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E-learning methods in education

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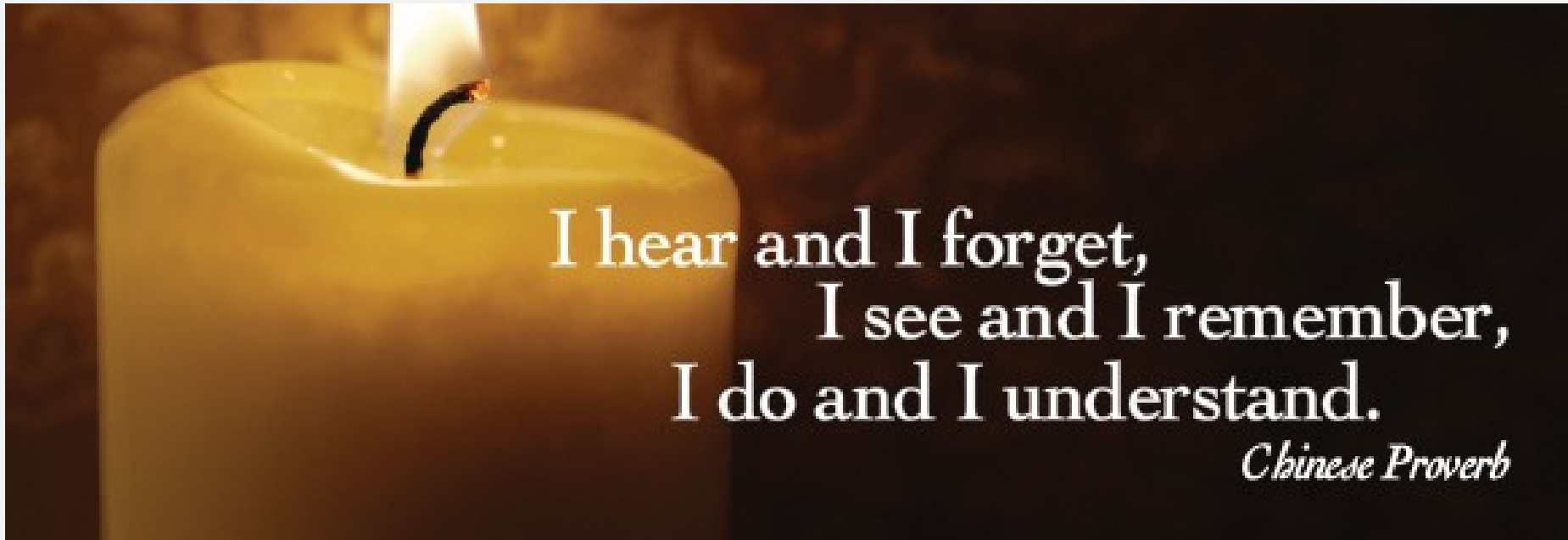**University of SS. Cyril and Methodius, J. Herdu 2, Trnava, Slovak Republic**

I hear and I forget,
I see and I remember,
I do and I understand.

Chinese Proverb

Outcome

- to disseminate and to exchange the mutual knowledge/experiences about e-learning methods;

- to know the opinions/attitudes in the area of application e-learning methods in the education;

- to create model of the implementation the suitable e-learning methods in the particular phases of lesson on the example of selected real remote experiment;

- to present and discuss about the acquired results.

Outline

- Concepts of education;

- Traditional education (phases, shortcomings);

- E-learning;

- Methods in E-learning.

