vhs

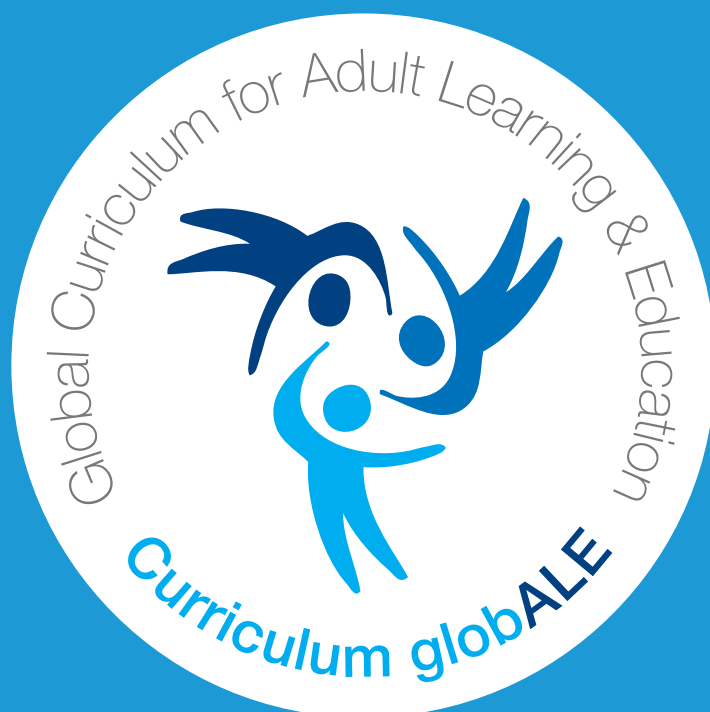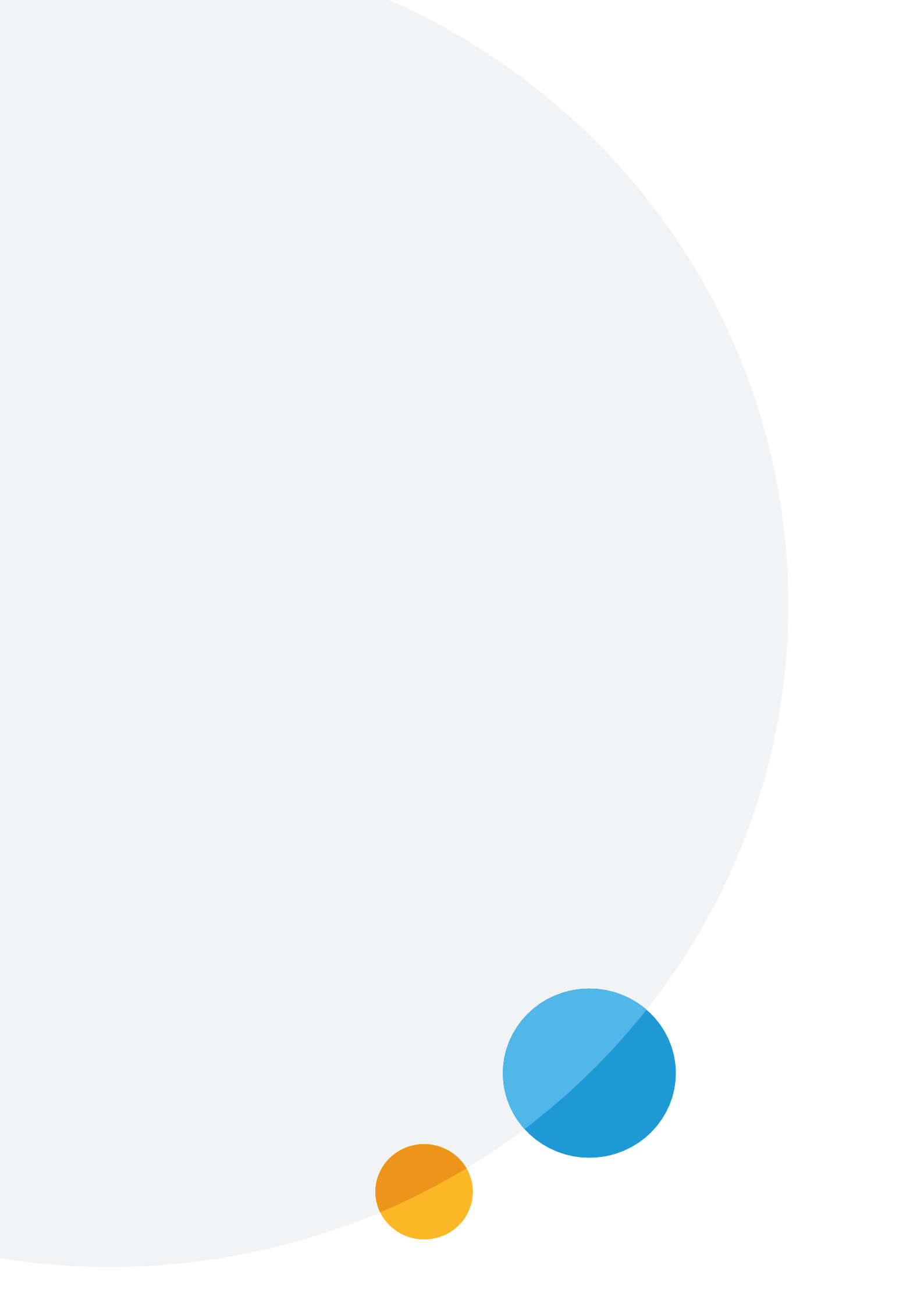**DVV International**

Education for Everyone. Worldwide.
Lifelong.

Module 2:
Adult Learning
and Adult Teaching

Handbooks for five modules

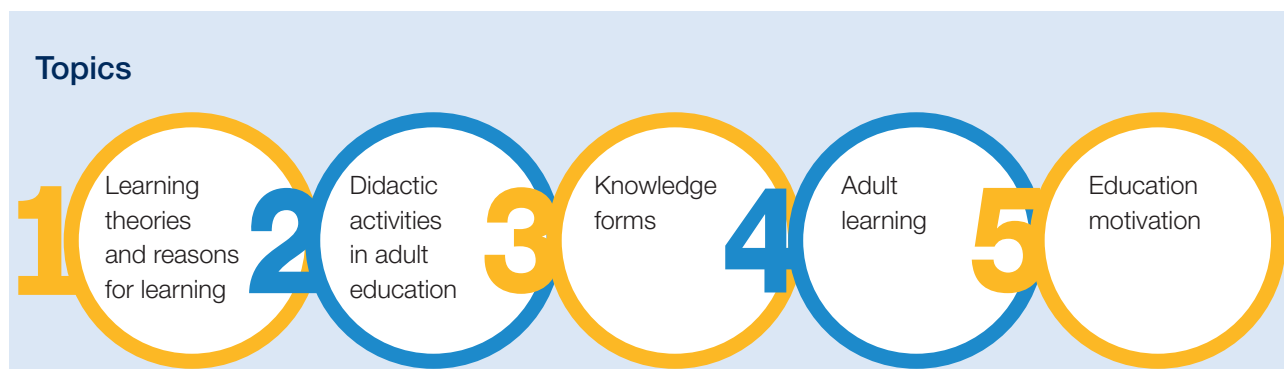Global Curriculum for Adult Learning & Education

Curriculum globALE

Content

Introduction

This Handbook is written for implementors of the Curriculum globALE and they discuss the crucial issues in the field of adult learning and adult teaching. Since the discussion of adult learning and adult teaching is based on scientific knowledge and theories, teachers/trainers need appropriate didactic preparation. Thus, the main purpose of this Handbook is to provide material that implementors of the second module of the Curriculum globALE can use in the preparation phase and in the implementation phase of the programme.

Due to his/her life and work experience, social status, education level and psychophysical state, an adult person in the learning and education process expresses significantly different qualities in comparison to a child. Thus, discussing and understanding characteristics and specifics of adult learning, understanding barriers and motives which prevent adults from learning or which motivate adults for learning, is directly in the function of more quality planning and implementation of adult education and training. The characteristics and specifics of adult learning are the criteria for the selection of methods, that is, methods, tools and forms of work, specific to the teacher-learnerrelationship, which makes the role of teacher more delicate. Understanding the phenomena of adult learning is a starting point for understanding all other andragogical and didactic phenomena. Therefore, we may conclude that this Handbook should provide support to the implementation of all modules within the Curriculum globALE.

The Handbook contains five main chapters which are compatible with the topics from module two of the Curriculum globALE. See Table 1.

Table 1: Content of the Handbook

Topics

1	2	3	4	5
Learning theories and reasons for learning	Didactic activities in adult education	Knowledge forms	Adult learning	Education motivation

Within every topic, there is a content-method structure of the topic (thematic expansion, with goals and outcomes), as well as sub-topics with short theoretical inputs and didactic-method suggestions and ideas (example of the scenario for developing a sub-topic or examples of assignments), suggestions for exam ideas and questions and suggestions for individual work.

This Handbook represent andragogic-didactic support for the implementation of the second module of the Curriculum globALE, as follows, they:

- offer a theoretical basis for each topic, as a sort of "road map" for the implementation of the content for trainers;

- propose didactical solutions and models of implementation for some sub-topics;

- give numerous instructions and advice for trainers in regard to selection of methods of work, time dedicated for certain topics, the creation of exam questions, instructing learners on how to do individual work, using additional literature, etc.

How to use the Handbook?

- Read the Handbook carefully. Introduce yourself to the topics and content. Do not forget that when it comes to each topic, you need to know more than what you will present in the lecture/training.

- Some of instructions and examples in the Handbook are just proposals and suggestions, which you can accept completely or partly, or which can serve as an inspiration. Given examples are not intended to diminish the creativity of the teacher/trainer, but rather to encourage thinking and development of ideas.

- Be open and ready to adjust given proposals and recommendations to circumstances in which you implement teaching/training. Instead of concentrating on reasons why something may not function in your environment, try to find ways to implement it anyhow (for example, if there is a PowerPoint presentation suggested in order to support achieving some learning outcome, and you do not have technical equipment for it, there are other ways to achieve the planned outcome).

- All suggestions in the Handbook always relate to your target group as well as to each learner, his/her experience and life situations. This is one way to functionalize adult education. The authors have written the Handbook with the aim of achieving the intended learning outcomes. However, it should be used in accordance with target group characteristics.

- The proposed order of topics (and sub-topics within one topic) can be changed during the implementation if a change is based on the principles of logic and target group characteristics.

- Use the Handbook as a "reflective practitioner".

> **We hope that you will use this handbook with curiosity and with pleasure and that its use will contribute to the quality of the implementation of module two of the Curriculum globALE.**
>
> **We look forward to your assessment of whether or not the handbook was understandable, inspirational and functional.**

Minimum Requirements for the Training

1. Trainees are introduced to the **characteristics of learning in adults**, in comparison with the learning of children. They are introduced to important theoretical concepts regarding learning and knowledge (different forms of learning, different learning theories) which enable them to identify, describe and analyse these characteristics.

2. Trainees reflect on the consequences of these characteristics for their own teaching practice. They are introduced to the **main didactic principles of adult education** (learner orientation, experience orientation, etc.). They relate this to their own teaching context and develop ideas and approaches on how to put these didactic principlesinto practice.

3. Trainees are introduced to theoretical concepts and research findings regarding **learning motivation and learning barriers**. They relate this to their own context and develop ideas and approaches on how to promote motivation/ reduce barriers in their own learners. For each of these areas, trainees discuss at least 2-3 inputs (e.g. original papers/documents, extracts from original papers/documents or texts/presentations specifically prepared/ compiled for the training) and perform some reflection or practical exercise (e.g. individual work or group work during the training sessions). Reflection and practical exercises are particularly required for areas 2 and 3.

TOPIC 1

LEARNING THEORIES AND REASONS FOR LEARNING

The structural elements of this topic are the four sub-topics presented in Table 2, with goals and outcomes for each of them. Based on experienced assessment, we recommend an optimal time for the implementation of this topic: 1 day. We suggest that the teacher decide on his/her own timeframe for every sub-topic, based on the characteristics of the cultural context and target group. Learning theories provide an answer to the question: How does a person learn? Answers to that question can be implemented in andragogical practice. The reasons for applying principles from theory in practice are, in the most general sense, for improvement and raising the quality of adult learning and education.

