to demonstrate the mission and vision they hold, believe and share, so that together, we can all give the special needs children particularly the disabled the opportunity which they seek to realise that destiny ultimate.

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Methods of developing critical thinking when working with educative texts

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Abstract

The present article focuses on the field of critical thinking, specifically on methods helping to stimulate critical thinking and understanding of a written text. The article also includes a practical illustration of how critical thinking is being cultivated with relation to developing skills of reading comprehension. This practical example presents a partial output of the research that focused on pupils in the second year of primary school, and it provides a suggestion how to use in practice methods developing critical thinking by means of reading comprehension.

Key words: critical thinking, methods developing critical thinking, reading comprehension, educational text, primary school pupil, lifelong learning.

Introduction

The incessant growth of ways to access information urges teachers (at primary and high schools as well as university lecturers instructing teachers through lifelong learning) to seek new options how to imbue students with critical and independent way of thinking. "To think in a critical manner involves capturing an idea and exploring its foundations, putting it through impartial criticism, comparing it with opposing views,

making one's own assumptions and arriving through it at specific conclusions. Critical thinking is a difficult process of creative integration of thoughts and information, a process of concept restructuring" (Meredith, Steel, 2001, p. 29). Klooster (2002) defines critical thinking as an independent thinking where gathering information is just a beginning. According to him, critical thinking begins with asking questions, with posing problems that need to be solved. Petrasová (2003, p. 6) delimits the attributes of a critical thinker in the following manner: "(he/she is) curious, always formulating new questions, evaluating presumptions and arguments of the others (even if erroneous), searching for proofs and using them to make decisions, gaining new information and searching for new solutions."

It is thanks to the Orava Association that since 1997, critical thinking and its methods have been put into practice in the Czech Republic. This programme was founded by the Consorcium for Democratic Pedagogy members at the University of Northern Iowa, Hobart and William Smith Colleges. Through this programme, teacher workshops are carried out that lead them to the following (Blažková, 2005):

– "methods are introduced through model classes where the participants go through the same experience as their students will; the model classes are subsequently analysed by the whole group;
– courses take into account possibilities of direct application of the presented methods into teachers' own practice – teachers plan to apply new methods in their own classes while the course is still running, using their own material and consulting their preparation both with each other and with the lectors;
– in between the individual parts of the course, the participants meet in smaller, regional groups to discuss which methods they used in their classes and with what result and they give each other advice;
– every next section of the course begins with a discussion concerning the results of the application of the hitherto presented methods; participants solve in group the most frequently occurring problems".

Courses are run in 4–5 modules lead by a team of lectors and consist of 80–100 classes in total. Another important part of the course is the concurrent applying of the described methods into the course participants' own practice. The programme authors prepared both for the lectors and the course participants 8 handbooks containing a description of the model classes and instructions how to analyse them; they also briefly tackle the pedagogical-psychological findings that have become the basis of active learning theory. The original texts used in the course are gradually being replaced by the tried and tested texts of domestic provenience (Blažková).

1 Methods developing critical thinking

There is a variety of methods used to develop critical thinking. Among them are: Concept mapping, Cinquain, INSERT (Interactive Notating System for Effective Reading and Thinking) method, K-W-L (Know-Want-Learned) method, Cloze-test, Appeal-question stimuli aimed at different levels of reading comprehension, Venn diagram, PRAISE strategy, RISE strategy, REAP strategy, T-scheme, concept table, question-answer interchange, writing method "here and now", semantic element analysis, brainstorming, Concept-Text-Application method SQ3R (survey, question, read, recall, review) and others. The following section will be devoted to characterizing some of the methods mentioned. As our aim is not to characterize all methods of critical thinking, we will restrict ourselves only to those important to us mentioned in the practical example (see subchapter below).

Concept mapping

"A concept map is one of the means how to visually capture and express one's reading comprehension and mutual relations between the individual concepts and ideas" (Fisher, 1997, p. 8). "A concept map is a graphic representation reflecting pupil's knowledge structure of a specific curriculum. It is a visual representation of a specific curriculum" (Novak, Gowin, 1984, p. 57). A concept map captures concepts/information (graph nodes) and links between them – (connecting) lines through which it is possible to capture the relation between information, concepts, and alternatively also the succession of events or processes.

During the process of concept mapping, a scheme or a diagram is created in which concepts are arranged according to their mutual relations in such a manner students would benefit from it. Related concepts are linked together with lines and express a certain assertion (proposition). Relationships between concepts are expressed above the connecting lines, namely by brief rephrasing (Urbanová, Prokša, 2001).

Venn diagram

This diagram consists of two intersecting circles and represents the results of contrasting thoughts, concepts and themes while exploring their common and different features.

Method:

1. First, partially intersecting circles are drawn.
2. Before reading, in the course of reading or after the reading, main concepts are entered inside the circles.
3. Common features are assessed and entered into the common intersection area of the circles (Petrasová, 2003).

Appeal-question stimuli (term coined by Svobodová, 2000)

Exercises are created in the form of pupil-oriented appeals and questions with the aim to probe the individual levels of reading comprehension: the ability to interpret and integrate information gleaned from the text, the ability to critically analyse and evaluate a given text (Liptáková et al., 2011).

Cloze-test

Cloze-test is a text consisting of approximately 250 words, while the first and the last sentence remain unchanged. The content of the text is not being adjusted, in contrast to its formal layout that contains empty slots that need to be filled in with appropriate words. Beginning with the second sentence, every n-th word is being left out. It is, for example, possible to leave out every fifth or eighth word, or every verb or noun can be systematically omitted from the text. "While making the cloze-test, it is possible to choose between the two methods. Either every n-th word is being omitted in a regular manner, i. e. an empty slot always appears after a certain fixed number of words, or words are being left out in accordance with a certain strategy (e. g. key concepts of the taught curriculum, nouns, verbs, etc.)" (Gavora, Šrajerová, 2009, p. 201). According to sense required, pupils must fill the gap with one word. Empty slots must appear after a fixed number of words otherwise different length would provide pupils with a clue as to which words need to be filled in. During the evaluation, even the synonymic equivalents of a given word are considered correct. In the process of omitting words, personal names or less-known words are usually not among those left out. For the needs of reading comprehension development, cloze-test represents a widely applicable method that can be modified to suit a particular aim, content or age.

The cloze-test evaluation is based on the number of correctly filled in words in relation to the overall number of words left out from the text. Words that the pupils have to fill in must make sense, and grammatical mistakes or deviations from the norm are not part of the evaluation (Gavora, Šrajerová, 2009). The cloze-test evaluation can be also approached from the point of view of previously stated criteria according to the degree of what we want to prove by a particular cloze-test.

In relation to critical thinking and its development via educational-instructional process, an EUR framework is known (Meredith, Steel, 2011). It involves a three-phase educational model whose individual phases are called Evocation, Comprehension and Reflection. In the evocation phase, a pupil actively remembers knowledge he or she has about a particular educational theme and is thus being prepared for the next activity. Evocation provides possibility to motivate a pupil and stimulate his/hers cognitive abilities. In the comprehension phase, pupils make themselves acquainted with new information and partake in activities crafted to enhance their ability to understand this information. Reflection offers the possibility to sort both the information known to

pupils already prior to the educational activity and the knowledge they gained through the process of learning.

In the practical example that is part of the present article, this three-phase model is used for work with the provided educational text.

1.1 Text understanding

Drawing upon findings of text linguistics, text can be defined as "a relatively closed communicative unit which on the basis of content and illocutionary structure serves a propositional and pragmatic function" (Dolník & Bajzíková, 1998, p. 10). In this sense we understand text as a structured object defined by a coherent succession of sentences. The attribute "communicative" expresses that the text is a unity based on but also mediating a communication activity. Every text enables further expansion of its information potential, that is, it is potentially open and that is why the text is being described as relatively closed. Propositional function means that text causes a recipient to construe a propositional complex in the sense of sender's intention. This function is followed by content structure of a text. The illocutionary text structure is motivated by pragmatic function, namely by text influencing certain speech acts (Dolník & Bajzíková).

Text understanding is a hierarchical cognitive process, from with simple memory processing of information explicitly stated in a text through deducing textual connections to the integration and critical evaluation of gained information (Gavora, 1992).

The PIRLS study (Kramplová, 2012) delimits the individual levels of understanding in the following manner:

1. "The ability to identify information explicitly formulated in the text.
2. The ability to deduce information from the text (a reader deduces information and connections that the text does not formulate explicitly).
3. The ability to interpret and integrate information from the text (readers construe meaning beyond the text, relying on their previous knowledge and experience)
4. The ability to critically analyse and evaluate a certain text (readers analyse and evaluate a certain text from the point of view of its content, composition and language as well as its realised communicative intent; while doing so, they rely on the sum of their knowledge and experience and on the achieved level of language competence)".