Education

the act or process of imparting or acquiring general knowledge, developing the powers of reasoning and judgment, and generally of preparing oneself or others intellectually for mature life
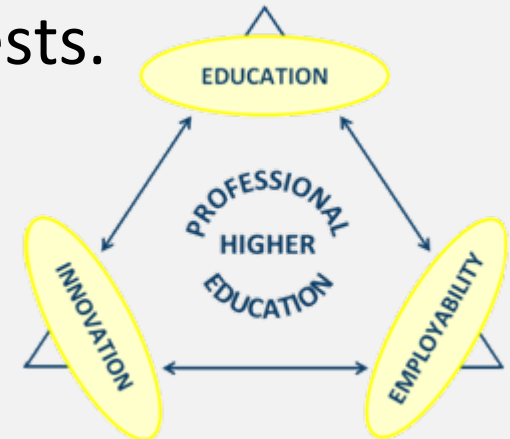
Education

According to professor Petlak: Education is a process in which a student acquires knowledge and activities, creating knowledge and skills, develop physical and mental abilities and interests.

You learn something every day if you pay attention.

~Ray LeBlond

Main concepts of education

- Concept: *compliance of process and form of teaching*

- Various concepts of education

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Main concepts of education

- Traditional education (face to face learning)
- Distance education (distance learning) -> e-distance learning
- Open learning
- Flexible learning
- Blended learning
- E-learning

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Traditional education (F2F)

- the teacher is dominant – mostly talks more than a student;

- the communication is guarantee by teacher and student (face to face);

- this form of education represent the useful aid of transmission the basic data and theory;

- it is suitable for specific type of students;

- it is insufficient to meet the needs of current society and in labour market.

Distance education

- the learning is much more flexible than traditional education, students should learn anywhere with the support of computer and Internet connection;

- the teachers who prepare this education can use different types of available technologies;

- this learning is provided by interactivity, individuality and group work with students;

- e-distance learning – teaching materials are in electronic form and electronic form of communication is dominant.

Open learning

- the learner chooses the time, learning material and rate of study;

- as a free and democratic;

- it is especially for those who for various reasons cannot attend traditional education (the disabled, employment);

- the educational institution adapts for requirements of student not in the other way as it is by traditional education.

Flexible learning

- the student is dominant not the teacher;
- the information and communication technologies are integrated

to the process of education;

- one of the component of

education is to solve the

problem tasks.

Blended learning

- mostly it is a combination of distance learning and face to face learning;

- a variety of teaching methods which should be useful in this way of education and this learning should be flexible and unrestricted;

- the main purpose of this learning is to combine the benefits of face to face and online learning.

E-learning

- the learning through the new (mostly) ICT;
- e-learning is a computer based educational tool or system that enables you to learn anywhere and at any time;
- Nowadays is e-learning mostly delivered through the internet, although in the past it was delivered using a blend of computer-based methods like CD-ROM.

Main phases of lesson

- Different phases of lesson;

- Particular partial goals of lesson;

- Motivational;

- Exposition;

- Fixation;

- Diagnostically.

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Motivational phase

- it is a preparation of students to the active learning;
- at this phase of lesson is very important that teacher motivate students;
- the results of learning to a large dependent

on whether a student approaches to

learning activities with interest, or forced;

- the correct motivation is half

success guarantee.

Exposition phase

- for this phase is very important to find suitable learning methods;

- the main task of this phase is that the student should acquire the correct idea of the topic and acquire knowledge of the topic.

- is important to use didactical technique, appropriate learning aids, supports the activity of students and their creative approach.

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Fixation phase

- to repeat and strengthen the knowledge of students;

- it is appropriate to realize the

repetition and strengthening of the knowledge in the new, changed conditions and situations;

- students should apply acquired knowledge in the practical tasks -> „**what I do I understand.**"

Diagnostically phase

- the teachers try to find out the level of knowledge by students;

- short questions as a feedback to know, if the students correctly understand the information;

- the degree of acquiring knowledge is not only a measure of the activity of students, but also the result of didactic teacher's work.

Few questions

- Why is important to know these concepts?
- Why is important to use new ICT in the education?
- Why is important to know phases of lesson?
- Why is important to know methods of education?