Table 2: Sub-topics, goals and outcomes for the implementation of the topic: Learning theories and reasons for learning

Goal of topic implementation: Introducing the characteristics of learning theories and their significance in adult learning and the possibilities of connecting them with individual didactic activities.

General outcome: After implementation of this topic, learners know characteristics and principles of learning theories, their significance in adult learning, and they are capable of using this knowledge to enhance their didactic activities.

Sub-topics	Goal	Outcome
1. What is learning?	Introduction to basic characteristics of the notion "learning"	Learners know characteristics of the notion "learning"
2. Learning theories	Introduction to various learning theories and their implications to understanding of adult learning	Learners know the essence and principles of various learning theories and relate them to adult learning
3. Relation between teacher and learner in various theories of adult learning	Introduction to possibilities to establish didactic procedures based on principles of learning theories	Learners are capable of establishing their didactic procedures based on principles of learning theories
4. Andragogy as a science of adult education and adult learning	Introduction to the importance of andragogy as a social science, its subject matter and the characteristics of the phenomena of its interest	Learners understand the importance of andragogy and its subject of interest; understand characteristics of adults (age) and differences betweenadults and children who are learning

1.1 What is Learning?

LEARNING IS A HUMAN PHENOMENON

Learning is an activity which consists of adopting new facts or reorganising facts already adopted into new systems, with the aim of a more or less permanent change in a person's behaviour.

The first sub-topic within this topic (see Table 3) has a general character and it elaborates learning as a psychological and andragogical phenomenon. Its primary function is to serve as an introduction to all following sub-topics within this topic. Learning is a fundamental human phenomenon, since people permanently learn, although they are quite often not aware of that. In the widest sense, learning can be defined as an activity that leads to a change in a person, since to learn means to change.

In psychology and in sciences related to education there is no general agreement on the definition of the term "learning". Different psychological schools (behaviourists, representatives of cognitive and humanistic psychology) view learning differently, which has resulted in different learning theories (which we will elaborate further in this Handbook). Mostly, learning is seen as a result, (un)wanted effect or achievement in the form of knowledge, skills, attitudes, behaviours. However, learning is, first of all, a process. It is a process of manipulation of your own experience (experience-based learning). Authors in the field of adult education and learning define learning as a process "by which we create knowledge through transformation of experience." (Kolb, 1984: 38) or as a "process of transformation of experience into knowledge, skills, attitudes, values and feelings." (Jarvis, 1995: 59).

The purpose of learning as an adult (whether it is manifested as a construction or a re-construction of an experience) is to make some order of meanings, which are constituent parts of the world in which an adult person functions (thinks and works). Therefore, learning is a complex and continuous process of construction and self-construction of a person, which has a cognitive, affective, psychomotor function, social dimensions and is a result of interaction. As a complex and multi-determined process, learning comes in different forms. These forms are diverse, since they are determined by various stimuli and goals. Thus, there is experience-based, self-oriented and organisational learning, formal and informal learning.

Learning is a *complex process* and mainly psychological, pedagogical and andragogical disciplines deal with it. Many learning theories try to explain it. Some of these theories we will briefly present in this Handbook.

Table 3: Suggestion for the implementation of this sub-topic[1]

Sub-topic:	What is learning?
Goal	Introduction to basic characteristics of the notion "learning"
Methods and techniques	Demonstrations, discussions, lecture, moderation and presentations
Time-frame	60 min.
Resources required	Flip chart, moderation cards, crayons, beamer
Didactic material required	PowerPoint presentation of learning situations; PowerPoint presentation of characteristics of the notion "learning"
Procedure	1. step: Teacher shows photographs or presents slides with learning situations (for example a child learning how to walk, someone reading a book, someone working with some kind of machine, someone in an art exhibit, etc.) and then gives instructions for the individual work: in his/her moderation card everyone should write an answer to the question: What is learning? 2. step: Moderation and discussion. Teacher groups answers according to selected criteria and according to prepared PPP (for example learning as a result or as process; experience-based or self-oriented; formal, informal) 3. step: Integration/integrative presentation and lecture. Teacher, based on prepared presentation, integrates results of moderation and discussion, enhancing development of different learning theories, which try to give an answer to the question: How does a person learn?

| Didactic suggestions and recommendations for the implementation of topic 1 | This topic could be implemented in other ways, such as:

Role play (which is an attractive, interesting and dynamic form of the learning process)

Group work or work in pairs (Which enhances the exchange of ideas and experiences of learners);

Analysis of text with different definitions of learning. |

---

[1] All suggestions for the implementation of subtopics throughout the handbook are based on examples from the following sources:
Alibabić, Š., Popović, K., Avdagić, E. (2012): Naknadno sticanje osnovnog obrazovanja – Andragoški priručnik za nastavnike. Sarajevo: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.
Pavlović Breneselović, D. (2011): Obuka nastavnika u bazičnim andragoškim veštinama - Priručnik za realizaciju obuke. Beograd: Druga šansa.

1.2 Learning Theories

In psychological and andragogical literature, there are numerous theories and approaches to learning. All of them reflect on the adult learning process and the adult teaching process. That is why it is necessary for a teacher in adult education to understand the essence of learning theories, in order to be capable to base his/her didactic approach on them. With that aim, we present some of the approaches and learning theories (wider presentation of them can be found in proposed literature at the end of the Handbook). Suggestion for the implementation of this sub-topic is presented in Table 4.

The behaviourist approach assumes a connection between stimuli from the environment or from experience and a person's behaviour. In other words, according to this approach, people learn by reacting to different stimuli from the environment. And they believe the learning process is more successful if a person is rewarded. Changes in behaviour (learning) are achieved by rewards or punishments, as presented in Scheme 1.

Principles (characteristics) of the behaviorist approach to learning which are relevant to the practice of learning and teaching:

- **Learning is a reaction to stimuli from the environment represented by S-R stimulus – response connection**

- **Learning is done by conditioning, by insight and by observing**

- **Learning is encouraged by rewards or punishments**

- **Goal of learning and teaching = Change of behaviour**

**Scheme 1:** Behavioristic approach to adult learning

One example of the application of the principle of behavioristic theory:

Always find and stress the value and importance of what they said, shown or did, because adults understand positive encouragement as "fuel" for their self-esteem and change of their behavior.

Cognitivist learning theories discuss thinking activities through which information is actively processed. Learning is seen as a process of organising information, storing information and finding connections between information. According to cognitivist theories, the essence of learning is in developing a new mental schema and fitting that into existing ones; knowledge and/or existing schemata are changed and adjusted in order to integrate new experience into them.

Cognitivists view learning as an internal process, which includes memorising, thinking, abstraction, motivation and meta-cognition. Cognitive psychology understands learning from the position of data processing, in which a learner uses various kinds of memorisation during learning. The processing of new information, according to the cognitivist approach, is done within three inter-related memory domains: sense-related, operational and long-term memory. Memory = *domain in which information is stored short-term or long-term* (See Schemes 2 and 3).

Scheme 2: „Filling" memory domains is based on processes of memorising and forgetting
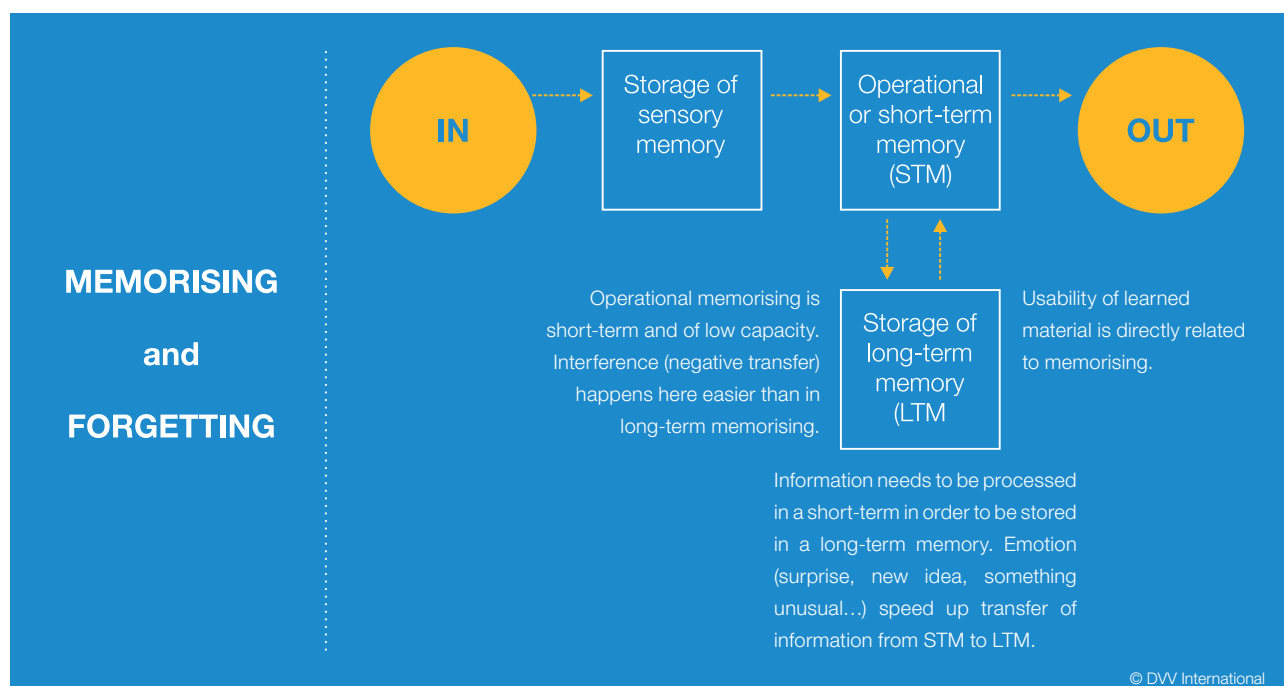
Scheme 3: Storage of knowledge according to cognitivist theory
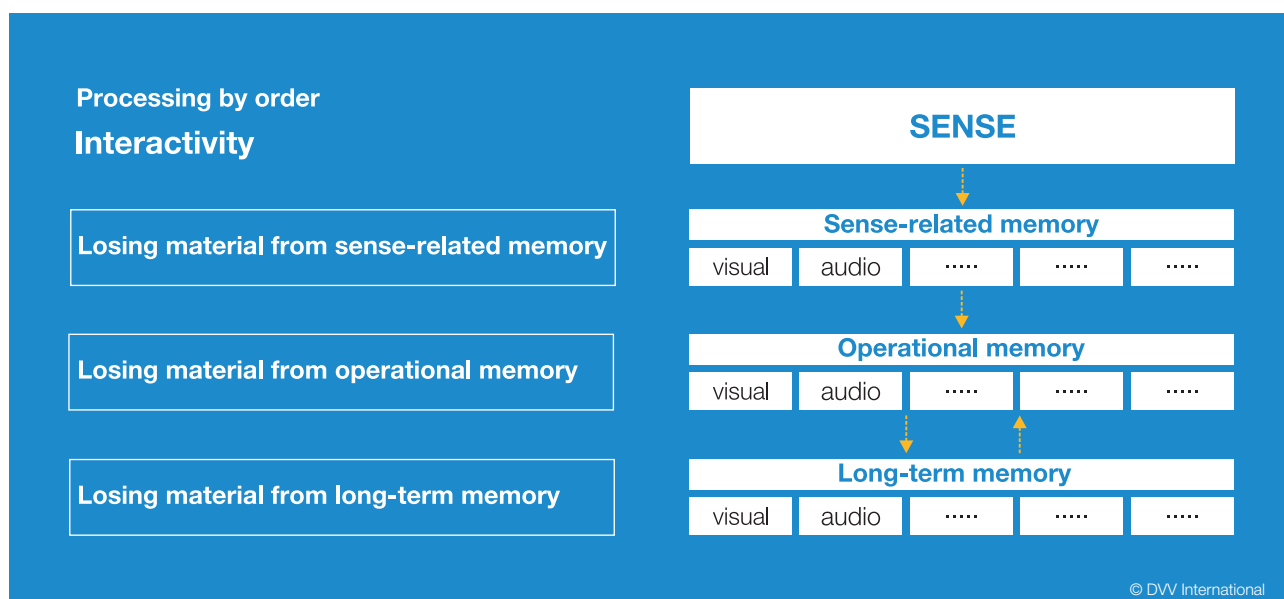
Principles (characteristics) of cognitivist theories relevant to the practice of learning and teaching:

- **Learning is active processing of new information**

- **Learning is organising information into structures by giving them meaning**

- **Learning is storage of information and looking for relationships**

- **Learning is developing cognitive schemata and thinking structures**

- **Learning is integrating new knowledge into existing mental structures**

One example of the application of the principle of cognitivist theory:

Rely on what you have learned before (adults do have such knowledge), use examples of (models for) learning and connecting terms based on categories and comparisonsmake diagrams and schemata.