The term "text understanding" refers to the sum of intellectual abilities and skills and is divided into four subgroups that also exhibit a hierarchical form of organisation (Gavora, 1992, pp. 21–22).

a) Understanding applies only to the type of understanding that involves pupils knowing what is being communicated in the class and using it without the ability to relate it to other information or realizing its full implications.
b) Transfer means transformation (periphrasis, organisation) of information gained in the class without diminishing its truthfulness and accuracy. Under this category could be listed such examples as understanding an utterance with figurative meaning (metaphor, symbols, irony, hyperbole) or transfer of a mathematical proposition into a symbolic language and the other way around: the transfer from a symbolic language into a natural one.
c) Interpretation means elucidation of the taught curriculum. While in the previous subgroup of aims the original curriculum remained intact, interpretation involves reshaping of the taught information or presenting it from another point of view. In this category there could be listed, for example, understanding a certain text in its complexity on the required general level, the ability to interpret various types of entries concerning society and so on.
d) Extrapolation means broadening the original information through implications, detecting consequences, effects, etc, while these must be in accord with the conditions expressed in the original taught curriculum. This category contains, for example, making statements about a certain text with the help of deduction or the ability to predict future course of events.

Text understanding is essentially a psycholinguistic activity that involves three kinds of connection (Gavora, 1992, p. 23):

– connection between events from the objective reality and the textual elements describing these events
– connection between the individual textual elements (words, sentences, suprasentence structures)
– connection between textual elements and elements of a recipient's knowledge structure

1.2 Working with an educational text using methods developing critical thinking

EVOCATION

Arrange letters in the exercise according to the given instructions (an exercise focused on the stimulation of cognitive functions – critical and logical thinking)

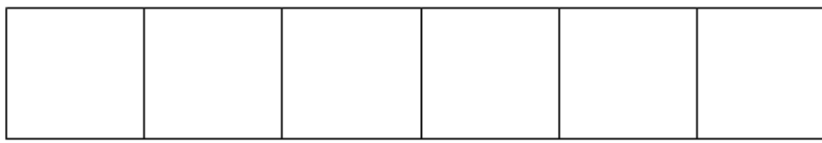
1. Úloha

Usporiadaj písmená **M, S, K, B, J, T** do okienok tak, ako ti poviem:

a./ V okienkach 2, 4 a 5 sú písmená **S, T** a **M**.

b./ **M, J** a **B** sú v okienkach 2, 3 a 6.

c./ **J** je umiestnené v okienku za **M** a pred **S**:



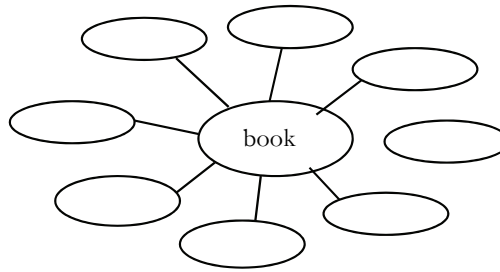
(Odpoveď: K, M, J, S, T, B)

1. Exercise
   Following my instructions, arrange letters M, S, K, B, J, T into the squares below:
   a) In the squares 2, 4 and 5 are the letters S, T and M.
   b) M, J and B are in the squares 2, 3 and 6.
   c) J is placed in the square after M and before S.

   (Answer: K, M, J, S, T, B)

Write down everything that comes to your mind when you hear the word "book":

Figure 1
Concept map



READING COMPREHENSION

Read carefully the following text about a book:

How do letters get into a book?
Letters were once typeset into a book manually. One by one and in a mirror image, a typesetter had to attach the letters of the whole one-page text into the print form. This form was then, by means of a printing press, copied several times as necessary. Today a page is prepared for print by using a computer. Books and magazines are usually printed by means of the so called offset method. Print desks with letters have the same flat surface everywhere but places containing letters have a surface differing from that in the empty spaces. That is the reason why they absorb paint that is subsequently transferred during the printing process onto the paper. Printing press was invented by Johannes Gutenberg. Printing press is one of the most important inventions that contributed to the progress and mental development of the European population. By the way, the first printed book was the famous Gutenberg Bible.

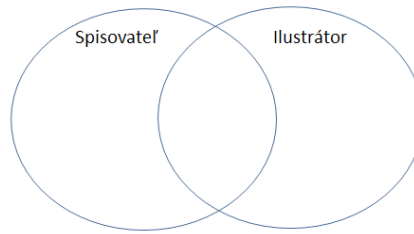
(Alischová, 2012, p. 145)

Appeal-question stimuli to evaluate levels of comprehension (Svobodová, 2000):
What is the name of the man who first invented printing press?
What was the name of the first printed book?
Explain how books had been made before the invention of the computer.
Explain the process of book-making in modern times.
What is the name of the method used for making books and magazines?

REFLECTION

Name reasons why books are important for people.
Which types of books do you know?
What is your favourite book?
Try to explain the following concepts – author, writer, illustrator, publishing house.
Venn diagram – write in the circle what is characteristic for a writer and what for an illustrator. In the area where the circles intersect, write what they both can have in common.

Figure 2
Venn diagram



Writer Illustrator

Cloze-test: How do letters get into a book?

Letters were once typeset into a book manually. One by one and in a _____, a typesetter had to attach the letters of the whole one-page _____ into the print form. This form was then, by means of a _____ press, copied several times as necessary. Today a page is prepared for print by using a _____. Books and magazines are usually printed by means of the so called _____ method. Print desks with letters have the same _____ surface everywhere but places containing letters have a surface differing from that in the empty spaces. That is the reason why they absorb _____ that is subsequently transferred during the printing process onto the paper. Printing press was invented by Johannes _____. Printing press is one of the most important _____ that contributed to the progress and mental development of the European population. By the way, the first printed book was the famous Gutenberg Bible.

Conclusion

The aim of the present article was to acquaint with the concept of critical thinking and show some possibilities of its development by means of an educational-instructional process. We deemed necessary to characterize some of the methods used for developing critical thinking because they explain the working method through a practical example. The final practical illustration is a partial output of the qualitative research aimed at second-year pupils at St. Vorsila's primary school in Olomouc (Cibáková, 2015). The research output is the set of 18 stimulation units focused on the development of critical thinking by means of methods and exercises that can be used for learning from an informative text.

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Constructivism on Literary Teaching: Assimilating Prior – knowledge, Social Environment, and Experiences in D. Zawawi Imron's poems and Black American's Poems

Imron Wakhid Harits

Abstract

Learning English literature including American literature for second language learners needs to reconstruct some elements in teaching process. The reconstruction is necessary, because the students at least will be up against any factors, culture, language and figurative language. Such factors must be comprehended firstly before the students learn the next phase of literature. The aim of this study is assimilating all of students' potency like experiences, prior knowledge or schemata engaging with the students' environment. The subject analysis is Black American poems from Black Art Movement era compared to Indonesian contemporary poems from D. Zawawi Imron. This american black arts movement is interesting because it tries to reidentify and to gain the identity as the African – American people. All arts should be the product of a creative need and desire in terms of Black people. Thus, this Black arts movement inspires the reinforcement of Africa – American literature such as the creation of poems, drama, and novel. Consequently, it is not simple matter for L2 students in Indonesia, thus D. Zawawi Imron's poems use as the comparative data because these poems also figure out the

similar problem such identity, race, and moral values. The constructivism is chosen as the basic theory in approaching the learning literature process because by using this theory it will enable to assimilate and unify all learning factors like prior knowledge or schemata, experiences, and environment as the underlying factor to reach the learning literature objectives.

Keywords: Schemata, experience, environment, Black American poems, contemporary poems, constructivism.

Introduction

Teaching Literature in non-English country or as a second language is the complex problems. Moreover, it has quite different in its culture. Such problem will make the learning process more complicated, due to its different cultural view. The problem will increase while it is found that the students do not have excellent English competences, because mostly they learn English intensively while they come and choose English department in the university. Perhaps some students have good ability in English, but mostly they do not have it. Thus, the students will struggle to master their basic skills in English in their beginning of learning process in the university. Usually like in Indonesia curriculum it needs till 2 or 3 semesters to sharpen their English basic skills. Then, starting in 4th semester, they will begin to learn or to introduce the reading related with literature, such as: short story and poem.

Unlike teaching literature for the L1 students, teaching literature for L2 has many constrains, because it has different context. Surely, the students need to have a deeper understanding to engage with the literary works. To start with that vocabulary, grammatical structures, and syntax in literary texts make it difficult for L2 students to understand the content of literary texts (Chen, 2006; Lazar, 1994). The students have more challenge when they attempt to figure out such as metaphorical sentences, figurative language, theme, message, background of the writer, diction, and the context of culture as the point of view that cannot be separated from the literary notion. Like the diction, it really needs cross culture understanding to comprehend some of the dictions in the contemporary poems because some of the words used are quite unfamiliar especially for the "eastern person" (Harits, 2012). Therefore, one of an effective way to learn literature for L2 students is to bring and to engage "western context" to the local context and try to assimilate and adapt according to similar experiences of the learners. Further, one of the possible uses of literature in L2 learning is the use of literature as a way to introduce the students to the social practices and norms of the L2 culture (Allington & Swann, 2009; Hall, 2005; Kim 2004).