Traditional education - shortcomings

- Teacher - active x student - passive;
- Activity of student is restricted;
- Memorize and mechanical repetition of information
- Not individual approach to the student
- Literature – only teacher and textbook.

Traditional education - shortcomings

- Not develop any cooperation and interaction of students;

- Subjectivity of teacher by assessment;

- Educational standards do

not meet the needs of society.

Summary/Questions

- Modern concepts of education;
- Which concepts do you rememb
- How much phase of lesson do w
- Which phases do you remember

E-learning

is a computer based educational tool or system that enables you to learn anywhere and at any time.

•Other terms: *online learning, virtual learning, distributed learning, network and web-based learning*

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# Main forms of e-learning

- Synchronous

- Asynchronous

Synchronous form of e-learning

- synchronous learning refers to the exchange of ideas and information with one or more participants during the same period of time;

- online real-time live teacher instruction and feedback,

Skype conversations, and chat

rooms or virtual classrooms where everyone is online and working collaboratively at the same time.
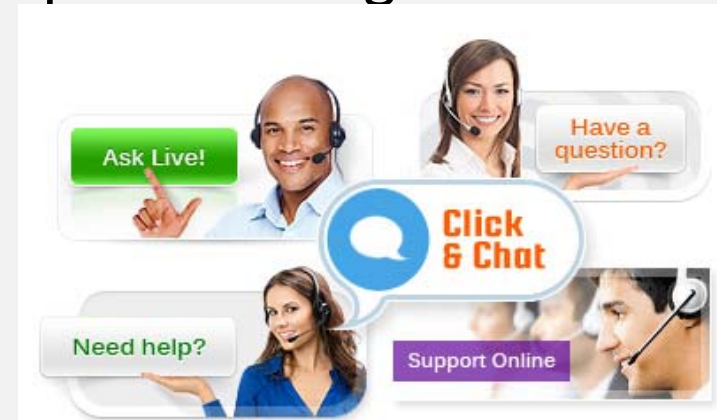
Asynchronous form of e-learning

- asynchronous learning is self-paced and allows participants to engage in the exchange of ideas or information without the dependency of other participants' involvement at the same time;

- email, blogs, wikis, and discussion boards, as well as web-supported textbooks, hypertext documents, audio, video courses, and social networking using web 2.0.
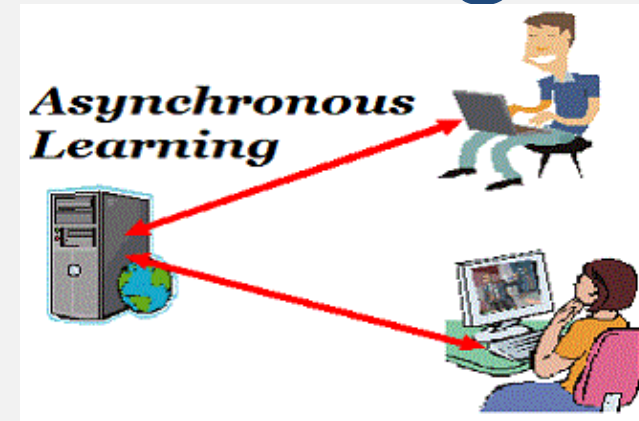
Form of e-learning

- the *asynchronous* and *synchronous* methods rely heavily on self-motivation, self-discipline, and the ability to communicate in writing effectively.

- Do you use any of this form on your lesson?

- How you integrated this form in your lesson?

E-learning systems (ES)

- **computer software that enables the use of multimedia in a simple platform in the net;**

- with the help of ES the following basic learning tools of online learning can be used: text, still graphics and illustrations, sound and music, video and moving graphics, multimedia.

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E-learning systems

- Virtual Learning Environment (VLE),

- Learning Management System (LMS),

- Course Management System (CMS),

- Learning Content Management System (LCMS),

- Learning Support System (LSS).

E-learning systems

E-learning systems - Questions

- Do you use any of this system on your lesson?