Constructivist learning theory speaks about the active engagement of a person who is learning and "constructs" the knowledge by building new knowledge and experience into the existing one. *Constructivism* as a theoretical concept proposes that *gaining knowledge is based on a person's own experience*, and in accordance with that, learning is original and unique for every individual. Learners should individually choose and process information and create hypotheses and make decisions based on their own mental models (cognitive structure, schemata), by which they organise their personal experience.

The constructivist approach in adult learning promotes:

- Networks of knowledge
- Knowing learners
- Richness of methods
- Interactive learning
- Perspective from various courses
- Enhancing motivation for learning
- Applicable knowledge
- Cooperation
- Understanding
- Learning how to learn
- Encouraging environment

Principles (characteristics) of constructivist theories relevant to the practice of learning and teaching:

- **Learning is a process of active construction of knowledge (it depends on previous knowledge and experience of learners; knowledge is active and it is not transferable, it is constructed and re-constructed)**

- **Learning is, by its nature, interactive**

- **Learning depends on the content that is learned**

- **Learning is within the context**

One example of the application of the principle of constructivist theory:

Encourage learners to construct and re-construct their knowledge on their own (to discover relations and connections between notions, laws and principles); use case analysis from the real context.

Transformative learning theory

In order to answer the question "How do people learn?", Mezirow (2000) uses cognitivism and constructivism. He says that learning is a process of using earlier interpretations in order to create or revise interpretations of meaning of a person with the aim to influence his/her future activities. Transformative learning includes thoughtful transformation of beliefs, attitudes, thoughts and emotional reactions, which construct our schema of meaning or transformation of our meaning perspective.

There are two domains of transformative learning: instrumental and communication-based. Instrumental learning is aim-oriented and it happens through problem solving, by finding causes and consequences. The other domain of learning is communication-based learning, which is learning in relation to understanding the perspective and meaning of the other persons who are in communication with us. In most cases, it is related to communication with regard to feelings, values, ideals, moral decisions, concepts such as freedom, justice, love, etc. (See Scheme 4).

A central place in the theory of transformative learning belongs to *critical reflection*, which Mezirow finds the most important characteristic of adult learning. Understanding why we give a certain meaning to events, especially our social roles and relations to other people, is probably the most typical for adult learning. To create meaning is to make sense out of experience through interpretation. When, after that, this interpretation is used for decision-making or doing, then creation of meaning becomes learning. When the above-mentioned domains of learning (instrumental and communication-based) include critical reflection, then that is when transformative learning happens. Learning, as seen by Mezirow, is a process of using earlier interpretations to construct a new or revised meaning of experience, which is a guide for future actions. Meanings that are being created actually form structures of meaning.

Structures of meaning act as culturally defined referral frames, which include schemata of meanings (which consist of knowledge, attitudes and feelings by which we interpret experience) and perspectives of meanings (which consist of conceptual knowledge, points of view and value systems as criteria for assessment and verification). Our interpretation of the past creates our perspective of meaning.

Scheme 4: Transformative learning

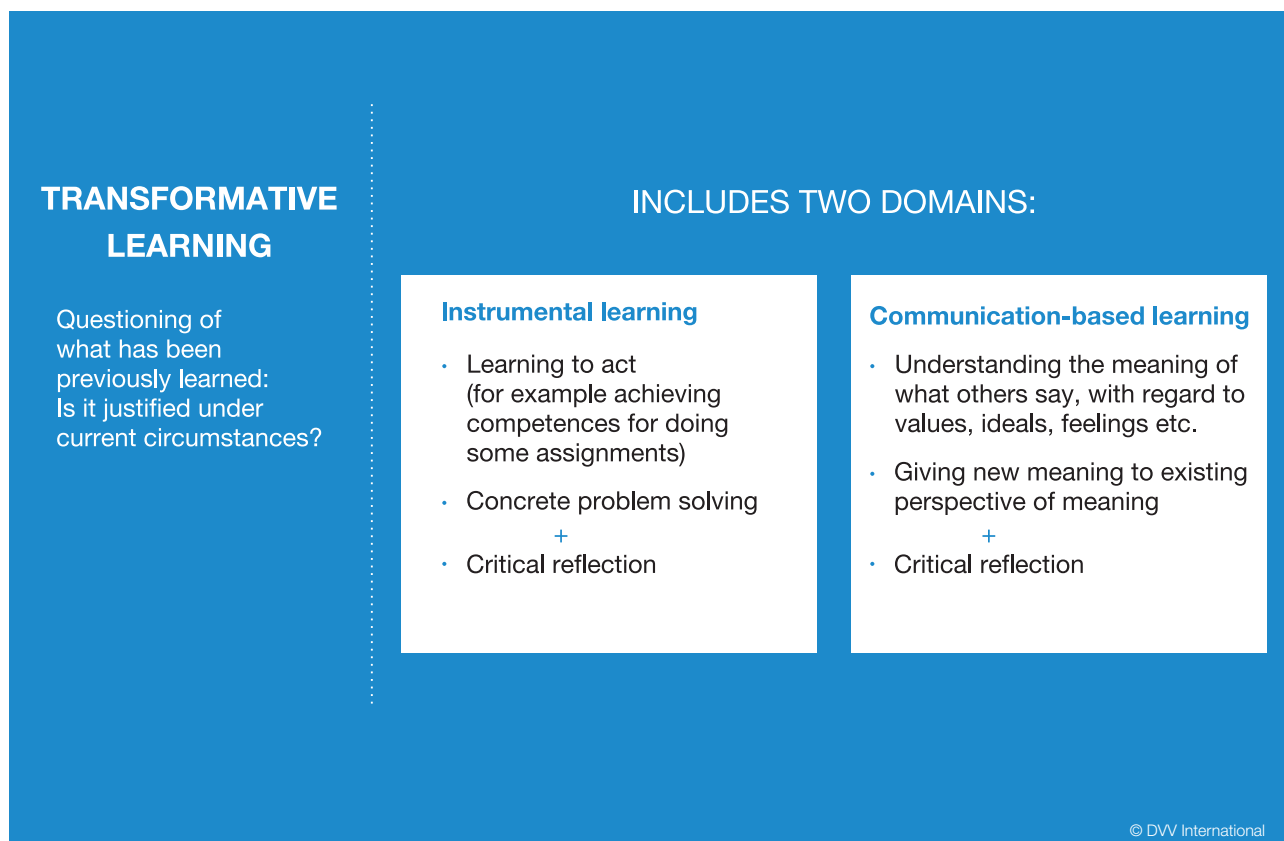| TRANSFORMATIVE LEARNING	INCLUDES TWO DOMAINS:	
Questioning of what has been previously learned: Is it justified under current circumstances?	**Instrumental learning** · Learning to act (for example achieving competences for doing some assignments) · Concrete problem solving + · Critical reflection	**Communication-based learning** · Understanding the meaning of what others say, with regard to values, ideals, feelings etc. · Giving new meaning to existing perspective of meaning + · Critical reflection

© DVV International

Table 4: Suggestion for the implementation of the sub-topic

Sub-topic	On learning theories
Goal	Introduction to various learning theories and their significance in understanding of adult learning
Methods and techniques	Lectures, presentations, discussions; group work
Time-frame	90 min.
Resources needed	Beamer
Didactic material needed	PP presentation of learning theories; material for group work – sheets with learning theories
Procedure	1. step: Lecture and PP presentation by teacher about learning theories and their reflections on adult learning 2. step: Instruction for group work. Teacher forms groups (for example 4 groups) and offers each group the possibility to select one paper in which the principles or the essence of each theory of learning is demonstrated (papers should be prepared in advance). Groups have the task to remember learning situations in which the principles of the theory (which they have on paper) were present; to discuss and note such experiences and present them afterwards 3. step: Presentation of group work results 4. step: Concluding discussion led by the question: Are the principles of the theory applicable to the learning situationspresented?

1.3 Teacher-learner Relationship in Different Adult Learning Theories

Every theory has significance in adult education. These implications determine, especially, the role of a teacher and the relationship between teachers and learners in the process of adult education (See Tables 5, 6, 7 and 8).

The role (activities) of a teacher in the context of *behaviourists' approach*.
- When learners are learning facts, often and directly offer feedback
- Slowly and step by step lead a learner towards the desired goal (correct answer)
- Generalise – point to general principles and give examples of them
- Provide an opportunity for the implementation of knowledge
- Provide an opportunity for the learner to practice a certain skill (*"If we want to teach someone how to fly, we must not only talk with him about flying"*)
- Use different forms of encouragement (for example, compliments, grades, rewards) to maintain efficiency
- When learners are learning new facts, encouragement is used more often in the beginning and less afterwards
- In the introduction part of the class, precisely explain goals and what you want learners to learn in that class
- Feedback should be given at the end of every part of a class

Table 5: Teacher-learner relationship in the context of the behaviourist approach

Teacher	Learner
• Active • Creates environment • Presents information • Shapes behaviour of learners by encouragement • Gives tests	• Passive • Responds to stimulus from the environment • Shows understanding of presented things • Reacts to encouragement • Takes tests

The role (activities) of a teacher in the context of *cognitivist theory*:

- Draw attention to the structure of theme; enhance logical connections between notions which are discussed
- Ask learners to find certain patterns on their own
- Use the opportunity when learners want to find answers for certain problems which are personally important to them
- Design the education process so that learners gain knowledge by themselves
- Encourage group work
- Adjust the process and materials to the cognitive capacities of learners
- Use activities which encourage learning, such as: explanations, examples, learning by analogy, summing up, enhancing interactivity, synthesis, using metaphors, finding basic principles.

Table 6: Teacher-learner relationship in the context of cognitivist theory

Teacher	Learner
• Active • Explains and demonstrates • Leads learning process • Provokes discussion • Gives instructions for individual work • Encourages learning	• Active • Adopts knowledge • Solves problems • Discusses • Works individually • Motivated

The role (activities) of a teacher in the context of *constructivist theory* is to use didactic-methods to enable construction and reconstruction of knowledge.

Table 7: Teacher-learner relationship in the context of constructivist theory

Teacher	Learner
• Knows learners • Applies various methods • Enables and suggests experimenting • Enhances motivation • Enables interactivity • Creates learning environment	• Builds networks of knowledge • Learns interactively • Cooperates • Learns how to learn • Demonstrates understanding • Gains applicable knowledge

The role (activities) of a teacher in the context of *transformative theory* is to use didactic-methodic approaches to enable and enhance the critical reflection of learners.

Table 8: Teacher-learner relationship in the context of transformative theory

Teacher	Learner
• Creates environment appropriate for learning • Facilitates and advises • Encourages critical reflection • "Works in the shadows"	• Solves problems • Analyses cases • Critically reflects • Manages his/her change

A teacher can implement this sub-topic in various ways. In Table 9 we offered a suggestion for one assignment as an idea for implementation of this subtopic.

Table 9: Suggestion for an assignment: "View from a different angle"

Assignment	The teacher, during one training session, has several problems with his/her learners, which he/she wants to solve. He/she tries to find the way to teach them to: • Come to training on time • Participate actively in group discussions • Return chairs to their places after training From the perspective of various theories of adult education and adult learning: How would a teacher solve these problems?