In teaching literature, such as Contemporary American poems for L2 students, it must be compared with the contemporary poems from Indonesia. The aim is to contextualize and to assimilate students experience thus they can engage with these poems. For Madura students, D. Zawawi Imron is the most popular poet and writer. Zawawi Imron poems have different characteristics, such as using free form like other contemporary poems, telling the natural phenomena, describing social condition, and depicting the local culture as the special features in his poems. Mostly his poems explore the situation and the condition of the village as the reflection of his life. Zawawi Imron lives in the village in *Songenep*, Madura. The village in Madura has an exotic situation, refer to its mountain, its beach, its sea, its life, its people, and its natural view. Such situation inspires many people including Zawawi Imron to write the poems according to several features above. Besides the social aspects, Zawawi Imron poems are also much influenced by the religious values in Madura and he is a part of it. Madura is much influenced by Hinduism and Islam (Harits, 2014).

On the other hand, although rarely anthologized in the past, African American poets like Mari Evans, Langston Hughes, Lucille Clifton, Countee Cullen, Paul Laurence Dunbar, Nikki Giovanni, Gwendolyn Brooks, Marilyn Nelson, and others are regularly featured in collections of poetry in the U.S. for young people today. Poets also share powerful visions of African American history in *Roots and Blues, A Celebration* by Arnold Adoff, *Never Forgotten* by Patricia McKissack, *We are America: A Tribute from the Heart* by Walter Dean Myers, and *Remember the Bridge: Poems of a People* by Carole Boston Weatherford. More and more African American poets are gaining widespread recognition and praise. Eloise Greenfield won the National Council of Teachers of English Poetry Award for her lifetime contribution to poetry for children, including the popular collection *Honey, I Love*. Nikki Grimes, another NCTE Poetry Award recipient, creates an unforgettable modern heroine in the Danitra Brown poetry books. Charles R. Smith, Jr. showcases athletes and heroes from the African American community in his rap-like poem picture books and Hope Anita Smith tells raw family stories in her poetry. These poets speak of their lives, of their color, of their humanity, of their humor. Some write in dialect, some use rhyme, some focus on racial pride, some share emotional universals. Children of all cultural backgrounds deserve to know their names and hear their words.

Constructivism: bridging and understanding of the comparison

In the Literature class, especially poetry, it is not easy to internalize and recite some messages, such as identity, race, and the moral values in the poems due to the different background of knowledge and social milieu. Even for Madurese who was born in Madura island, they find an obstruction to understand their own culture, even more to know D. Zawawi Imron as the native poet from their island. Then, how is to understand an American poems? Thus it should be down to the earth. It needs some contextual situations to learn the poems. The constructivism, which uses the learner's

environment which influences him/her is one way to solve such problem in poetry class. In constructivist point of view, learners' environment will be the focus in the learning process together with their experiences, and knowledge. "…an activivity and development of a learner gets into the center of attention (Juvova, Chudy, Neumeister, Plischke, Kvintova, p. 2). Constructivism itself can be defined as learner conceptions of knowledge are derived from a meaning-making search in which learners engage in a process of constructing individual interpretations of their experiences (Applefield, Huber, Moallem, p. 6). Then, Desforges looks the constructivism from the different point of view, he observes the constructivism from the process of mental in human's mind. He suggests that constructivist should identifying learner's existing schemata and then arranging experiences that challenge those schemata and that provoke the construction of more advanced intellectual structures (p. 71). Its intellectual structure relates with the students schemata or their prior knowledge for one topic of discussion and develop the new knowledge on it.Thus, the use of prior knowledge (schemata) will support the students while they attempt to solve the problem in learning process. The teacher can help his/her students to recall their prior knowledge to comprehend one topic in the classroom. Byrness (1996) "Schemata serve several functions in learning: categorizing, remembering, comprehending and problem solving." First, schemata or prior knowledge links categorize our experiences more efficiently for processing. This categorization of information facilitates the processes of remembrance (recall), and comprehension (understanding), all of which make problem solving more productive"

According to the definition of constructivism above, there are two main stream of constructivism principles, (1) knowledge is not passively received but actively built up by the cognizing subject; (2) the function of cognition is adaptive and serves the organization of the experiential world, not the discovery of ontological reality (Husen, Postlethweite, P. 114). For the first principle, it needs the mutual interrelation between the learner and the teacher. Both of them must be active in the learning process, and the teacher is as the facilitator to trigger and explore to optimize learners' competence. Here, the learners do not only react to experience, but they reflect on it, and theorize it, developing mental structures or schemata for understanding it (Desforges, p. 69). While, the second principle, in learning process it requires the contextual experience and social environment that support the learning process to get the aim of learning.

Both D. Zawawi Imron poems and Black American Poems are the contemporary poems. Thus, the social construction, prior knowledge, and experience take an important role, both in their creative process and also in learning process in the classroom. Being the learners in Indonesia do not have experiences of slavery like African – American people and its movement to upright the human right and justice like Black American Movement, so that the comparison with the similar problems are required. To comprehend the Madura culture and Africa – American history absolutely is compulsory before learn both of poems. The social environment and also the experiences mainly

in gaining the identity, problem of race, and moral values should be explored and assimilated in the process of learning.

1 American and Madura Identity and Race Perspective

Mostly literary works in Madura try to show their religious values or at least it will use the religious values as their basic themes. It is because religion is used as the breath of life. Likewise in Zawawi Imron poems, he tries to penetrate Madura deeply and look for the identity of Madura. Telling about the identity, it must be discussed according to the social construction rather than biological construction. Waters in Chaves and di Brito argues that Ethnic identity is often considered a social construct as well (1999, P.40). Here, the identity is connected with culture, values, social system, language, literature, and other local wisdom that are developed in one society. Thus, according to the definition previously, the identity refers to characteristics of the social life and all of its elements. The social construction will give the different attribute to a group of people and the society that make them differ from others. Their cultural attribute like the local wisdom becomes the pride of the people that live in their community. Further Chandra defines it as the ethnic identity, he tells the ethnic identity as a subset of identity categories in which eligibility for membership is determined by attributes associated with, or believed to be associated with, descent (p.3). They will show it as their identity, sometimes it will be reflected in their social system, such as family system, heritage, marriage, and somehow it will be shown in their tradition system like traditional clothes, dance, ceremony, language, and literature.

Madura society is the unique community that hold the social and tradition system tightly. If talking about Madura, it does not only refer to Madurese who live in Madura island, but also Madura people who live all over of Indonesia. Madurese who live in Madura island is only 30 % from the whole of Madurese in Indonesia. Although, they do not live in Madura, but they live with their own old tradition as the heritage from their predecessor. Usually they live with their communal and they bring their identity as Madurese in their new places. In special day, for an instances, Maulid (the birth of Prophet Muhammad SAW), Isra' Mi'raj, led Adha they will return to Madura island to visit their family and relatives in there. They use the term "toron" (down), this term refers to the tradition of Madura people while they back to their homeland.

Tradition, social life, and environment, all of them are the inspiration for Zawawi Imron, the poet of cluritemas (gold sickle), the title refers to his golden and shinning works, and also refers to his origin. He tries to express his identity, his love, his sympathy, his happiness, his sadness, and all of his emotion about Madura through his works. His contemporary poems are not only depicting the beauty of Madura but also showing the identity through the symbol, allegory, simile, metaphor and other figurative languages.

Mostly, his works use imagery about Madura, it can be its people, its nature, its society, its tradition, bits occupation to represent Madura identity. One of his anthology of poems, *Madura Akulah Darahmu*, it is very clear to describe his love about Madura, *darah* is blood, it is used to show his feeling about Madura, because blood is the most important part in human life, blood flows in the human body and blood is human identity, because the different human has the different blood type. The analogy that Madura likes the blood in human life, it will raise the pride to have an identity as Madurese.

In United States, the notion of the identity, race, and moral values flourishes as a response of racialism and racial segregation that happened in the past time. The history of African American from the slavery era contributes to the color of American diaspora today. It has been formed the multicultural view of literary works, such as poems, novels, and dramas. The novel, *Erasure* as an example, it depicts the african american diaspora who struggle to find his new identity as American. Percival Everett, the writer tries to show the psychological conflict, Thelonious Ellison or Monk as the main character while he must get the dilemma as the black writer. He must have the hard effort to ensure the publisher to publish his works. Another example is the poems from black poet such as Nikki Giovani, most of giovani's poems tell the searching of identity, race, and moral values. She tries to reveal the black identity of African American including the conflicts they have been carried out. Mostly such poems tells about the diasporic problem as African American like the racism and discrimination.