- Why yes, why not?

- What are the opinions from your students to these systems?

- Are they satisfied with teaching in this system?
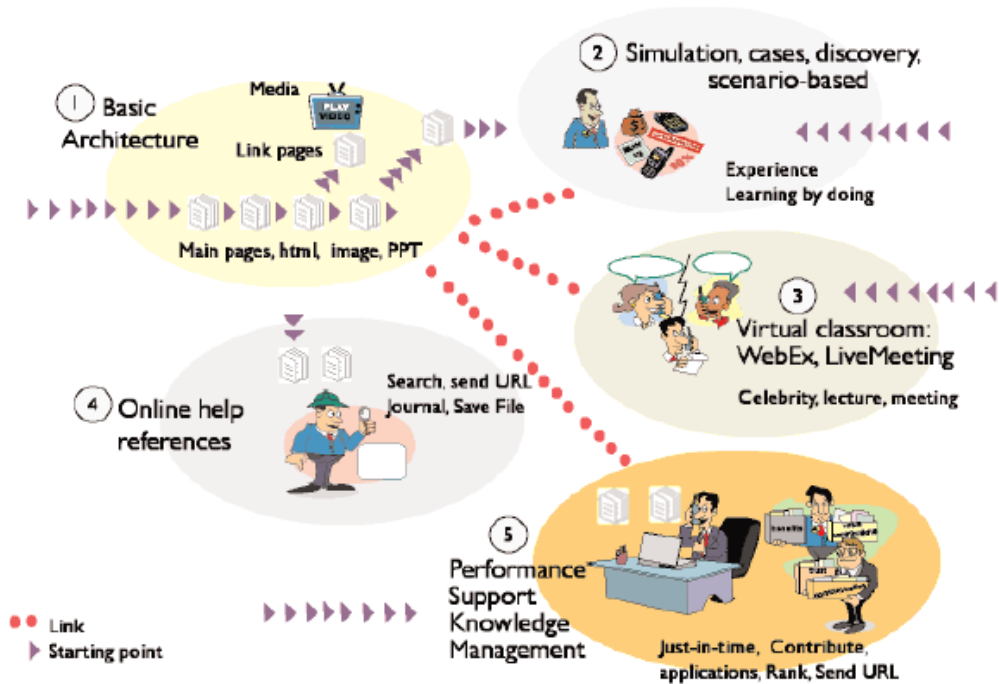
Methods in education

According to professor Petlak:

„Method is intentional, purposeful and coordinated arrangement of the curriculum, teacher and student activities aimed at achieving the objectives of education and training in accordance with the principles of organization of teaching."
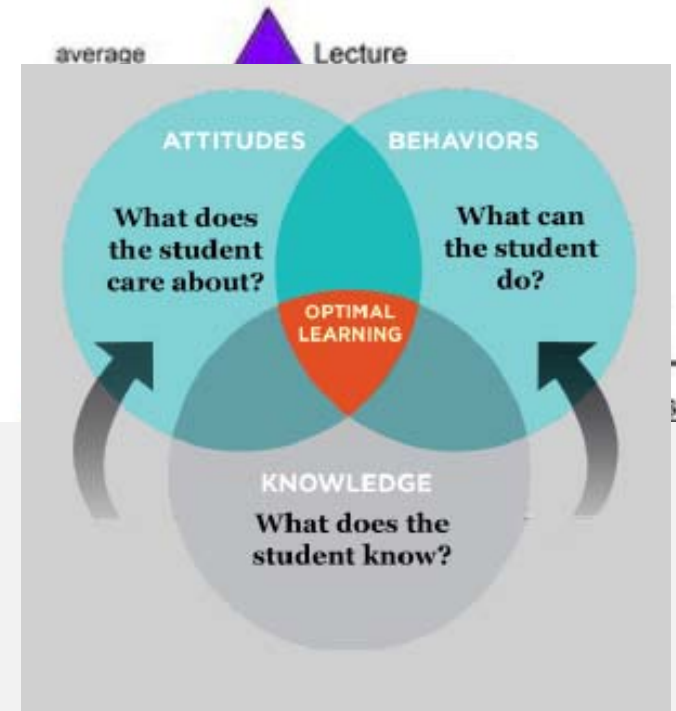
Methods in education