1.4 Andragogy as the Science of Adult Education and Learning

The content of the second module of the Curriculum globALE deals with the crucial issues and problems of andragogic science and practice, the phenomena of learning and teaching, which are basic for understanding and studying all the other issues related to adult education, which are part of other modules.

The function of this sub-topic of the Curriculum globALE is to explain the need for establishing adult education and adult learning practices based on andragogic theories and research, since "theory informs practice". In addition, the function of this sub-topic is to present the differences between children who are learning and adults who are learning, and these need to be scientifically interpreted (see Table 11).

In the following segment read an informative article about andragogy as a science (Kulić, Despotović 2005):

Most of the social sciences and humanities originate from Greek civilisation. Andragogy is one of them. The ideas about adult education and learning are very old and they can be found in the thoughts of ancient Greek philosophers (Heraclitus, Socrates, Plato, Aristotle), in the works of philosophers in ancient Rome (Seneca), and later in the work of humanist philosophers and in the Renaissance (Komensky). These thoughts on the need and importance of adult education and adult learning, which had been more completely framed by the 19th century, have encouraged the institutional development of adult education and inspired the establishment of andragogy as a scientific discipline. However, the process of consolidating the science of andragogy has not been easy or quick, since for a long time in the European cultural tradition, a negative attitude was fostered towards learning in adulthood. The development of andragogy has been prevented by the belief that human development ends when anatomic and physical maturity are achieved (theory of

plasticity). This has caused a negative attitude towards the possibilities for adult learning. Yet in the 1920s, there was a significant step towards systematic thinking about adult education practice. In 1833, a German teacher, Alexander Kap, coined the term andragogy, the aim of which was to describe a theory/discipline, which discusses the phenomenon of adult education. The etymology of this term is a combination of two Greek words aner (gen. Andros) = man, and ago (agein) = to lead, which means that andragogy is a science about leading, that is, leading adults toward education. This term has now spread from Europe to other parts of the world.

There is no single concept of andragogy among various authors. There are different conceptual orientations, for instance that andragogy is a stand-alone science, or also that andragogy is a skill, a method, a theory or a model for adult learning. Many authors think that andragogy is a stand-alone scientific discipline which has philosophical, social, historical-comparative, economic, organisational and didactic-methodic dimensions. Andragogy has its scientific structure, its system of sub-disciplines, which discuss certain aspects of adult education and adult learning (general andragogy, didactic, history of andragogy, comparative andragogy, andragogy of work, social andragogy). Among authors who see andragogy as the "art of helping adults to learn" is Knowles (1990), who later defined it as a science related to the skill of helping people to learn, and then as a theory and model of adult learning. His view of andragogy is based on the key differences and specifics of adult learning in comparison to the learning of children. There are many authors who see andragogy as a leading theory of adult learning, but there are also many authors who see it as a stand-alone science. Different perspectives on the scientific status of andragogy are, most likely, the consequence of the philosophical orientations of various authors. "Andragogy has its roots in ancient times. It was born in Europe and it has been scientifically verified in the USA"

After reading this article about andragogy as a science, one can get the impression that andragogy justifies its scientific status by finding differences between the learning of children and the learning of adults, that is, in answering the questions: Who is an adult? What are the characteristics of adult learning? Thus, it would be important, in this context (within this sub-topic) to answer these questions.

An adult is a person who, besides chronological age and a completed process of biological growth, possess a certain level of physical, social and professional maturity (see Scheme 5). Notions of adulthood and maturity are often used synonymously, although they differ. Adulthood signifies the end of biological and physical growth, while maturity is related to a person's functions. Growing up is measured chronologically, while maturing is a process of mental ripening not strictly related to chronology. Adulthood can be discussed from a biological, legal, anthropological, sociological and andragogical perspective.

Scheme 5: Adulthood and maturity

Adulthood/Maturity		
PSYCHOLOGICAL MATURITY	**SOCIAL MATURITY**	**PROFESSIONAL MATURITY**
Rational use of individual capacities and potentials Control of emotions Rational behaviour in everyday situations	Establishing social contacts Coordinating needs Accepting customs and norms, responsibilities	Making proper choices and achieving professional success Capable of providing means to sustain life

In the following suggestion for the implementation of the sub-topic, we tried to answer the second question: What are the characteristics of adult learning? (See Table 10).

Table 10: Suggestion for the implementation of this sub-topic

Sub-topic	Differences between the learning of adults and children as one of problems of andragogy as a science
Goal	To identify differences between the learning of children and adults and their significance in learning and teaching
Methods and techniques	Presentations and discussion, work in pairs, group work
Time-frame	90 min.
Resources required	Beamer, flip chart, felt-tip pen
Didactic material required	PP presentation, posters
Procedure	1. step: Introduction to topic. Teacher explainsthe importance of the topic to learners 2. step: Work in pairs: every pair has a task to identify, based on their experiences, at least 3 differences between the learning of children and adults 3. step: Presentation and discussion about differences 4. step: Lecture and presentation of teacher about differences that are characteristic of adult learning, as integration of discussion held within pair work presentation 5. step: Group work: groups get material (which was prepared earlier) related to differences between adults and children important for learning (differences are given in the following table), based on which they need to answer the following questions, writing answers on a poster: - In which way do these characteristics influence adult education? - How should training be organised, according to these characteristics? - What is the role of the teacher? What is expected from him/her? 4. step: Presentation of group work 6. step: Leading to the conclusion that the work with adults is significantly different from work with children, that is, from normal school work. Please follow the instructions and use the information from the following table (Differences in learning between children and adults)

Table 11: Differences in learning between children and adults

Characteristics of children	Characteristics of adults
• Depend on someone else's decision on what is important to learn	• Decide on their own what is important to learn
• Expect that things they learn would be useful for them in the future	• Expect that things they learn would be useful for them immediately
• Accept information as "served" – without questioning or doubting	• Need to value information based on their beliefs, values and experiences
• Have little or no experience which would help them to arrive at conclusions	• Have significant experience based on which they can make conclusions
• Have flexible and unformatted attitudes	• Have rigid attitudes of resistance to change
• Learn due to social pressure and for the purpose of bio-psychological development	• Learn to achieve their development goals and social roles
• Their learning is oriented towards school subject	• Their learning is oriented towards problem-solving

NOTE: Problems relating to *adulthood and characteristics of adult learning* can also be discussed within Topic 4 – Adult Learning.

EXAM QUESTION SUGGESTIONS AND IDEAS FOR INDIVIDUAL WORK

Suggestion for exam questions:

- The nature of this topic is such that it gives us an opportunity for testing learners as "reflective practitioners", especially in the domain of relations between teachers and learners in the context of various learning theories and in the domain of characteristics of adult learning that is the difference between the learning of adults and the learning of children.
- One exam idea may be a critical estimate of the role and activity of the teacher in the context of every learning theory.
- Why adulthood and maturity are determinants of the adult learning process and adult education – elaborate answer with concrete examples.

Suggestion for individual learning:

- Learning theories are fields which provide an opportunity to formulate assignments for individual learning. One assignment could be studying and researching transformative learning using phases identified by Mezirow (2000: 22).
- Another assignment could be an analysis of literature: Jarvis (2010), chapters on learning and learning theories (pg. 67-130).

DIDACTIC ACTIVITIES IN ADULT EDUCATION

The structural elements of this topic are the two sub-topics presented in Table 12. Based on experienced assessment, we recommend that the optimal time for the implementation of this topic is half a day. Our suggestion for the teacher is to decide on his/her own on timeframe for every sub-topic, based on relevant factors.

Table 12: Sub-topics, goals and outcomes for the implementation of the topic: Didactic activities in adult education

Goal of the implementation of this topic: To present possibilities of the implementation of principles of learning theories and principles of adult education in individual didactic activities.

General outcome: After implementation of this topic, learners know how to connect learning theories with their own didactic activities. They are capable of adopting adult education principles in their didactic practice.

Sub-topics	Goal	Outcome
1. Effects of various learning theories, with regard to individual didactic activities	Presentation of possibilities of the implementation of principles of learning theories in individual didactic activities	Learners are capable of connecting principles of learning theories with their own didactic activities
2. Didactic principles of adult education	Understanding of principles of adult education and respecting them in educational practice	Learners understand principles of adult education and they are capable of implementing them in their practice

2.1 Effects of Different Learning Theories With Regard to One's Own Didactic Activities

Learning theories and scientific-research results have effects on adult learning processes and adult teaching processes. Thus, teachers, whenever possible, should connect their didactic activities with the principles of learning theories (Scheme 6) and with the results of scientific research relevant to the success and quality of adult education and adult learning (see suggestion for an assignment in Table 13).

Table 13: Suggestion for an assignment: Reflection on the individual didactic experience
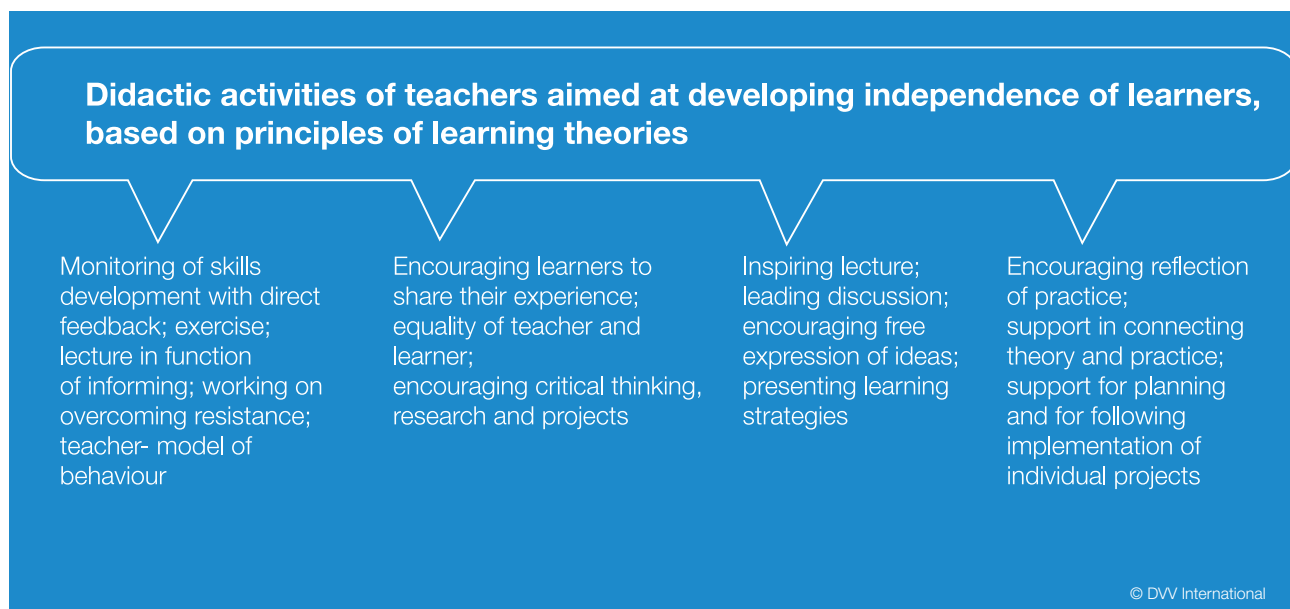
Assignment: **Organising didactic activities based on discussed postulates – reflection on experience** (individual work, work in pairs or group work)	*Basic postulates in learning, based on research of the brain (Caine & Caine 1990)* • The brain simultaneously perceives parts and the whole. • Information is stored simultaneously in different parts of the brain and recalled through multiple memory and neuron roads. • Learning engages the whole body. Learning is brain and body activity: moving, food, attention cycles and chemical processes shape learning. • Emotions cannot be separated from cognition. Emotions are crucial for the process of connecting and shaping our attention, sense and memorising. • The human search for purpose is natural. • Purpose (meaning) is more important than individual information and it is built through connecting and creating patterns. • The brain searches for patterns – it is designed to find and generate patterns, connect and form structures. • The brain is social. It develops better in coordination with other brains. • Complicated learning is developed through challenges and inhibited by stress. • Every brain is unique. Brain structure changes through learning. • Learning encourages development. • Learning always includes conscious and unconscious processes.