The awareness to look for the identity as African American that is pioneered by the writers called The Black Art Movements. This movement is much inspired by the black power movement and other movements in other countries, mainly the movement in third world nations in Asia, Africa, and Latin America. Patrice Lumumba, Nelson Mandela, Mao Tse Tung, and Che Guevara can not separate from the black arts movement in America.Most of political leaders above fight to free themselves from colonialism and the exploitation politically and economically. The wave of anticolonialist in other countries come to U. S and Malcolm X, the black leader struggle to voice the equality of civil rights in U. S. and also call for the racism abolishment. Such political and social movement finally becomes the catalystic on the poetry and other literary works of African Americans during the latter half of the 1960s and the first half of the 1970s. The racism issues and the struggle to end *de jure* of racial segregation use as the central theme in The Black Arts Movements. The writers use such issues to show their identity as the black American, African American.

Madura Identity in Imron's Poems *Di Pintu Bandar*: Natural and Social Based

Discussing about Zawawi Imron's works, it cannot separate with his life background in Madura. It has been mentioned before that he lives in *Songenep* (today, Sumenep), the most fertilized part in Madura. This place is the combination between farming and fishing, mountain and sea, hot and cold. There is very difficult to find coconut trees,

palm trees, sugar palm trees, and rice fields in other parts of Madura, because of its geographic condition, but such trees and rice fields will be easier to find in Sumenep, the place where Zawawi Imron lives. The depiction of the social life and its relationship with the nature can be found in his poem, Di Pintu Bandar. Such depiction will be easier to be understood by the learners due to its closest metaphor with their daily life. The students try to identify this poem using their experiences and their similar environmental condition.

In this poem, it shows clearly Zawawi Imron brings his social and natural icons in his works. From the title till the end of this poem, he uses the analogy which are closest with his social and natural background. *Bandar* (port), *pasir pantai* (beach sand), *sampan* (boat), *gelegak gelombang* (wave), *nelayan* (fisherman), *jelaga* (carbon black), *sauh* (anchor) are very familiar and famous terms for the people who live in Madura. They involve with all of those items every day. Zawawi Imron uses all of such terms in this poem to give the characteristics and the natural effect in his works. His pride and admiration to his environment has inspired him to express it in his poems.

The poem *di pintu Bandar* reflects his admiration to the motivation, toughness, and firmness of the fisherman in his lovely land, Madura. Like in the second line, *senyummu di sampan mengaduk gelegak gelombang*, it symbolizes the great motivation of the fisherman, this line is opened with the word *"senyummu"* (your smile). Certainly, your smile here is the smile of the fisherman while they go to the sea, there is depicted no fear, no sadness, and the only one is hard work although they must attack the big wave (*gelegak gelombang*) in the sea and even in the ocean. Then, in line 5, it is also shown the happy and glad situation as the reflection of their motivation even though they must work very hard. While, the word *nyanyian* (song) is used to describe the internal situation in the fisherman's mind. They are happy, very happy to carry out their profession as the fisherman. The bathing of carbon black (*mandi jelaga*) uses to express the challenges as the fisherman in the sea. But, it cannot reduce their motivation go to the sea and ocean to fulfill their holy duty as the fisherman.

Zawawi Imron is also shown that the journey of the fisherman is the borderless journey. It is very long trip and they do not know what kind of the dangerous threat will come to them. Such as in the 7th line, *diam – diam berangkat ke langit, kesela bintang gemintang*. The sky (*langit*) is the place without border, the very large place, no ending place. The sky is also symbolized never ending effort, although they face the hard life, but they (Madura people) must try harder to gain their aim. Thus, this poem really shows the toughness and the firmness of Madura people to get their aim. The sky is the place where it can be found a lot of danger, and the danger cannot be predicted. But, Madura people are ready to face it and get their aim, they will fly in the sky like the kite (*menjadi layang – layang gaib yang mengagumkan)*.

This poem, *di Pintu Bandar* is full of social life experience, it is truly the mirror of Madura society. It has been happened in their daily life since in the past till today. When

we go around Madura island, this land is surrounded by the sea, therefore it is quite normal, if the majority of profession for Madura is fisherman. This poem expresses the life of fisherman, their toughness when they face the danger and their habit. Zawawi Imron wants to send the message that Madura people that are reflected by the fisherman are the brave people who are ready to face the danger and challenge. The title *di Pintu Bandar*, symbolizes the gate, the way from the land to the sea, the symbol from something with border to the borderless things.

2 The Pilgrim and soul journey

In Indonesia, Madura is very famous to have a lot of Islamic boarding school. In every village, it can be found 2–4 Islamic boarding school. The people prefer to send their son to Islamic school than to send in the public school. In Madura Islamic boarding school hold an important role in the society. The kyais (the moslem spiritual leader) have a great appreciation from the society. They are the role model for his santris (students in the Islamic boarding school). This boarding school is also the place to learn everything, such as reciting Holy Qur'an, learning Islamic and general subjects, farming, and writing including literature. Zawawi Imron is the poet who was born from the process in the Islamic boarding school. Thus, many of his poems are telling about religious experience, the pilgrim and the soul journey to get the real happiness in human life. One example of his religious poem is *Dari Andulang ke Batang – Batang*.

This poem expresses the journey, the spiritual trip. This is started with the journey from *Andulang*, it is the name of small village in Sumenep. This place is agriculture place with the fertile land. This is a peaceful village where the society lives and unifies with its nature. While, Batang – Batang is another small village, it is the place where Zawawi Imron lives. It is the religious place, Zawawi Imron lives in the Islamic community. Most of his works are inspired from his religious milieu, *Batang – Batang*. This place is a part of his life, thus till today he lives in this small village and with several of moslem scholars, he makes and develops an art community. In this poem, it is clearly stated the journey of life, the spiritual trip, and soul experience.

This poem show the religious values, the spiritual experience. For example the phrase *di atas duri* (above the thorny) describes the problems of human. It can threaten their life, it can disturb their life, but if the human trust and surrender to God, they can get the problem solving for every problems that they will face in their daily life. The human aim is to get God blessing and mercy through their praying. The calamity, the kindness, and the trust are only got by the human through his believe in God. The trust and the kindness are sourced from the human heart, if their heart is good, it can determine their attitude including their relationship among the human, and their relationship with God. This poem also reflects the homage and high appreciation to

mother. Mother is the most appreciated women. Her mercies are to their God, Allah SWT mercies, and her praying will give much energy to her son to undergo the life. Every steps of our life must be got the mother's blessing and approval.

3 Socio – constructivism as medium to assimilate knowledge, environment and experiences

Research in cognitive science (Newman et al., 1989; Rogoff and Lave, 1984) has shown that everyday experience of the learners is the foundation upon which they construct an 'intuitive understanding' (Vosniadou, 1992, p. 349) of their cultural environment. Experiences of the students, its prior knowledge, then engage with its supporting environment will trigger and foster students' understanding of one subject. Such elements play an important role in teaching literature especially while the students learn literary works as their second language. Because of without the assimilating of such three elements, they will find a lot of difficulties due to the language competencies and the cultural background.

It is very important for the learners to know the concept of identity in their own culture before the try to analyze the identity in Black American poems. What is the identity, how is the identity playing role in their life, how to show and maintain their identity? All of these questions are not easy to understand moreover, Black American poems are the contemporary poems. It is the poems with no rule like the classical poems, it is free versa, free form, they do not always use the beautiful words, because their principle is not beautiful but interesting. Thus, It is important to choose an appropriate poem for the students. D. Zawawi Imron poems is not only contemporary poems, but it is also the poems that reveal Madura identity, the closest cultural, environment, experience, and knowledge with all of the students.

Giovanni and Black American Movement

Black American movement refers to the revolution of writing by African American. In this movement the writers voice the national opression, racism, and white supremacy. Further, Samuels (2007) states Black Arts Movement artists called for African-American self-determination, selfrespect,and self-defense (p.48).Black American poems that write around 1960's has a tight relationship with the black American Movement at that time. Mostly the theme of Black American Poems will use the political and social issues. The discrimination between black and white will raise the awareness of black people to struggle and get their identity as African American. Also Giovanni as one of the outstanding black American poet takes the themes such as freedom, violence, black love, and black pride. Another central issue in Giovanni poems is gender, especially telling

about the black woman. Through her poems, Giovanni wants to make a change in American society. She wants get African American get their new status in American society. Fowler suggests Giovanni's poetry is indeed to read "the story" of the last thirty years of American life, as that life has been lived, observed, and reflected about by a racially conscious Black woman (p.xix). Thus, her poems as the clarion to voice the anti discrimination and anti racism in America, especially against the racism of the black woman.