e-Learning Architecture: Different Approaches

1. Basic Architecture — Media, Link pages, Main pages, html, image, PPT
2. Simulation, cases, discovery, scenario-based — Experience, Learning by doing
3. Virtual classroom: WebEx, LiveMeeting — Celebrity, lecture, meeting
4. Online help references — Search, send URL, Journal, Save File
5. Performance Support Knowledge Management — Just-in-time, Contribute, applications, Rank, Send URL

Link
Starting point

Vignettes for Training, Inc. 2005

Learning Pyramid

average — Lecture

ATTITUDES — What does the student care about?
BEHAVIORS — What can the student do?
OPTIMAL LEARNING
KNOWLEDGE — What does the student know?

Methods in education

According to particular phase of lesson:

- Motivational methods;

- Exposition methods;

- Fixation methods;

- Diagnostically methods.

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Motivational methods

- Motivational speaking;
- Motivational dialogue;
- Motivational demonstrating;
- Problem as a motivation.

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Motivational speaking

- an emotional and evocative approximation of what will students learn.

Motivational dialogue

- teacher leads a dialogue with students with focus on activating their knowledge, skills and experiences.

- the dialogue awakens

interest to the

new curriculum.

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Motivational demonstrating

- teacher with the support of demonstration (film, picture, different objects of observation) try to awaken the interest of cognize reality.
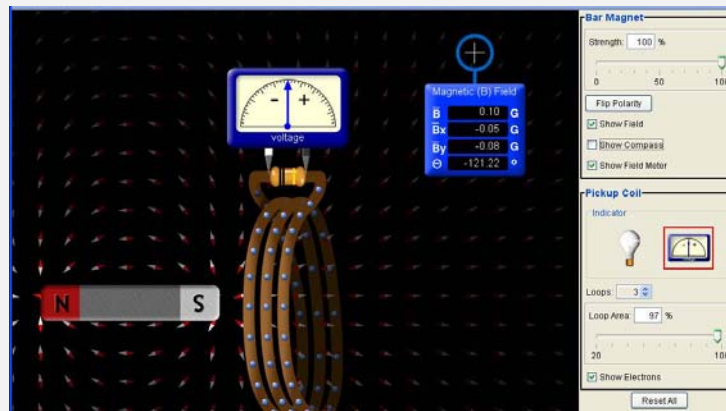
Problem as a motivation

- teacher try to capture the attention of students on the basis of problem and then he explain the curriculum.

- It is necessary to determine the right/correct problem – which is suitable to solve on the lesson.

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Continuous motivational methods

- motivational challenge;

- updating the content of the curriculum;

- praise, encouragement, criticism

Motivational challenge

- teacher should ask student to do something on the lesson, for example to pay attention, **to help the other students**, to draw something in the exercise book or on the board, etc.

Updating the content of the curriculum

- teacher try to interconnect the theoretical background of curriculum with the examples in the real life;

- enable to the students to fill in the content of curriculum with creativity;

- try to use interesting examples, brain teaser etc.

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Praise, encouragement, criticism

- there are significant elements of motivation.
- Students answer on questions – if it was good – teacher gives student praise, if it was bad – teacher gives student criticism and give the good answer.

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Motivational methods - Questions

- Which of these methods do you use to motivate the students?

- Why do you use these methods?

- What other methods do you use on your lesson?