Factors (results of theoretical and empirical research) which need to be connected to didactic activities, in order to make learning and teaching successful (Ibid):

1. Motivation. If there is a reason, goal or a purpose for participation in the learning process or teaching process, an adult will continue with that process and be successful in it. It is necessary to apply various motivation strategies.

2. Learning environment/Climate. If we want learners to think, the learning environment and learning process have to be a safe haven. Complicated thinking processes happen in the neocortex. The neocortex does not function properly if a person is afraid or under stress.

3. Stress reduction. Stress is the enemy of efficient thinking, so it is necessary to reduce it by applying various techniques of reduction and relaxation.

4. Meta-cognition. Adults are focused on the re-questioning of their own meta-cognitive structures – to think and explore their own patterns of thinking and learning. It is necessary to enable them to develop their own methods and techniques of learning.

5. Environment. Adults expect an encouraging and inspirational learning environment. It is necessary to enable them to create a different environment for different activities (using music, light, decoration; different seating; activities outside of the classroom).

6. Putting information into wider frames and separating them into smaller pieces. The average number of units that a brain can accept at one time is seven (± 2).

7. Individual differences. There are differences in learning styles and learning strategies that need to be supported by adequate didactic activities.

8. Relying on previous knowledge. Connection with experience and everyday life. The brain learns and memorises what we find useful, relevant or what has a personal value. It is necessary to support that with adequate didactic activities.

9. Variation of experience. To provide experience that requires reflection, learning by experience, concrete experience and application. To connect abstract thinking with general experience, personal thinking, metaphors and analogies.

10. Moving makes the abstract concrete. Provide conditions for physical coding of information, by moving, dance, drama, rhythm, song, so that learners create many different ways of memorising.

11. Building patterns. Give learners an opportunity to develop or create patterns on their own and to share them with others.

12. Refection. Going back to and thinking about what they did, about their activities, thinking about "what is behind something", examining their own biases, expectations and giving them an opportunity to make mistakes and learn from them.

13. Learning styles and teaching styles. Various methods and techniques.

14. Preserving is enhanced by using. Memory increases when there are opportunities for learners to actively discuss the content and to teach others

15. Getting information about success/achievement. Adults have better results when they get feedback about their success in learning.

Scheme 6: Didactic activities of teachers

Didactic activities of teachers aimed at developing independence of learners, based on principles of learning theories

| Monitoring of skills development with direct feedback; exercise; lecture in function of informing; working on overcoming resistance; teacher- model of behaviour | Encouraging learners to share their experience; equality of teacher and learner; encouraging critical thinking, research and projects | Inspiring lecture; leading discussion; encouraging free expression of ideas; presenting learning strategies | Encouraging reflection of practice; support in connecting theory and practice; support for planning and for following implementation of individual projects |

© DVV International

2.2 Didactic Principles of Adult Education

Principles of adult learning and adult education are based on rules which have been accepted in adult education and which represent basic, leading guidelines and demands that need to be respected in the optimal organisation and implementation of adult learning and adult education processes. Principles are basic criteria for andragogical work (Read suggestions for the implementation of this sub-topic in Table 15).

It is obvious that adult learning principles are oriented towards learner potentials, motivation and experience (principles 1,2,3), activities (4,6,7), and teachers who create a learning environment and atmosphere of respect (principle 5) and the functionality/applicability of what has been learned (principle 8).

Table 14: Didactic principles

Principle	Concretisation
1. Learning depends on motivation	In what ways can we provide a motivating situation in the process of training and preserve these motivation factors?
2. Learning depends on individual potentials for leaning	In what ways we can make the learning process individual?
3. Learning depends on previous and current experience	In what way we can use the experience of learners as a base for further learning?
4. Learning depends on the active participation of the learner and on exchange with others	In what ways we can provide active participation and exchange in education/training?
5. Learning depends on the learning environment and the atmosphere of respect	In what ways we can develop the atmosphere of respect and a good learning environment?
6. Learning is improved when learners are self-oriented	In what ways we can encourage learners to be self-oriented in the learning process and to continue with their education?
7. Learning depends on critical, reflective thinking	In what ways we can encourage learners to reflect and discuss what they see, think, feel or do?
8. Learning depends on applicability of what is learned. Integration and application is not only spontaneous, but it is a process that requires certain strategies	In what ways we can encourage such processes?

Table 15: Suggestion for the implementation of the sub-topic

Sub-topic	Principles of adult learning
Goal	Understanding the principles of adult learning and their implementation in practice
Methods and techniques	Introduction – mini-lecture, group problem solving, presentation and discussion
Time-frame	60 min.
Resources required	Flip chart, crayons
Didactic material required	Poster with principles of adult learning which are listed in the above table
Procedure	1. step: Teacher gives mini-lecture and explains that theoretical discussions on adult learning and the motivation of adults result in specific adult learning principles and adult teaching principles which must be respected in order to make learning successful. The teacher invites learners to identify and explain these principles (the teacher directs the discussion towards principles he/she has presented in prepared poster). 2. step: The teacher divides learners into 4 groups and gives instructions for group work. Every group gets two principles (which are already presented in the poster and which we mentioned in the text above) and the group has the task to make them more concrete (by giving very concrete examples of how to respect these principles in education practice). 3. step: Presentation of group work results. Every group presents their results; the teacher comments on them together with the learners from other groups (NOTE: The teacher needs to know the social-constructivist approach to learning very well and to understand what is the concretisation of principles) 4. step: Integration. The teacher writes down the procedures of concretisation in (previously prepared) schema of principles, which has fields for their concretisation.

Didactic suggestions and recommendations for the implementation of topic 2	This topic could be implemented in other ways, depending on the target group and innovative approach of the teacher. It is necessary to base the implementation of this topic on the reflection of one's own experience ofteaching learners.

EXAM QUESTION SUGGESTIONS AND IDEAS FOR INDIVIDUAL WORK

Suggestion for exam questions:

The nature of this (as well as the previous) topic is such that it provides an opportunity for testing learners as "reflective practitioners" in the context of connecting their didactic activities with various postulates from the learning theories.

- Written essay topic: Concrete implementation of didactic principles can be interesting, but also quite demanding.
- Written essay topic: The difficulties in the implementation of didactic principles in a concrete environment.

Suggestion for individual learning:

- The analysis of research work (from literature) about the effects of various learning theories on didactic activities, and an assessment of the feasibility of their reflection on individual didactic activities.
- Action research in the field of didactic principles, with elaboration of achieved results and recommendations.

KNOWLEDGE FORMS

TOPIC 3

The structural elements of this topic are the two sub-topics presented in Table 16. We recommend that the optimal time for the implementation of this topic is half a day. We suggest that the teacher decide on his/her own timeframe.

Table 16: Sub-topics, goals and outcomes for the implementation of the topic: Knowledge forms

Goal of the implementation of topic: To present knowledge forms.

General outcome: After implementation of this topic, learners know different knowledge forms.

Sub-topic	Goal	Outcome
1. Declarative and procedural knowledge	Introduction to knowledge forms	Learner knows knowledge forms
2. Crystalline and fluid knowledge	Introduction to crystalline and fluid knowledge and skills	Learner knows knowledge forms and skills and, according to that, selects methods of teaching

3.1 Declarative and Procedural Knowledge

Adult learners have great expectations when it comes to teaching style because they come into the learning process with their own experience and knowledge. Thus, it is necessary to use those methods and techniques which respect their experience and knowledge. The nature of teaching or the class should be in accordance with the nature of the knowledge they will obtain. Also, selection of a teacher's activities and teaching methods is defined by numerous factors (which will be discussed in more detail in module 4 of the Curriculum globALE). One of these factors is the type of knowledge they will obtain (see Table 17). Read suggestions for the implementation of this sub-topic in Table 18.

Table 17: Knowledge forms

A. Conceptual knowledge (main concepts)	A. Understanding terms from a certain field. Knowing classifications and categories. Knowing theories.
B. Declarative knowledge (knowing facts)	B. Knowing information and data. Knowing basic elements. Knowing terminology ("I know what programmingis").
C. Procedural knowledge (applying procedures)	C. Knowing procedures, process. Knowing how something is done. Knowing techniques, methods and skills ("I know how to program.").
D. Tacit knowledge (invisible knowledge)	D. Knowledge which is in our heads, but which is difficult to transfer, verbalise and write down.
E. Meta – cognitive knowledge (strategies of learning)	E. Knowledge on our own intellectual functioning. Knowing who we are, what we are, where we are and what we do.

Table 18: Suggestion for the implementation of the sub-topic

Sub-topic	Activities and procedures for building knowledge
Goal	To make learners capable of selecting activities and procedures for building knowledge
Methods and techniques	Brief lecture, presentation, group work, discussion
Time-frame	60 min.
Resources required	Flip chart
Didactic material required	Poster and post-its with types of knowledge
Procedure	1. step: The teacher presents and explains various types of knowledge and reminds learners that different types require different activities and different didactic methods. The teacher tells them that teaching is not only a process of transmission/transfer of knowledge. When planning teaching activities, we need to plan ways to provide: motivation, self-reflection, informing, understanding, practicing, summing-up, application, meta-learning – of course, in accordance to the type of knowledge we want to build. We use different methods and techniques (teacher gives one example). 2. step: Giving instructions for group work. Four groups get post-its with assignments which the teacher prepared in advance – the four types of knowledge with adequate explanation and in accordance with the previous text: conceptual, declarative, procedural, meta-cognitive. Each group, based on its experience, should provide one CONCRETE example of activities which build a specific type of knowledge in order to demonstrate its didactic scenario. 3. step: Presentation of group work results (through various techniques, as the groups wish). 4. step: Conclusion. Teacher and learners together identify activities and procedures for building knowledge, which are adequate for concrete types of knowledge, having in mind that some activities and procedures can be adequate for building more than one type of knowledge.

3.2 Crystalline and Fluid Knowledge

Within the following topic (fourth), we tried to present the changes in capabilities for learning which take place in adulthood. We presented Cattel's theory on fluid and crystalline intelligence. Fluid intelligence is the capability to group letters, to classify shapes, to make analogies from words and to memorise associations. Fluid intelligence is biologically determined, increases during childhood and the first period of maturity, and then decreases. Crystalline intelligence is expressed in vocabulary, symbolic reasoning and fluent ideas. Crystalline intelligence is under the strong influence of learning, education and experience and increases during one's lifetime. In this context, we may speak about crystalline knowledge, since the decrease of the fluid factor of intelligence (which is related to the speed of memorisation and the time of reaction and independent from learning and experience) can be compensated for with the crystalline factor (intelligence), which some authors call "knowledge", because it is developed by learning, education and experience, and reflected through wisdom. Therefore, all previously mentioned knowledge forms could be called "crystalline knowledge".

If we think about crystalline knowledge from the didactic aspect, we may say that activities and procedures for building such knowledge are many and include all activities and procedures for building all other knowledge forms – declarative, conceptual, procedural, silent and meta-cognitive.

Didactic suggestions and recommendations for the implementation of topic 3	This topic could be implemented in other ways, depending on the target group and innovative approach of the teacher.

EXAM QUESTION SUGGESTIONS AND IDEAS FOR INDIVIDUAL WORK

Suggestion for exam questions:

- One exam idea may be that learners create knowledge tests for the topic Knowledge Forms. This is how the teacher can get insight into their understanding of this topic, insight into their ideas about the relation between factual ad procedural knowledge, and insight into their ideas about the applicability of this knowledge in concrete educational situations.

- List and explain (with concrete examples) didactic activities and methods adequate to gaining every knowledge type.

- Which types of knowledge are especially important for adult learners in your cultural and local context and why?

Suggestion for individual learning:

- One of the ideas for individual work could be research about the relationship between declarative, procedural and meta-cognitive knowledge in concrete teaching programmes or training programmes.

- Learning diary: Trainees write a learning diary in which they reflect on the concepts introduced and discussed during the training and relate this to their own situation (their own learning and/or the learning of their own trainees). In addition, each trainee should, at least once, give a presentation about group (or individual) work results during the training.