According to the poem above, Giovanni tries to tell black women condition, woman emancipation, and woman struggle. The words "sitting and waiting" show the social condition of black woman. They have an inferior position in the society. "it's a sex object if you're pretty/and no love/or love and no sex if you're fat/get back fat black woman be a mother/grandmother strong thing but not woman." (Samuels, p. xix). As the woman, especially black woman, they will be as an object, thus they only sit and wait and there is no right to find. Giovanni wants to show the reality of the black woman based on her view. She criticizes the social life which is unbalanced to place the man and woman position. Through her poem, she voices the unfairness of gender, mainly for the woman, the black woman. The slogan in 1960's "The Black is Beautiful" is the slogan for the Black man, but it is not for the black woman. Such slogan precisely give the arrogance to the black man. Therefore, Giovanni writes such poem above to against the racism as well as the discrimination of gender as the legacy of resistence and struggle in the past time. The poem above (All I gotta Do) reflects the black woman feeling that is prisoned by the masculinity and racism. The depiction of the prisoned feeling and their powerlessness to face the condition are represented by the word " sitting and waiting"." These two words are repeated for several times to strengten the weakness of the woman when they face the reality.Another line "but you didn't have it" is repeated for three times". The repetition is to give the stressing to the weak position of the black women to face ot only the racism that emerges around them but also it is to depict the powerless of the black women to against the domination of the black men as well.

Mari Evans and the Black Claim for Justice and Freedom

Evans poems are mostly written for children. Her works are aimed to give an awareness to black children and help them to look for their identity in the recism wave. She tries to give the pride for the black children and invite them to free themselves from the racism. She writes a lot about the social problem in the black community as well as the political problem that must be faced by the African American people. Her works are inspired by Langston Hughes, the poet and the writer from Harlem Renaissance era. Her poems really portray the social and political reality and she also tries to voice the injustice for the black people. Peppers (1985) tells that Evans is noted as a "powerful poet" whose poetry has "a strong social commitment and a marked clarity of poetic vision"(p. 117). Such statement proofs the cridibility and the struggle for her community,

black community through her works, especially her poems. One of her poem that tells the social condition as a result of the relationship between the black and the white is "Status Symbol". This poem depicts the lives of poor, surely the poor of the black women who work as domestics in white homes.

Evans as the black writer shows the racism that emerges in 1960's till 1970's. She utters the all of the injustice for the black people. She starts her story in her poem from Abraham Lincoln era. It is the era of slavery abolishment. Lincoln is the U. S. president who pioneered to free the slaves. Although the black has been freed from the slavery, but they do not get the similar right like the white people. The black people still wait for many years to get the same civil rights like the white people. They do not have the same social and political porition as the white. They are "second rate citizens". The awareness of their status and the struggle to have the same the civil rights starts at the beginning of 1960's. The writer like Evans using her poems, such as status symbol give an awareness to the black women to struggle her social and political rights. The line "they hired me" is interpreted as the inferiority of the social position of the black women. They are weak, powerless, and poor, thus they let themselves to be hired as the domestics in the white people homes. Their poverty make them do not have the proper house. Most of them must sleep in the street, it is described in the next line "Along with my papers". The word "papers" refer to the paper from the used newspaper that used by the people as the base for sleeping. While the unbalanced relationship between white and black as the superior and inferior reflects in the next line " they gave me my status symbol". The pnonoun "they" represents the white, while "me" is the black people with all of their poverty. They are powerless caused by their poverty, therefore they only receive whatever the status symbol that given by the white people. The white superiority is also described by the line " the key to the white" and the black is locked.

Conclusion

Teaching literature for L2 students is a complicated problem, because it has a lot of elements that should be understood like the different of cultural background and figurative language (metaphor, imagery, allusion etc.) while in other side, they have to struggle to foster their ability and competency in mastering their English skills. Constructivism offers the solution to solve such problems. Using the schemata or prior knowledge engages with experience, and social environment of the students, it supports and helps the students understanding and comprehending of literary works in L2 such as American poems. An exploration of student schemata through their comprehending of the closest cultural poems with them, contemporary poems written by Madurese poet, D. Zawawi Imron enable the students to figure out the identity, race, and moral values. Then, using their knowledge, the students try to analyze the Ameri-

can contemporary poems in Black American Movement era with the similar elements (identity, race, and moral values).

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The characteristic of creativity – reaction of children with hearing impairment to an ambiguous stimulus

Petra Potměšilová

Abstrakt

V posledním desetiletí se předmětem odborných diskuzí ve vyspělých státech Evropy a v Americe stávají dovednosti potřebné pro 21. století. Jedná se o nutnost reagovat na nároky, které současná společnost klade na jedince. Centrem odborných diskuzí se tak stává nejen samotné vymezení dovedností, ale také to, jak je možné tyto dovednosti rozvíjet ve výchovně-vzdělávacím procesu. Jednou z těchto dovedností je i kreativita, která se nabízí jako možná cesta rozvoje psychosociálních a kognitivních dovedností u dětí se speciálními vzdělávacími potřebami, resp. u dětí se sluchovým postižením. Sluchové postižení patří mezi závažná postižení, která mohou výrazně negativně ovlivňovat psychosociální vývoj jeho nositele. Jednou z oblastí, která bývá sluchovým postižením ovlivněna, je deficit v chápání pojmů a jejich využívání v komunikaci. V článku jsou popsány odlišnosti ve vnímání pojmů dětmi se sluchovým postižením, které byly charakterizovány prostřednictvím výtvarné úlohy a výsledky porovnány s výsledky skupiny slyšících vrstevníků. Výtvarná úloha byla vytvořena na základě dostupných odborných pramenů a předchozích výzkumů. Pro splnění cílů výzkumu, popsání přístupu a reakce dětí se sluchovým postižením na nejednoznačný podnět, byl zvolen kvalitativní přístup. Zakotvená teorie umožnila podrobnou analýzu nového jevu. Kvalitativní výzkum je doplněn popisnou statistikou. Získané informace jsou dány do kontextu dostupných

teoretických poznatků. V článku jsou uvedena také doporučení pro praxi, která ilustrují možný rozvoj jedné dovednosti, potřebné pro 21. století.

Klíčová slova: dovednosti 21. století, sluchové postižení, výchovně-vzdělávací proces, nejednoznačný podnět, artefiletika

Abstract

In the last decade into professional discussions in the developed countries of Europe and USA are becoming the skills needed for the 21st century. It is the need to respond to claims that contemporary society imposes on individuals. In the center of attention of expert discussions thus becomes not only the definition of skills, but also how it is possible to develop these skills in the educational process. One of these skills and creativity, which is offered as a possible way of development of psychosocial and cognitive skills of children with special educational needs, respectively of children with hearing impairments.

Hearing impairment is one of serious disabilities that may adversely affect the psychosocial development of the person. One area that is affected by hearing impairment is the deficit in understanding of the concepts and their use in communication. The article at first describes differences in perception of concepts at children with hearing impairment, which were characterized by means of visual tasks and the results were compared with the results of their hearing peers. The experimental task was created on the basis of available expert sources and previous research. To fulfill the objectives of the research, describe the approach and the reaction of children with hearing impairment to an ambiguous stimulus was used a qualitative approach. Grounded theory permits a detailed analysis of the new phenomenon. Qualitative research is complemented by descriptive statistics. The information obtained is put into the context of the available theoretical knowledge. The article also brings recommendations for practice, which illustrates development one of possible skills needed for the 21st Century.

Key words: Skills for 21st century, hearing impairment, education process, ambiguous stimulus, art philetics.

Introduction

In the developed countries of Europe and in the United States recently Experts are professionals discussing a "Skills for the 21st Century" Neumajer (2013) states that the term refers to the stream of thought which aims to redefine the goals of education from the traditional form into a form that reflects the changing world demands at the beginning of the 21st century. According to him, professionals identified the following

basic and necessary skills: collaboration, knowledge building, managing oneself, solving real-world problems, the use of ICT for learning and advanced way of communication. A list of these skills is also available on the website of the organization P21 Partnership for 21st Century Learning. (http://www.p21.org/) A group of educators from the United States of America Thoughtful Learning 21st Century Skills are divided into three groups: learning skills, literacy skills, and life skills. Among learning skills then, inter alia, included also creativity respectively creative thinking. (http://thoughtfullearning.com/resources/what-are-21st-century-skills) Other authors who among the ranks 21st century skills and creativity of the White (2012).

Hearing loss is considered in both domestic (Potměšil, 2010; Potměšilová and col., 2013; Renotiérová, 2004; Vítková, 2010; Souralová, 2002; Horáková, 2012) and foreign professional literature (Sinnott ad all., 2012; Lampropoulou, 2009; Desjardin, 2006) to be one of the most serious handicaps that can influence an individual's development, depending on the type and level.