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Exposition methods

- Lecture;

- Dialogue;

- Demonstrational method;

- Observation;

- Manipulation with things;

- Individual work with the using of ICT

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Lecture

- this method is mostly used on the high schools and university;

- the one of the shortcomings of this method is that the students are passive;

- teacher should use didactic technique such as videos, audios, pictures, several of diagrams, etc.

Dialogue

- In the form of questions and answers, students gain the knowledge about the theme of lesson;

- One of the advantages is to stimulate students for the new knowledge;

- one of the requirement is that student have preliminary knowledge about the curriculum.

Demonstrational method

- Teacher use ICT in demonstrating the phenomena of the curriculum;

- In the area of e-learning are mostly used instructional videos, web-based simulations, real-remote experiments, various schemes, diagrams, interactive tables, etc.

Which didactic techniques do you use on your lessons?

Observation

- The task of students is to observe the phenomena in the lesson;

- it is similar to demonstrational method; but it is only recognition of observation phenomena.

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Manipulation with things

- laboratory work;

- work as method, game as a method to gain new information;

- It's very useful method,

but it is necessary the

good preparation from

teacher and from students;

Individual work with the using ICT

- suitable ICT in the suitable form should provide or create the interesting environment how to connect as much senses of students.
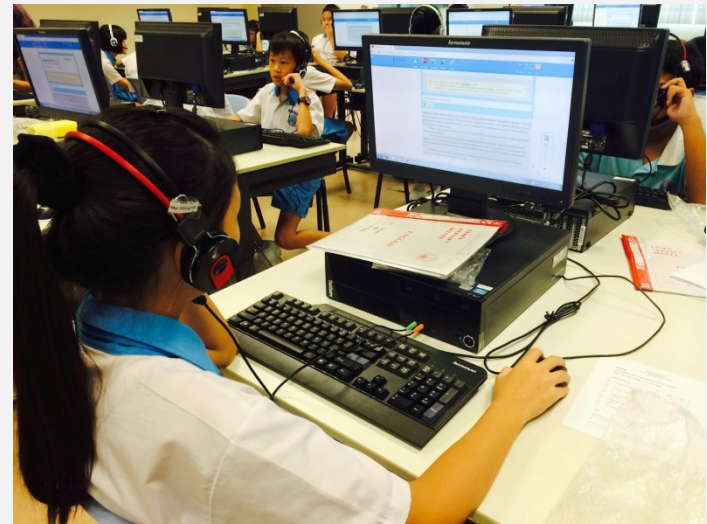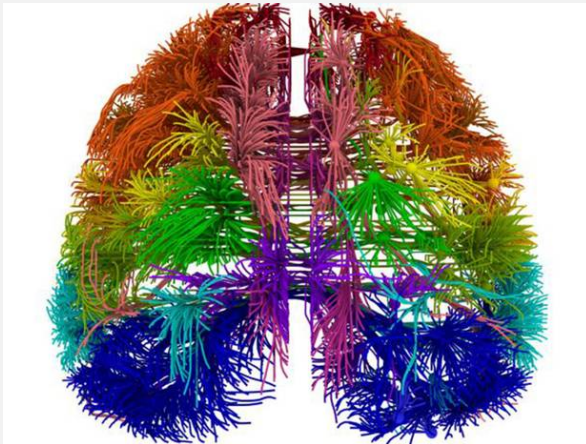
Exposition methods - Questions

- Which of these methods do you use in the lesson?

- Why do you use these methods?

- What other methods do you use on your lesson?