TOPIC 4

ADULT LEARNING

The structural elements of this topic are the five sub-topics presented in Table 19, with goals and outcomes for every sub-topic. We recommend that the optimal time for the implementation of this topic is 1 day. We suggest that the teacher decide on his/her own timeframe, according to the characteristics of the cultural context and the target group.
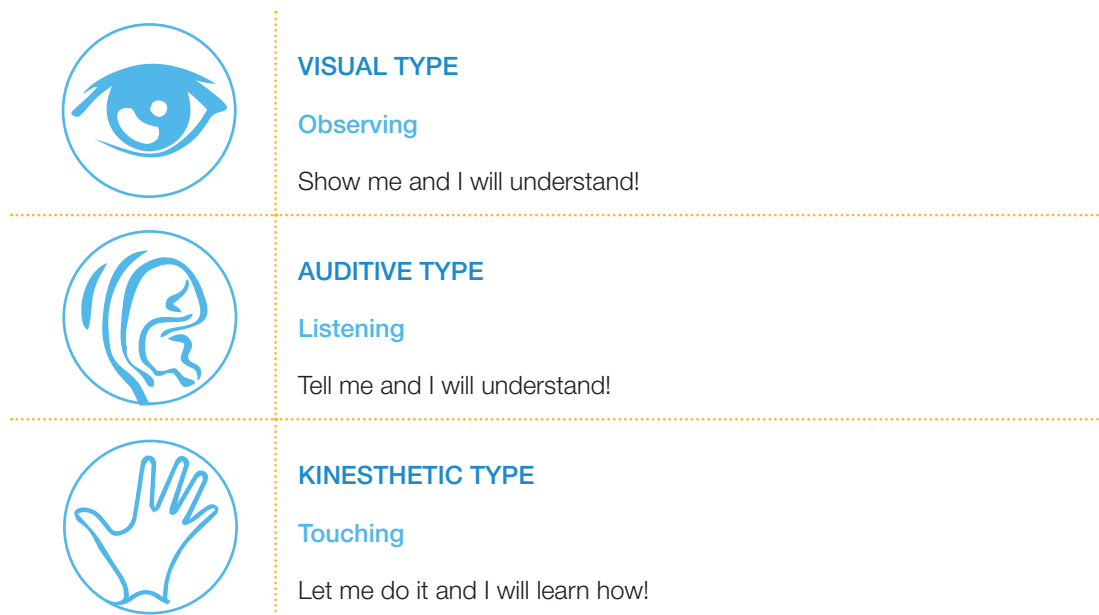
Table 19: Sub-topics, goals and outcomes for the implementation of topic: Adult learning

Goal of the implementation of the topic: To present the characteristics of adult learning, their significance in didactic activities.

General outcome: After implementation of this topic, learners know the different characteristics of adult learning and they are capable of developing their didactic activities based on that.

Sub-topics	Goal	Outcome
1. How do adults learn?	Presenting channels/styles of adult learning	Learner knows channels/styles of learning and their significance in learning and teaching processes
2. Types of learning	Presenting types of learning and styles of experience-based learning	Learner understands types of learning and styles of experience-based learning
3. Traditional forms of learning in own cultural context	Understanding relationships between forms of learning and cultural context	Learner understands the influence of cultural context on forms of adult learning
4. Changes in abilities to learn at different ages	Presenting biological and psychological changes in adulthood and their significance in adult learning and adult teaching	Learner knows biological and psychological changes in adulthood and their significance in adult learning and adult teaching
5. Confronting learning situations as a challenge	Understanding learning situations as a challenge	Learner is capable of responding to certain concrete learning situations in creative and original ways

4.1 How Do Adults Learn?

Every learner learns in his/her own specific way. Someone likes to learn by reading, others prefer to learn by experience and some people learn the best by gaining experience in group work. It is very important that a teacher prepares and implements teaching in accordance to individual learning styles of learners. Learning styles are preferable behaviours of learners in learning process. By respecting learning styles teacher creates possibilities for successful learning. There are various theories on learning styles and one of them, based on channels of learning is VAK theory (visual – audio – kinaesthetic theory), based on which it one can easily see different learning styles in practice, that is different types of people based on their dominant channel of learning or learning style – visual, audio and kinaesthetic type (see Scheme 7). Person usually prefers one learning style. However, it is not rare that someone combines all three styles. When a teacher knows what is preferred learning style of his/her learner (that is in which way learner processes information), or what is a "primary language of senses" of his/her learners, he/she can adjust learning styles to that. There is no right or wrong learning style, but there are learning types appropriate for certain learning styles.

Scheme 7: Types of Learners Defined Based on Their Preferable Channels of Learning or Learning Styles

VISUAL TYPE

Observing

Show me and I will understand!

AUDITIVE TYPE

Listening

Tell me and I will understand!

KINESTHETIC TYPE

Touching

Let me do it and I will learn how!

Didactic material for the implementation of this sub-topic is presented in Table 20.

Table 20: How do adults learn - learning styles

How do our senses help us?

Better understanding among people can be achieved if we discover what the primary language of their senses is. Most people mix many senses, but one of them is dominant. People process information in different ways: **visually, audio and kinaesthetically**.

Visual types – characteristics (approximately 65% people are visual type)	Audio types – characteristics (approximately 30% of people are audio types)	Kinaesthetic types – characteristics (approximately 5% people are kinaesthetic types)
• They need to see to remember • They prefer pictures, reading what is written, they are excellent in writing down lectures • They can "see" words • They talk fast • They plan long-term • They see details • They memorise using visual associations, they memorise faces well • They like to read • They have feeling for colours, can have artistic skills • They like to read and draw, have nice handwriting • They can easily forget verbal instructions or they can easily forget to transfer oral message • They are good readers and they prefer to read rather to listen to someone reading to them • They often know what they want to say, but it is hard for them to find words	• They have to hear to remember • They prefer listening and sometimes they are "lost" trying to write things down • They learn by listening and they memorise things they heard better than those they saw • They "talk to themselves" while doing something • They like to read out loud or to listen to someone explaining something to them; they also like explaining themselves • They are good at imitating people's voices and the way they talk • Their handwriting isusually not nice • They like to talk and argue • They are very detailed in describing things • They have trouble with activities which include visualising	• They prefer using different materials and group dynamic • They touch people in order to draw their attention • They like physical activities and they walk a lot • They like to make things and to try new activities • They memorise best if they make certain movements • They often use mimic and gesture; they make hand movements while speaking • Their handwriting is poor • They like to act and enjoy games that include moving • They like to participate in model-making, doing experiments, etc. • They like to use computers in learning, since they use touch (of keyboard) to enhance learning

In Table 21 a suggestion for the implementation of this sub-topic is presented.

Table 21: Suggestion for the implementation of the sub-topic

Sub-topic	Channels/learning styles
Goal	To present various channels/learning styles and their significance in learning and teaching
Methods and techniques	Lecture, presentation, discussion, group work
Time-frame	60 minutes
Resources required	Beamer, flip chart, crayons
Didactic material required	Material: "How our senses help us", PowerPoint
Procedure	1. step: Introduction: The teacher talks with learners about ways they have been learning while studying, writes down their answers 2. step: Short lecture, using PP, about main characteristics of different learning styles (V A K) and about research results on how many people belong to specific learning styles worldwide 3. step: The learners receive material: "How our senses help us" and are divided into groups, and each group has the task to plan one lesson in which they would use techniques to satisfy specific learning styles 4. step: The learners make a short presentation of their resultsand discuss how attentive they have been regarding different channels of learning and their use in class.

Note: When explaining different learning styles based on channels of learning, we partly answered the question: How do adults learn? However, the complete answer to this question is offered through previous topics in this module, as well the following topics.

Apart from styles based on preferred channels of learning, andragogical literature pays special attention to styles created based on the research of David Kolb about experience-based learning cycle. In accordance to phases of experience-based learning, Kolb has identified four learning styles, which we will discuss in the following sub-chapter: Learning Types.

4.2 Types of Learning

In the first topic in this Handbook, we presented some of the learning theories and some of the types of learning related to them – *cognitive, behaviour-based, constructivist, transformative* (Table 22). The function of every theory is not only to be "theoretical or scientific", but also to reflect on the practice of learning types. To be precise, learning theories are "categories of thought" and learning types are their practical forms. In the context of the first topic, we identified some crucial principles of learning theories, which, in fact, describe and explain learning types.

Table 22: Resume of learning types

Behaviour-Based learning	Cognitive learning
• Learning is a reaction to stimulation from the environment presented by S-R connection • It is done by stimulation, reasoning and observing • It is enhanced by rewarding • Goal of learning and teaching = change of behavior	• Learning is active processing of information • Organising information into structures by giving them meaning • Memorising information and searching for connections between them • Developing cognitive schemata and structures of thoughts • Goal of learning = integrating new knowledge into existing mental structures
Constructivist learning	**Transformative learning**
• Learning is the process of active construction of knowledge (depends on previous knowledge and experience of students), knowledge is active and cannot be transferred, it's being constructed and re-constructed; it is interactive by its nature and depends on learning content and context • Goal of learning = individual construction and re-construction of knowledge based on individual experience in an interactive environment	• Experiential learning is the essence of transformative learning • Learning is questioning individual values, beliefs and attitudes on which we base our function in life • Critical reflection is a primary learning activity • Transformative learning includes instrumental and communicative learning if there is critical reflection within them • Goal of learning = change of the way in which we see ourselves, others and the world around us; transformation of perspective

There is an additional learning type: *experiential learning*, because experience has a significant role in the adult learning process and its theoretical understanding. Experience is not only what happens to us, but also what we do with what happens to us. In andragogical literature there are various interpretations of the phenomenon of experience-based learning, and one of the most coherent is Kolb's theory (1984). Kolb defines learning as a process of creation of knowledge through transformation of experience. According to him, learning is one integrated process (cycle), which consists of the following phases:

1. Phase of confronting concrete experience – learning starts when a person faces a new concrete experience (event or situation) through processes of observing, reacting and trying to understand it.

2. Phase of reflecting observation – gathering data about what the person observed, did, experienced, and a critical assessment of that. How a person values certain things depends on the prevailing value paradigm or system of values (which is specific to a certain time and environment and can be outdated and inflexible).

3. Phase of conceptualising – process of analysing data and their development in our mind; process of interpretation of what we have been through and developing adequate theories and concepts aimed at a deeper understanding of data. The prevailing value paradigm is a "filter" of interpretation in this phase as well.

4. Phase of active experimenting and testing implications – learning happens through discussing implications and modifying knowledge and behaviour. A person who learns asks him/herself: What would happen? What needs to be changed? What actions need to be taken?

According to this model of experiential learning, Kolb created a *typology of learning*, with the main criteria being dominance of one phase in the experiential learning cycle. The typology of learning styles is compatible with the typology of people (which is made based on the typology of styles).

- *Accommodator* – this style is typical for people who use their analytical skills in problem solving. They take care of the implementation of certain plans and adapt to specific circumstances. These people are called *activists*.

- *Diverger* – this style is used by persons who try to see problems from different perspectives and to establish a kind of synergy of these perspectives. They prefer to deal with people rather than with things and ideas. These people are called *thinkers*.

- *Assimilator* – this style is typical for people with inductive reasoning who put different ideas into one explanation. People who prefer this style are trying to develop concepts and theoretical models, but usually are not good in the practical application of such models. We call these people *theorists*.

- *Converger* – This style is typical for people who like to check how the solution of some problem functions in practice. They are practical and they like to test ideas and use what they learned in practice. They prefer things and ideas rather than people. These people are called *pragmatics*.

Didactic suggestions and recommendations for the implementation of topic 4	The teacher can present different topics/problems by using the model of experience-based learning and thus enable learners to understand the essence of experience-based learning. We suggest teachers apply this model with the topic *Traditional forms of learning in an individual cultural context*.

4.3 Traditional Learning Forms in One's Own Cultural Context and Model of Experiential Learning

The cultural context is one of the primary determinants for the planning and implementation of adult learning and teaching. Thus, it is necessary to have in mind general cultural context and even specific cultural environment of every individual at all times. This sub-topic should be implemented by using the experiential learning model (Table 23).