Especially from the educational point of view this disability can have a major effect on the person concerned, in particular as regards communication and thinking capacities. For this reason the situation of people with hearing impairment in society can be compared to that of foreigners, who may have a basic idea of the society where they live and even essential language competencies. And yet, despite these skills and experience they have, they are still foreigners. They are not always able to understand slight nuances in communication (specific meaning of a word, irony, humour).

One of the ways to describe the differences of perception of children with hearing impairment, and at the same time to develop their comprehension is art philetics.

1 Hearing impairment

The phrase hearing impairment is used as a neutral term referring to an individual with any hearing disability, which can be displayed as qualitative or quantitative limitation of the sense of hearing. The hearing defects can be further classified using various keys: time of occurrence, qualitative or quantitative limitations.

Apart from the phrase hearing impairment there are also terms deaf and the Deaf used in the above-mentioned domestic and foreign sources. The term deaf usually describes an individual with a serious or deep hearing defect that can be also labelled as deafness. From the viewpoint of hierarchy this is one of the types of hearing impairment – the most serious one. The Deaf version has appeared in the Czech Republic in connection with the emancipation of people with hearing impairment. People, who see themselves not as disabled, but rather as a cultural and language minority, prefer to be called the Deaf.

1.1 Characteristics of people with hearing impairment

According to WHO (2014) it is possible to define three basic areas of impact of a hearing defect: functional, social and emotional, and economic area.

Functional impact means the effect of hearing loss on the creation of communication skills that can influence the educational possibilities. *Social and emotional impact* is most often reflected in the limited access to services, and exclusion from general communication, which can lead to feelings of isolation. *Economic impact* is seen in the societies that do not recognize an equal right to education of people with hearing defects. In such case higher unemployment is recorded among the people with this handicap.

Glickman (1993), Nikolaraizi and Hadjikakou (2006) and Kossewska (2008) have dealt with the development and creation of identity of individuals with hearing impairment. The authors comment that the people with hearing impairment can either feel as a part of the so-called "hearing culture", or they can think of themselves distinctly as the so-called "deaf cultural minority", or they can feel to be part of both. According to those specialists the individual perception depends on several fundamental factors: family environment, experience with educational process, chosen communication strategy and also type and seriousness of the defect.

Following our own experience we can confirm the above-mentioned findings. At the same time we can state the identity of individuals with hearing impairment can change throughout their lives depending on the factors.

Potměšil (1999, p. 36) mentions that major influence of the hearing impairment can be seen in the social-cognitive area, including: *impulsive behaviour, lack of self-respect, empathy development deficiencies, inability to describe current mental condition and explain feelings, limited understanding of some pro-social terms, simplified or even black-and-white concept of personal traits, and difficulties in the field of interpersonal relations.*

Vymlátilová (2006, p. 89) wrote that people with this defect are often spoken of as *rigid, socially immature, infantile, impulsive, egocentric and touchy.* However, the same author adds that we need to avoid generalisation and focus on individual abilities of the person concerned.

1.2 Specifics of intellect and thinking of individuals with hearing impairment

The process of establishing concept of terms is different for children with and without hearing impairment. This is a rather complex issue that has not been examined sufficiently in the Czech environment yet. Professional publications include just a little relevant information (Zicha, 1981; Vágnerová, 1993, 2012; Davido, 2001; Solovjev, 1997; Souralová, 2002).

Vágnerová (1993, p. 108) says that *thinking is affected by a deficit in the generalisation sign system, i. e. speech.* As far as practical activities are concerned, observable at the beginning of the child's development process, which were called by Piaget (1997, pp. 45–49) the sensomotoric phase, the child with hearing impairment gains certain knowledge and realises the basic relationships. To continue to the next development phase the child needs a sufficient volume of adequate ideas and their utilisation when resolving new situations. In this second period (according to Piaget 1997, pp. 45–49, pre-term period) the child needs to deal with new situations not just by factual activity, but also indirectly, using internal mental activities: transition takes place to a higher level of the so-called symbolic thinking. The child gains basic generalisation ability. At this stage different development can be seen in the children with hearing impairment. The word "can" should be emphasised, because different development will be influenced by the level of seriousness of the defect, and by the environment where the child lives. Thinking may not be completely tied to a specific situation, but the generalisation remains at the level of Piaget's concept of symbol, which is somehow similar to the object concerned. However, generalisation on the basis of a speech sign, which is more general and conventional, remains a problem.

Solovjev[1] (1977) claims that the main feature of this stage or period is a symbolic game played by the child. The child is able to use various objects to imitate some specific activities. *Imagination that allows one to play with a stick as a thermometer is created in the process of abstraction, through illustrative thinking. In this situation to redefine the stick to thermometer is an expression of abstraction ability.* (Solovjev, 1977, p. 146) The author further mentions that with the children with hearing impairment such game can be seen only later. *This is to a certain extent related to the delayed development of their abstraction activities.* (Solovjev, 1977, p. 146) Solovjev has supported his claims by the research he had completed with children with hearing impairment from the ages of 6 to 7.

Souralová (2002) deals with mental vocabulary of children with hearing impairment in relation to the reception of written text. She mentions one very important fact here: the need to install the words into *a semantic network, namely using the connections between coordination, subordination and semantic fields.* (Souralová, 2002, p. 11) The above-mentioned can be taken as a basic principle of work with children with hearing impairment in the field of developing terms, or thinking. As regards correlations, creating connections, the semantic fields of a term should be an obvious replacement for the things the child with hearing impairment cannot hear.

[1] There is a number of authors dealing with the hearing impairment issue, both in Czech and foreign sources (e. g. Souralová, Horáková, Vágnerová, Potměšil, Marschack, Lampropoulou), but none of them provides a comprehensive view of the specific issue of developing the concept of terms in the case of children with hearing impairment. For this reason, to describe the above-mentioned topic sources from 1977 and 1978 were used, dealing with this issue.

Sándor[2] (In: Gyuláné, 1978) says that non-verbal thinking of the children with hearing impairment is at a higher level as compared to the hearing children. He defines the non-verbal thinking as a mental process that takes place at a specific level using analysis and synthesis of images. Solution of a problem is not reflected in the term, word and language fields. Where problem solving is transferred to the verbal area, the problem is defined by words and thinking uses abstract terms, not specific images.

Following the findings in the above-mentioned professional sources and results of own research (Kalendová, 1997, 2004; Potměšilová, 2009) it is possible to summarise the differences of grasping a term by children with hearing impairment into several points:

- *Mental operations are more specific;*
- *Meaning is often related only to a specific object, not a class of phenomena (prototype is not developed enough – common and differentiating features – certain object classification – so-called prototype theory);*
- *Problems related to imagination.*

This means that concerning children with hearing impairment we often experience the fact that they "know" a lot of words. It seems they have a vast vocabulary. From own practice we know the following sentence very well: "I know the word, I've seen it, but I can't explain it." But the words are not grasped as terms.

With children with hearing impairment we often come across one phenomenon: naming is connected to a specific matter, being closer to indexing (thing, person, effect). This is because they are taught to orientate themselves in normal life and to be able to deal with everyday situations (e. g. shopping). The point is they learn a selected skill in a specific situation or connection, and are using it in the given connection only. This means they deal with it on the basis of context, not a general concept independent on the context, which proves handling of terms within language system at a relevant abstraction level. The decentration process has not been completed well.

One of the causes of the situation is the fact that child with hearing impairment cannot hear "the important connections" that help the hearing children to fully grasp a term. Therefore one phenomenon is rather frequent: an individual with hearing defect ends up in a situation that is somehow new, unknown, confusing, and the individual tries hard to find something known and certain to be able to comprehend.

2 Creativity and individual

From a biological point of view creativity is influenced by the brain activity. Jamison (1997) and Gardner (1993) were among those who researched biological effects on creativity. Jamison focused on the relationship between creativity and mental defects,

[2] Dtto

specifically bipolar disorders. Gardner has dealt with the possibilities of initiation of cognitive abilities, such as learning and creativity. In relation to this issue Gardner (1999) mentions spatial type of intelligence.

Further, for example Dacey and Lennon (2000) speak of the basic factors influencing brain development. Apart from proper nutrition and social interaction they mention also *less obvious conditions* that can have an effect on later creativity: *noise level, modulated sounds – pleasant ambient music, pastel colours in the room, or gentle movements of people taking care of the child.* Lack of such stimulus can result in limited brain development and consequently to lower creativity. However, it cannot be claimed that *deprivation at an early age always results in limited development of micro neurons, or weak creative abilities, yet the correlation is clear* (Dacey and Lennon, 2000, p. 167).

The correlation mentioned above can be applied in the situation of a child with hearing impairment. Following the limited ability to receive audible information they can be deprived at an early age. It's been mentioned already that the impossibility to hear modulation factors influences the abilities of an individual with hearing impairment. In this context we can only sum up that hearing impairment can affect brain development and also the level of creativity.