Fixation methods

- verbal repeating the new knowledge;

- the method of questions and answers;

- repeating dialogue;

- Individual work with the using of ICT

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Verbal repeating the new knowledge

- it is based on reproduction of the new information

The method of questions and answers

- Students answer on questions – if it was good – teacher gives student praise, if it was bad – teacher gives student criticism and give the good answer;

- This is mostly used method;

- mostly it has form of game – the students compete between each other

Repeating dialogue

- teacher in the form of dialogue with students strengthen the knowledge;

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Individual work with ICT

- The main goal of this method is to connect as much senses of students to the theme;

- Students try to

change the variables

of the experiments.
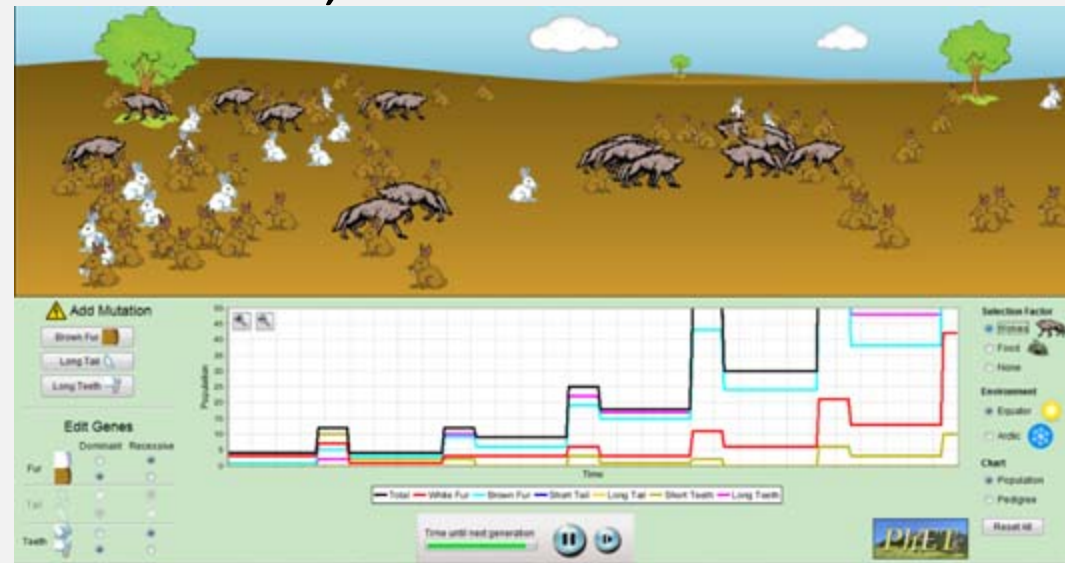
Fixation methods - Questions

- Which of these methods do you use in the lesson?

- Why do you use these methods?

- What other methods do you use on your lesson?

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Diagnostically methods

- Verbal exam;

- Writing exam;

- Didactical test.

Diagnostically methods using ICT

- Online quiz;
- online courses

in LMS Moodle.

Diagnostically methods - Questions

- Which of these methods do you use in the lesson?

- Why do you use these methods?

- What other methods do you use on your lesson?

The other methods

- Class discussion conducted by teacher;

- Forums;

- Library research on topics or problems;

- Audio-tutorial lessons;

- Class projects;

- Individual projects;

- Laboratory experiments performed by more than two students working together

The other methods

- Student construction of diagrams, charts, or graphs;

- Making of posters by students;

- Problem solving or case studies;

- Use of diagrams, tables, graphs, and charts by instructor in
Teaching;

- Use of motion pictures, educational films, videotapes;

- Use of recordings;

- Surveys;

The other methods

- Tutorial: students assigned to other students for assistance, peer teaching;

- Web-based simulations;

- Real-remote experiments;

Questions

- What didactical techniques do you use on your lessons?
- Web-based simulations/real remote experiments/Virtual reality systems/Videos/ Audios/Pictures;
- What else do we use on the lessons -> how we should stimulate students to do what we need?
- How do we capture students attention to the curriculum?

Summary

- As any good teacher knows, all students do not learn in the same way.

- Teachers need to use different teaching methods in order to reach all students effectively;

- A variety of teaching strategies, a knowledge of student levels, and an implementation of which strategies are best for particular students can help teachers to know which teaching methods will be most effective for their class.

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Thank you for your attention

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