Table 23: Suggestion for the implementation of the sub-topic

Sub-topic	Traditional learning forms in own cultural context
Goal	Understanding of the relationship between forms of learning and cultural context
Methods and techniques	Experiential learning model, discussion, presentation, activities and procedures from didactic material which learners will receive as a back-up for this assignment
Time-frame	60 minutes
Resources required	Beamer, flip chart, crayons
Didactic material required	Material: "Phases of Experience-based Learning and Didactic Procedures" (prepared for this assignment)
Procedure	1. step: Introduction; discussion about preferred forms and types of learning (before and now) in one's own cultural context
	2. step: Instruction for group work; teacher forms three to four groups (depending on number of learners). Groups get an assignment to develop the sub-topic Traditional forms of learning in an individual cultural context through phases of the experiential learning cycle. Groups receive previously prepared didactic material "Phases of experiential learning" as a support for their assignment. By going through every phase of experiential learning, groups will choose the most adequate didactic activities and procedures from the ones offered in the didactic material.
	3. step: Presentation of group work and comparison of results
	4. step: Integration and conclusion. The teacher presents the conclusion about the importance of the cultural context for the selection of forms of learning.

In implementation of previous sub-topics, we recommend usage of didactic materials (see Table 24).

Table 24: Didactic Material "Phases of Experiential Learning and Didactic Procedures"

Phases of experiential learning	Activities and methods
Faced with concrete experience regarding the **connection between learning types and one's own cultural context**	Simulation, case analysis, role-play, field practice, demonstration
Reflective observation, gaining information on what learners spotted, did, experienced and their critical assessment. Valuing this is based on dominant value paradigm or value system (specific for certain time or place and can be outdated and inflexible)	Discussion, comparison, selection and organisation of data, presentation and exchange of ideas
Conceptualising. Process of analysing data and reflecting on it, that is the process of interpretation of what they experienced and developing adequate theories and notions in relation to that, with the aim of more deeply understanding data. Dominant value paradigm is a "filter" for the interpretation in this phase as well.	Research of additional sources, group discussion about controversial issues, encouraging critical thinking and predicting conclusion
Active experimenting and implication testing. Learning happens as a discussion of implications and modifying knowledge and behaviour. Person who learns asks him/herself: What will happen? What needs to be changed? What actions to take?	Experimenting, project work, practice, problem solving, encouraging a creative and innovative approach to implementing results, future planning

4.4 Changes in Learning Abilities at Different Ages

The results of much of the psychological and andragogical research speak against the stereotype that adults cannot learn due to a weakening of their learning capacities. Adult learning depends on the personal and social context, physical, sensor and intellectual abilities and motivation factors. Usually, the doubts are related to the abilities of adults that change with time and decrease with time. However, research results have shown that there are changes in people's abilities, but people do not lose the ability to learn. That means that adults can be successful in learning because they can think, judge, but also concentrate and memorise. For a person who uses his/her mental abilities more, we say that he/she is in good mental shape, which (together with good health and experience) enables successful learning and education (Table 25).

The most influential processes regarding adult learning and education are the changes in sight and hearing. However, a decrease in sight and hearing can be corrected by using hearing devices or glasses.

Table 25: Brain and learning

Learning is the state of a healthy brain	About the brain
• In order to stay functional, the human brain needs permanent activity (exercise); • Learning is the most effective exercise which prevents a decrease of brain function; • The more the learning, the greater the chances of postponing the beginning and progress of neuro-degenerative changes. 	Facts: • Composed of a huge number of neurons (15-33 billion at birth); • Some parts of the brain create new neurons during a lifetime (neuro-genesis); • Connections between neurons are significantly modified during life: some are formed and enhanced (synaptic genesis) and some are weakened and disappear (synaptic elimination). Rules: • One's level of ability depends not only on the number of neurons, but primarily on their interconnection; • The level of the activities of inter-neuron connection defines its status – those that are not being used will disappear, while those that are being used are getting stronger and last throughout life.

Thorndyke's research has denied the "theory of plasticity" and the idea which was prevalent at that time that learning and education were the monopoly of youth. His research has shown that intellectual abilities decrease very little with age (intelligence after 25 and memory after 16 years). Other researchers had similar findings. When it comes to adult learning, the following conclusions are important: research has shown that not all intellectual functions decrease with age; those which decrease do not decrease equally; one of the decreasing functions is an ability to respond quickly to events around a person. Contemporary authors believe that Cattell's theory on fluid and crystalline intelligence is the most complete debate on the development of general abilities in adulthood (Scheme 8). The growth of fluid intelligence (which is biologically determined) ends after the first period of adulthood and decreases afterwards, while crystalline intelligence is under the significant influence of education and experience and thus grows throughout life.

Scheme 8: Fluid and Crystallized Intelligence (Cattel, 1971)

Figure 1. Fluid and Crystallized Intelligence Patterns with Age.

Source: Horn (in Goulet and Baltes, 1970).
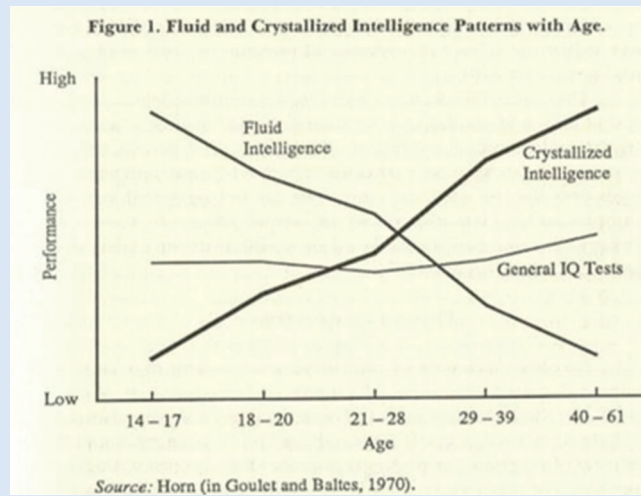
Different theories of intelligence confirm that there are several types of intelligence. Some of these theories were developed by: Vygotsky (based on internalisation processes), Piaget (constructivist theory), Cattel (theory about two types of intelligence that we have mentioned previously), Gardner (theory of multiple intelligence).

Gardner (1999) listed eight types of intelligence:

- *Linguistic* (sensibility for meaning and order of words)
- *Logical-mathematical* (ability to understand mathematical and logical systems)
- *Musical* (ability to understand and create music)
- *Visual and special* (ability to think in pictures, to memorise world which is seen)
- *Kinaesthetic* (ability to express yourself through body and movement)
- *Interpersonal* (ability to understand other individuals)
- *Intrapersonal* (ability to understand your own feelings)
- *Naturalistic* (ability to identify and classify patterns in nature).

Depending on the level of education and level of experience, these types develop differently. A key issue is how to develop different types of intelligence. Research shows that in that process, learners' activities and their interaction with others play a significant role, as well as learning content.
In a didactic sense, this includes the engagement of all
channels of learning, a differentiated class, with
various methods and sources in the lecture.

Didactic suggestions and recommendations for the implementation of topic 4	The teacher can give an assignment to learners to create training which is aimed at developing each of Gardner's types of intelligence. Depending on the number of learners, this can be done in pairs or in small groups. The assignment can also be to ask learners to answer the following questions: What does a teacher do and what does a learner do in order to be in good mental shape? Role-play could also be used.

4.5 Confronting Learning Situations as a Challenge

This sub-topic is not only related to the topic "Adult Learning", in which it is planned to be implemented. It is directly connected to the following topic "Motivation for Learning". A challenge can be a motive but it can also be a barrier if adults are not ready to respond to a challenge. It is logical that a challenge is a driving force, that is, a motive. Bearing in mind the characteristics of adults, it is expected that learning situations are challenges for them. In every period of their adulthood, people solve certain developmental assignments. Each assignment is a challenge and it can be solved with the help of learning and education. Thus, learning situations are challenges. In addition, being faced with learning situations is a challenge for adults due to the following reasons:

- Adults play various roles and have various responsibilities, so they have various orientations towards learning
- Adults have life experience
- Adults have been through different development phases, in their psychological, biological and social sphere, which enables them to re-interpret their experiences
- Adults often experience anxiety and ambivalence with regard to their orientation towards learning
- "Adults always carry their bags on their shoulders"

Didactic suggestions and recommendations for the implementation of topic 4	Since all these characteristics which have been listed belong to a personality, but also to a concrete cultural context (so, in different contexts, different answers will be chosen and that will move the discussion in a certain direction), the teacher can use discussion and an integrative conclusion to better explain this topic. The following questions can be asked during the discussion: What is a learning situation? Who creates it? What affects it? What does a teacher do to make the learning situation a challenge? What does a learner do to make the learning situation a challenge? How does a teacher respond to such a challenge? How does a learner respond to such a challenge? - This topic can be implemented through debate, which can be more interesting for learners - Case study analysis can also be used as a didactic procedure. Some learning situations can be analysed as challenges.

EXAM QUESTION SUGGESTIONS AND IDEAS FOR INDIVIDUAL WORK

Suggestion for exam questions:

- Why is it important for teachers to know the learning styles of learners? Elaboration with concrete examples
- How does a teacher's learning style influence his/her preparation of the class and work in class?
- Each learner should create knowledge tests for this topic, from which the teacher can see what learners find important (because they will include things, they find important in a test).

Suggestion for individual learning:

- Studying recommended literature, especially Kolb's study
- Learners can, based on their experience, make a schema of adulthood (with explanations of biological and psychological characteristics of each period of adulthood) and compare it to the timeframe they can find in recommended literature.
- Based on literature, learners could elaborate on managing an individual for self-oriented learning.

EDUCATION MOTIVATION

The structural elements of this topic are the two sub-topics presented in Table 26, with goals and outcomes for each sub-topic. We recommend that the optimal time for the implementation of this topic is 1 day. We suggest that the teacher decides on his/her own timeframe, according to the characteristics of the cultural context and target group.

Table 26: Sub-topics, goals and outcomes for the implementation of the topic: Education motivation

Goal: To present motivation specifics of adult learning and adult education.

General outcome: After this topic, learners know motivation specifics of adult learning and adult education. They are capable of applying procedures for developing motivation and overcoming barriers in adult learning and adult education.

Sub-topic	Goal	Outcome
1. Motives in adult education	Introduction to motives for entering into the education process and their significance in the learning and teaching process	The learner is capable of recognising individual motives and to increase motivation for learning
2. Barriers in adult education	Introduction to barriers in adult education and strategies to overcome them	The learner is capable of identifying learning barriers and using strategies to overcome them

5.1 Motives in Adult Education

Motivation is a driving force for every person. It makes him/her capable of engaging in activities aimed at achieving certain goals. Within this driving force there are various factors that make people do things, which we call "motives". Many authors who did research on adult learning say that success in learning activities depends more on non-cognitive factors, such as motives, than on intellectual abilities. Thus, motives are very important. Nevertheless, we need to have barriers in mind as well because they are opposites to motives and prevent people from participating in learning activities. We need to enhance motives and remove barriers.

When psychological literature discusses and defines motives, it relates them to the needs, interests and attitudes of a person. Different theories define these connections differently, which is understandable, having in mind complexity, structure and inter-relations between these categories. Some authors say that needs and motives are equal, while others say that needs are the source of a person's activities, that is, the foundation of the motivating behaviour of a person. There are some authors who say that motives are complicated systems, which include needs, goals and many other factors. They make people behave in a certain way.

There are several theories and concepts in psychology and andragogy which can help us to understand this complex phenomenon. One of them is Maslow's theory on the hierarchy of needs, which makes a list of human needs: physiological needs, needs for safety, need for love, respect and self-realisation (Maslow, 1970).

When it comes to motivation, there is another theory, which is well known in andragogy. It is in Houle's concept (according to Titmus, 1989). This concept lists three types of motivation: 1. learners oriented towards a goal (they use education and learning to achieve very clear and specific goals), 2. learners oriented towards activity (they participate in education in order to socialise, to make social contacts through education activities), 3. learners oriented towards a learning process (they enjoy the learning process and like to gain new knowledge).