2.1 Art philetics

Art philetics is a discipline with close links to art therapy. It uses similar processes as art therapy, but in the educational context. The objective of art philetics is not to treat, but to contribute to self-recognition, development of personality and positive personal traits in the educational process. It can also be used as a creativity development method.

The person who coined the term art philetics, and the spiritual father of the whole discipline is Jan Slavík (1997), who defines the art philetics approach as a special concept of art education or in the wider sense expressive education touching the field of art therapy and mainly focusing on authentic experience learning about human culture and development of emotional, social and creative aspects of human personality.

According to Slavík (1997) the term art philetics approach covers two areas of meaning: Latin ars – art and philetics – an approach that connects creative expression as a principle of artistic creation with reflection as a scientific principle.

By combining the two areas it is possible to define art philetics as an educational concept whose main principle is to connect expression play (e. g. visual art) with reflecting dialogue. The purpose of the art philetics approach is to provide people with an opportunity to reveal their own mental capabilities and limits, with a chance to find their place and role in the community of humans, to equip them with sensitivity to pain of other people, to prepare them for spiritual growth and finding the sense of life with support by human culture, especially art (Slavík, 1997).

3 Research

The objective of the research was to describe the response of children with hearing impairment at the ages of 8–12 to an ambiguous stimulus in the form of a visual art task. Combination of qualitative and quantitative methodology was chosen for the research implementation.

3.1 The issue

Individuals with hearing impairment experience problems with understanding and practical use of some terms. Due to the hearing defect their conditions for the natural process of creation and saturation of semantic fields and term differentiation are more difficult, and consequently the conditions for functional creation of term structure are more complicated. Insufficient comprehension of terms is then reflected in thinking, which is considered to be a necessary precondition of learning, i. e. a necessary precondition of the educational process. Apart from the impact on the educational process different term structure can have an impact on everyday life. An individual with hearing impairment can fail in ordinary situations that require application of verbal intelligence. On the basis of this fact the issue of our research was formulated:

The understanding and application of term structure by children and pupils with hearing impairment is different from the understanding and application of term structure by intact children and pupils.

There are special pedagogical procedures that can help natural and functional creation of the term structure of children and pupils with hearing impairment.

3.2 Research questions

Based on the definition of the researched issue and its theoretical outline the following research questions were formulated:

Are children and pupils with hearing impairment able to receive ambiguous stimulus?

In what way do the children and pupils with hearing impairment receive an ambiguous stimulus?

Is the response of the children and pupils with hearing impairment to an ambiguous stimulus different from that of intact children and pupils? If yes, in what way?

3.3 Research population

Table 1
Characteristics of research population

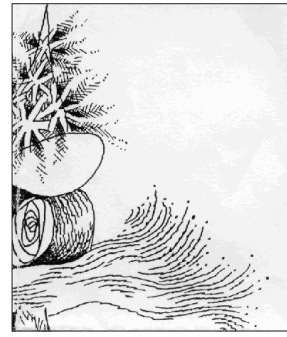
RESEARCH	CHARACTERISTICS OF RESPONDENTS	QUANTITY
Collection Group A	Age 8–12 Intact population The Czech Republic	70
Collection Group B	Age 8–12 With hearing impairment The Czech Republic	63

3.4 Description of selected aspects of the research

The research took place in 2014. To collect the data the qualitative method of analysis of the obtained materials was used, followed by anchored theory method.

All the respondents were given the image below – ambiguous stimulus (Fig. 1), a white A4 sheet of paper, glue and crayons.

Figure 1
Ambiguous stimulus



Instructions were given:
"You have received part of a picture. First of all look at it carefully, you can also rotate it. As soon as you think the picture reminds you of anything, try to complete it. Glue the part of the picture on the white paper you have received. You can modify the picture in any way you like. You can use any of the materials you have received."

Each of the reactions to the ambiguous visual stimulus (see above) was subsequently analysed:

– Separation of adequate from inadequate reactions;
– Sorting into topical categories (identification of patterns and simple summary).

To process the data coding was used. With open coding individual responses were gradually classified, and axial coding later allowed to look for specific features – details of individual pictures. On the basis of this coding a more accurate image was created of the individual categories and differences between categories for both the groups. As an example of open coding we provide one category (Character), see Table 2; Table 3 includes the evaluated specific features for axial coding.

Table 2
Example of open coding category

Character	The original motif is part of the face The original motif is part of the body The original motif is part of clothes The original motif is part of a fantasy or fairytale character The picture is a functional part of a character

Table 3
Specific features for axial coding

Overall concept
Colour design
Details
Way of use of the original motif

Following the above-mentioned processes we moved on to formulate a theory: The characteristics of creative response of pupils with hearing impairment at the ages of 8 to 12 to an ambiguous stimulus are determined by these statements:

It can be a problem for the children and pupils with hearing impairment to respond to an ambiguous stimulus.

Where adequate response to an ambiguous stimulus appears, it is a standard reaction. In the categories into which the adequate responses are sorted there are no differences compared to the intact population.

Apart from the features typical for the age there are also features appearing in the artistic expression typical for earlier age that should not appear anymore.

The features typical for earlier age appear on pictures related to human life.

The features corresponding to the given age appear on pictures primarily not related to human activities.

Formal work is preferred to content.

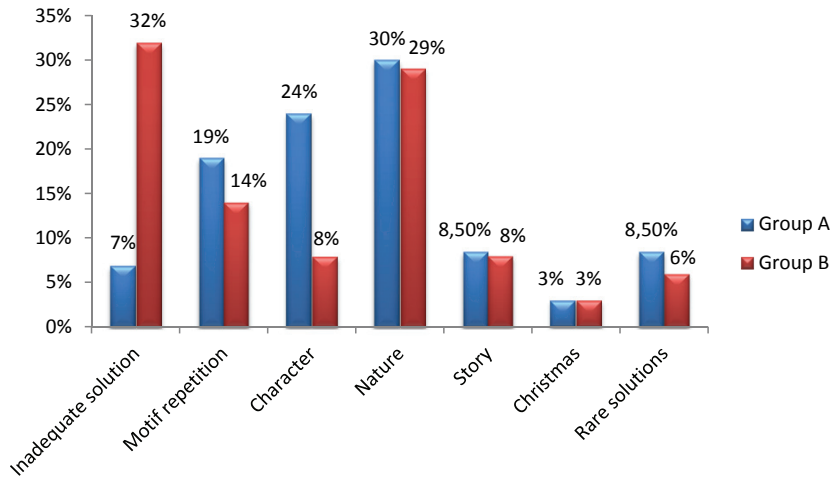
The ability to respond to an ambiguous stimulus is one of the abilities contributing to problem solving strategy. To recognise the problem is an important step, from which the very solution is derived. Only a problem that has been recognised can be solved. Definition of a problem follows recognition of the problem. When defining a term further recognition of the problem may occur. If one succeeds to recognise and subsequently define a problem, one can formulate the problem solving strategy.

When processing the results, the inadequate reactions and threshold reactions to ambiguous stimulus, where the respondents just mirrored the original motif, were classified as problematic. In a practical situation such response could go like this: the individual with hearing impairment does not notice the stimulus and starts talking about something else / solving another problem. As regards the threshold reactions the stimulus is repeated, but not developed and followed. From the viewpoint of further development of thinking abilities this is a dysfunctional strategy. We have referred to these strategies above as defensive. This is because in practice this might at first glance look as if the individual with hearing impairment is oriented in the situation, because he/she is speaking or solving. But in reality the response is not related to the stimulus, and the person is doing something else.

In the case of adequate reactions we can see differences related to the impact of hearing impairment on speech development – understanding of terms – thinking. The responses more connected to language development and human activities display properties typical for lower age. On the contrary, reactions related more to nature, without a direct link to human activities, are at an adequate level. We can see a parallel to this phenomenon also in the differences between verbal and non-verbal intelligence of children and pupils with hearing impairment, as stated for example by Šedivá (2006) and Vágnerová (1999).

The newly formulated theory was complemented with descriptive statistics. To give the reader a basic idea, we provide a chart with comparison of occurrence of individual categories – responses to an ambiguous stimulus of intact children (Group A) and children with hearing impairment (Group B).

Chart 1
Comparison of frequency of reactions



3.5 Validation of research questions

The research had three basic stages in logical sequence. During the first and second stage we collected information on the researched issue, and created the overall picture in relation to the available professional sources. During the third, pivotal stage of the research we narrowed the issue onto children and pupils with hearing impairment at the ages of 8 to 12. The topic of creation and perception of terms in this population is a very complex one, as yet not thoroughly explored. Most educational specialists dealing with the process of educating children and pupils with hearing impairment are aware that this group processes verbal terms differently, but there is no functional educational procedure introduced to ensure that individuals with hearing impairment are able to comprehend words/terms in Czech language within the full scale of their meanings.

In the third part of our research we described in detail the specifics of responses of respondents to ambiguous stimulus (Group B), and compared the reactions with those of the respondents without hearing impairment (Group A). Following the description we are able to gradually answer the formulated research questions:

Are children and pupils with hearing impairment able to receive ambiguous stimulus?

Almost half of the pupils with hearing impairment is able to receive ambiguous stimulus. However, this ability was not recorded with all the children and pupils. We

consider this finding an important one with regards to further research and formulation of practical recommendations.

In what way do the children and pupils with hearing impairment receive an ambiguous stimulus?

Referring to the results: the children and pupils with hearing impairment approach an ambiguous stimulus in three ways:

They don't understand the problem, they ignore it and create without links to the stimulus.

They don't understand the stimulus, but they notice it and mirror-reflect it.

They understand the problem, they assign it some meaning and process it creatively.

The types of responses of the children and pupils with hearing impairment to ambiguous stimulus were identical with those of intact children and pupils.

Is the response of the children and pupils with hearing impairment to ambiguous stimulus different from that of intact children and pupils? If yes, in what way?

The results have shown there are differences. We mentioned earlier that the types are identical, but their frequency is considerably different. The frequency of inadequate reactions to the original stimulus is higher among the children and pupils with hearing impairment (meaning response reflecting the fact that the ambiguous stimulus was not taken in). Another major difference is the way of processing the response. As regards the children and pupils with hearing impairment, we see more often the emphasis on formal aspect of the problem solving. The paintings are coloured, full of details, with overall composition. The intact children and pupils concentrate more on the execution itself. Attention to colours, details and overall composition is not that frequent.

Therefore in general we can state that differences exist between the children and pupils with hearing impairment and intact children related to the way they respond to an ambiguous stimulus. The fundamental difference is not the type, but frequency and character of the reactions.

On the basis of the results of the research, and particularly from the detailed analysis of the character of reactions of the children and pupils with hearing impairment to an ambiguous stimulus we have compiled the practical recommendations below.

3.6 Practical recommendations

Art philetics is an educational discipline that allows creation of functional combination of self-expression and space for feedback. As a means of this combination techniques are used linked to creative arts. For this reason the art philetics is a suitable method of work with the children and pupils with special needs.

The children and pupils with hearing impairment could be led via art philetics to higher sensitivity to ambiguous stimulus, and to better understanding of the principle

of semantic field creation. Apart from the development of this important skill most of the techniques have another meaning in real life as well. As an example we can mention the Reconstruction method, which we used as the basic method in our research. This method has three possible uses in practice:

– Fantasy development
– Communication skills development
– Problem solving strategies

Table 4
Example of specific technique

Sort the pictures (joy, sadness, fear, danger) *Time:* Approx. 45 min *Aids:* A set of art therapy materials, pictures *Assignment:* We give the children various pictures and ask them to sort them according to what they mean to the children. Then we ask the children to communicate their feelings.	*Practical observations:* We focus the discussion on the topic of what has led whom to matching a particular picture to a particular feeling or mood.

Conclusion

Hearing insufficiency is the type of disability that can have a major influence over the quality of life of the person concerned, who consequently cannot use all the functions of unintentional learning, depending on the character of the defect. This fact means that the entire educational process can be affected, as well as personality development. Insufficient possibilities of unintentional learning have a major negative impact on the development of communication competencies of children with hearing impairment. Another impact can be traced in the field of emotional experience related to both the person him/herself and empathy as an important function within social competencies of an individual. But this will be the subject of the next research.

Following the theoretical starting points for the issue and the research results it is possible to conclude that the children and pupils with hearing impairment compared to the intact children have more problems responding to an ambiguous stimulus. In the event of adequate response this displays higher level of detail (elaboration and fluency) compared to the intact children of the same age. Where human character appears in the pictures, the painting usually displays features typical for earlier development stages.

The cause of these characteristics can be found in the seriousness of the hearing defect and in the impact the defect has on the person concerned, namely from the viewpoint of education and learning in childhood.

There is a close link between the perception of ambiguous stimulus and the level of communication competencies, and their influence on the educational process. As the functional level of perception of an ambiguous stimulus is lower with the children and pupils with hearing impairment as compared to their intact peers, from the viewpoint of special pedagogy we consider it necessary to look for possible ways of developing the aforementioned competencies, with positive impact on the overall learning process in its essential segments as a basic precondition of upbringing and education.

With reference to other abilities and skills of the children and pupils with hearing impairment the suitable way seems to be the development of creativity of this target group using fine arts, i. e. targeted inclusion of art philetics into the educational process of the children and pupils with hearing impairment. Arte philetics can become a functional way to develop creativity in children with hearing impairment, which will have an impact on the development of psychosocial skills which are needed for the 21st century.

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Reviews and short reports

The Novice Researcher

Lucie Blaštíková

Wiegerová, Adriana et al. *Začínající výzkumník – od magistra k postdoktorandovi.* Zlín: UTB, 2013. ISBN 978-80-7454-315-9. 109 pp.

The book whose name is "The Novice Researcher – from the Master to the postdoc" was published in 2013 by Tomáš Baťa University in Zlín, Faculty of Humanities. The publication is a work of a collective of authors.

The book is structured into seven chapters including introduction and conclusion. In the introduction there is clearly defined, whom it is aimed at – from master degree students to novice academic worker. In many aspects it can be aimed at academic workers, who work as PhD. students' trainers. The publication also reflects actual problems in contemporary situation of universities, which is being changed now for either academic workers or all students. The fifth chapter concerns a possible dilemma in relation between the roles of a researcher and a teacher. Any member of a group mentioned above may meet this dilemma. There is discussed a question, which of the roles is more accented in case of a PhD. student and which in case of an academic worker. In the last chapter a reader can make a survey of possibilities that has a PhD. graduate in his future career.

The publication reacts to really actual problems that are to be solved in the academic community and can concern all the groups mentioned above. The changes are related to the Bologna process and following increase of numbers of public and mostly private universities. The authors especially deal with four processes which concern university studies as well as scientific and research activities. There are higher numbers of students, which is connected with application of new technologies that are used during studies and for e-learning, too. There are also mentioned the pressure for evaluating new knowledge and the increase of requirements for publication activities of students and academic workers.

A conflict between the roles of a novice teacher and a novice researcher is tightly related to the topic closely described in the publication. They are both brand new roles for a student, who is about to solve a problem whether to become a teacher or a researcher. It is also important, what the student prefers. During the master and PhD. degree studies, but in fact mostly when writing his diploma thesis, a student meets the problem of methodology. A diploma thesis director plays certainly an important role here too, he can influence the student's future enthusiasm or lack of interest in research; it can happen in PhD. studies, too. Of course, the student may encounter the research work not earlier than during PhD. studies, so his fear of scientific and research work can have its source in lack of experience. In the field of pedagogical activities that means in teaching at a university, there is almost every student inexperienced (when we were not talking about a combined studies student, but about a regular student, who studies PhD. right after graduating from master degree). Here there is important how the student is prepared, his knowledge, but also clear instructions from his trainer or consultant, who guarantees his pedagogical activity. I believe that every student prefers just one of these activities; that one, that suits him better. But all the activities mentioned above bring valuable experience for future practise and development of a student. This issue is dealt with in detail in the fifth chapter, where there is presented the research, too.

I believe that academic workers as well as students will appreciate the chapter dealing with the role of a trainer in educating a PhD. student. In this part of the publication, there are described the obligations of a trainer, goals of his activities, styles of trainer's attitudes, but also the presentations of a trainer, his position in the workplace and his interaction with a PhD. student. I believe that the chapter will contribute to every PhD. student's idea about what are the possibilities of interaction and contact with his trainer. Of course, the following process in relations between a student and his trainer develops individually. The chapter brings a clear conclusion describing how easy it is to build a very good and supportive relation between a trainer and his student. At the same time it is clear, that it is possible to form an opposite relation, which will be pleasant neither for the student, nor for his trainer, which will certainly be reflected in results of their work. I think that mutual communication, that is the authors' focus, is a base for creative and positive relation.

The publication is appropriately and clearly structured into chapters, each of them has a similar structure. In the beginning of every chapter there is a general introduction to the issue that is dealt with, then there are described the goals of the chapter, followed by substantial part of the chapter (often including a description of research and its methodology), discussion and conclusion. Five of the seven chapters are in Slovak.

I find it contributive that the authors base the publication not only on theoretical knowledge and literature, but also on their own original researches concerning certain groups of students that are defined in the introduction. The researches are always

clearly described and their methodology too. The authors also point out to possible insufficiency of the results of their researches and of processing the results.

The book, which is aimed at certain groups, is clearly focused on science, research, education and work of beginning academic workers. I find the publication truly beneficial and enriching.

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