By testing Houle's theory, other authors have discovered the following reasons for the participation of adults in education and learning:

- Social contacts (they enrol in education to socialise and make friends)

- Avoidance (they enrol to overcome frustration and get away from boredom)

- Professional improvement (they want to improve their professional status)

- Serving the community (they want to efficiently serve the community)

- Expectations of others (they want to fulfil the expectations of others, for example at work)

- Cognitive interest (they participate because they enjoy learning, they learn with pleasure, for themselves)

These are some answers to the question: Why do adults participate in learning and education? What motivates them to participate? However, for a teacher enrolled in adult education it is especially important to know how to motivate learners and to know what their motivesare in the learning process in order to make learners more successful and persistent in achieving their planned outcomes.

Bearing in mind source and origin, motivation for learning can be internal or external. Internal motivation comes from the person, from his/her inner self. It does not include obvious rewards or benefits. It is based on learning for the sake of knowledge, for pleasure and for a sense of achievement. This motivation does not necessarily need didactic instruments and strategies from the teacher to encourage learning. External motivation needs stimulation from the outside and obvious rewards (grade, promotion, and certificate) and it is more often present in the practice of adult learning. In this case, the teacher has a key task – to enhance and encourage the motivation of learners.

What can be a source of motivation and motives in the learning and teaching process?

- *Learning environment (physical preconditions)*

- *Learning group (integrative, cohesive, dynamic…)*

- *Individuals/learners (cooperative people, communication, respect, inspiration…)*

- *Teacher (personality, didactic procedures, creativity, respect, encouragement…)*

- *Learning content (interesting, useful, easy to understand…)*

- *Each learner individually (internal motives)*

Motivation strategies in the process of teaching – reflection of good practice:

- *Adjust content andmethod*

- *Talk about usability of thing that is being learned*

- *Encourage learners to check if things they have learned will be useful for them as soon as possible*

- *Create situations in which learners can demonstrate their skills*

- *Encourage their self-esteem and self-respect*

- *Have realistic operational learning goals which can be achieved*

- *Make the learning process and teaching process as individual as possible*

- *Use the experience of learners*

- *Continuously evaluate the process and results of learning*

- *Talk about every success learners make, so they can become aware of their achievements*

Suggestion for the implementation of motivation strategies is provided in Table 27.

Atkinson (1994) has suggested a group of factors which contribute to motivation. In literature, these factors are known as *SPERT* - **S**uccess, **P**urpose, **E**njoyment, **R**einforcement, **T**argets.

Table 27: Suggestion for the implementation of the sub-topic

Sub-topic	Motivation strategies
Goal	Understanding of motivation strategies and being able to apply them
Methods and techniques	Lecture with PP presentation, group work, discussion and presentation
Time-frame	60 minutes
Resources required	Beamer, flip chart, crayons
Didactic material required	PP presentation
Procedure	1. step: Introduction – short lecture with PP presentation about motivation factors and motivation strategies
	2. step: Instruction for group work; Teacher forms groups and gives them assignments; each group should make a list and discuss their own experiences with motivation strategies and to choose a few examples for presentation
	3. step: Presentation of group work results
	4. step: Integration and conclusion

5.2 Barriers in Adult Education

It is important to know which motives move adult learning forward. However, it is also very important to know barriers, the factors that prevent adults from participating in the learning process and in the education process or which prevent those who enter into the learning process to achieve results. Suggestion for the implementation of this sub-topic is provided in Table 28.

Unlike children, adults have many obligations and duties that create barriers for learning. Experience has shown that usually these barriers are lack of time, lack of money, lack of self-confidence and interest, lack of information about possibilities for learning, inadequate schedule and learning time, transportation to classrooms, etc. All barriers can be grouped as follows (Cross, 1981):

- *Situation-related barriers* (a person asks himself/herself: Do I have time and money to invest in my education? Does my family situation and working condition allow me to do that? What kind of environment do I live in? Is it supportive towards my education and learning?)

- *Institutional barriers* (learner often does not have information that there is an offer of educational programmes, and if they have such information, they ask themselves: Is this educational institution close to my home? Do I have transportation available to go there? Is the schedule compatible with my other obligations?)

- *Disposition barriers* (learners ask themselves: Am I too old for learning? Do I possess learning capacities? Do I have the self-confidence to succeed?)

Research shows that the first two groups of barriers are more often the reason people do not participate in adult learning and adult education than the third one. However, disposition barriers can be a reason for lack of activity and weaker educational achievements of learners in the process of learning and teaching. Therefore, the teacher should usemotivation strategies that we have mentioned already, as a "cure" for these barriers.

Table 28: Suggestion for the implementation of the sub-topic

Sub-topic	Barriers in adult education – reflection by learners
Goal	To present barriers in adult education and strategies for overcoming them
Methods and techniques	Lecture with PP presentation, individual work, group work, discussion and presentation
Time-frame	60 minutes
Resources required	Beamer, flip chart, crayons
Didactic material required	PP presentation
Procedure	1. step: Individual work; the teacher gives an assignment – each learner should think of and make a list of his/her barriers (or barriers of someone he/she knows)
	2. step: Group work; the teacher forms groups and gives instructions; every group should discuss the barriers all members have written down and make a joint list of barriers. Groups should also try to answer the question: Who can overcome such barriersand how?
	3. step: Presentation of group work results
	4. step: Integration and conclusion; grouping barriers and strategies for their overcoming, with PP presentation by teacher.

Didactic suggestions and recommendations for the implementation of topic 5	This topic can be implemented in other ways, for example by debating about relations between motives and barriers within a concrete cultural context, and then within a concrete learning environment.

EXAM QUESTION SUGGESTIONS AND IDEAS FOR INDIVIDUAL WORK

Suggestion for exam questions:

- One of the exam ideas is to ask learners to design a scenario of one class situation (with concrete subject/topic of lecture), in which they will describe motivation strategies in all phases of the teaching process.

- An interesting idea could also be to ask learners to list and to analyse their own motives and barriers in their own learning process.

- In this Handbook, we listed six sources of motivation and motives in the adult learning and adult teaching process. Exam question could be to elaborate each source with concrete examples.

Suggestion for individual learning:

- Elaboration of topic: Cultural characteristics as barriers in adult learning and adult education

- Elaboration of topic: Gender as barriers in adult learning and adult education

- Elaboration of possibilities of teachers to satisfy needs of learners expressed through the model of hierarchy of needs by A. Maslow (What does a teacher do in order to contribute to satisfying each of the five needs in the hierarchy?)

- Elaboration of topic: Social-demographic aspects – motives or barriers in adult learning and adult education.

- Case analysis: Trainees are being confronted with real or fictional cases (written descriptions, video sequences, etc.) of adult learning experiences (e.g., stories of adult learners about their – positive or negative – learning experience; or examples of classroom interaction, etc.). They analyse these cases with the help of the theoretical concepts they have learned, and they make proposals of how the situation shown in the case could be (or could have been) improved/solved.

ANDRAGOGIC APPEAL TO CONNECT THEORY AND PRACTICE

During implementation of the second module of the Curriculum globALE, it is expected that learners would gain relevant theoretical knowledge, which they could apply in their teaching or training practice. We were not able to (and we did not want to) "escape" from theory in this Handbook. During the implementation of the second module, it is necessary to connect theory and practice in order to encourage learners to do the same in their teaching practice once they complete the training. Thus, in this Handbook, we have offered some examples of teaching situations and methods which enable learners to "experience" a connection between theoretical knowledge and practice.

All theoretical knowledge that learners will gain in the training can be connected with practice, and they should be connected to practice. Here are several examples or ideas on how to connect theory and practice, which learners can implement in their teaching practice once they complete training.

- Participants should "take with them" knowledge on the importance and need to respect the experience of adult learners in their teaching and education. Experience is one of the key words in adult education. All participants in the second module of the Curriculum globALE should implement knowledge on experiential learning in many learning situations in their teaching practice. For example, after this training, participants/teachers can implement experiential learning according to Kolb's model. Here is the example of how to implement the topic "Domestic violence".

  In the first phase (confronting the concrete experience), a teacher would invite learners to give examples of violence which they heard about or saw or maybe experienced. In the second phase, (reflective observation) learners would evaluate all the cases, based on their attitudes and value systems. In the third phase (conceptualisation), learners would analyse and interpret all the facts about violence, causes and consequences and thus shape their concept (term) of domestic violence. In the fourth phase (testing and experimenting), learners would discuss implications of what they have learned: what to do with this knowledge on domestic violence, how to use it, how would it affect behaviour, what to change, what actions to take.

- Learning theories explain how a person learns. Knowing the answer to this question, a teacher selects his/her didactic procedures, in order to enable successful learning for all his/her learners. For example, if a teacher's goal is to change behaviour of his/her learners, he/she will work in accordance with behaviourist learning theory and will point to the value and importance of what they have said, will use various forms of encouragement, since adults find positive encouragement to be a "fuel" for their self-esteem and for change of their behaviour.

- Participants/teachers can apply the theoretical knowledge on the characteristics of adulthood and maturity immediately after this training by doing their own teaching according to these characteristics. For example, a teacher will use the experience of his/her learners in the teaching process, respect their attitudes, needs and expectations of teaching and learning, communicate with them as partners in the learning process.

- The area of motivation for adult learning and adult education is knowledge about motives and barriers and is very easy to connect with practice. For example, having in mind that his/her learners have disposition barriers, and knowing the essence and "power" of disposition barriers, a teacher will always work on raising the self-esteem of learners, speak positively about their accomplishments, encourage them by using examples of adults who attain significant results in learning, etc.

- Knowledge about learning channels and learning styles will enable teachers to make learning and teaching more successful by connecting theory and practice. For example, when a teacher estimates what styles are dominant in a real group of learners, he/she will prepare didactic materials adequate to these styles, as well as create an adequate learning environment and adequate didactic procedures.

USED AND RECOMMENDED LITERATURE

- Alibabić, Š., Popović, K., Avdagić, E. (2012): Naknadno sticanje osnovnog obrazovanja – Andragoški priručnik za nastavnike. Sarajevo: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

- Atkinson, J.W. (1994): An Introduction to Motivation. New Jersey: Van Nostrand: Princeton.

- Bélanger, P. (2011): Theories in Adult Learning and Education. Opladen & Farmington Hills: Barbara Budrich Publishers.

- Caine, R. N. (1997): Education on the Edge of Possibility, Alexandria, Va.: ASCD.

- Caine, R.N., Caine, G. (1990): Understanding a Brain Based Approach to Learning and Teaching. Educational Leadership 48,2: 66-70.

- Cross, K.P. (1981): Adults as Learners. San Francisco: Jossey-Bass Publishers.

- Cattel, R.B. (1971): Abilities, their structure, growth and action. Boston: Houghton Mifflin Company.

- Gardner, H. (1999): Intelligence Reframed. Multiple intelligences for the 21st century. New York: Basic Books.

- Jarvis, P. (1995): Adult and Continuing Education Theory and Practice (2nd ed.). London: Routledge.

- Jarvis, P. (2007): Lifelong Learning and the Learning Society. London & New York: Routledge.

- Jarvis, P. (2010): Adult Education and Lifelong Learning, Theory and Practice 4th edition. London: Routledge.

- Knowles, M. (1990): Adult Learner: A Neglected Species. Houston: Gulf Publishing Company.

- Kolb, D.A. (1984): Experiential Learning, Englewood Cliffs. New Jersey: Prentice Hall.

- Kulić, R., Despotović, M. (2005): Uvod u andragogiju. Zenica: Dom štampe

- Maslow, A.H. (1970): Motivation and personality. New York: Harper and Row.

- Merriam, S.B. & Caffarella, R.S. (1999): Learning in adulthood: A comprehensive guide. San Francisco: Jossey-Bass Inc.

- Mezirow, J. (2000): Learning as Transformation: Critical Perspectives on a Theory in Progress (ed.). San Francisco: Jossey-Bass Publishers.

- OECD (2002): Understanding the Brain: Towards a new learning science. Paris: OECD.

- Pavlović Breneselović, D. (2011): Obuka nastavnika u bazičnim andragoškim veštinama - Priručnik za realizaciju obuke. Beograd: Druga šansa.

- Pätzold, H. (2011): Learning and Teaching in Adult Education, Contemporary Theories. Opladen & Farmington Hills: Barbara Budrich Publishers.

- Titmus, C. (1989): Lifelong Education for Adults, An International Guidelines (ed). Oxford: Pergamon Press.