Lifelong Learning Programme Grundtvig Partnerships Project
"iTongue: Our Multilingual Future" (2013-2015)

TELŠIŲ ŠVIETIMO CENTRAS

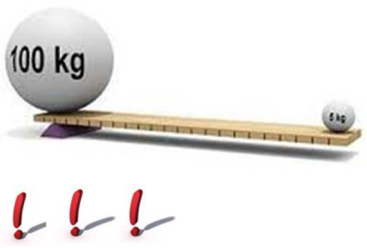
Curriculum (18 academic hours)

"Neurodidactics Theory Based Foreign Language Learning and Teaching"

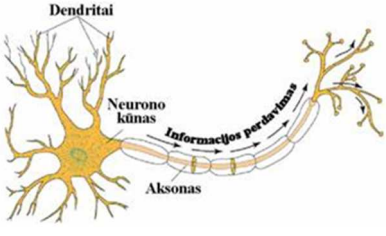
(LLP Grundtvig Partnerships Project "iTongue: Our Multilingual Future" / 2013-2015)

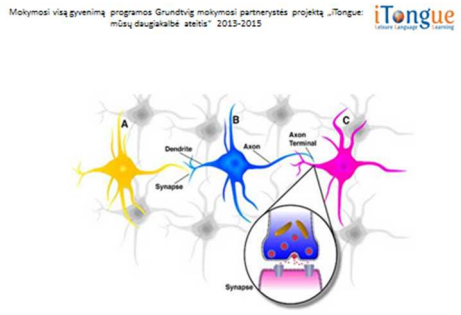
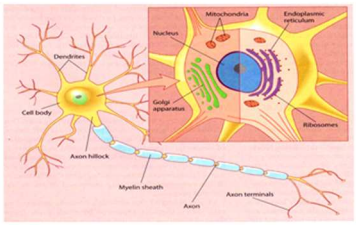
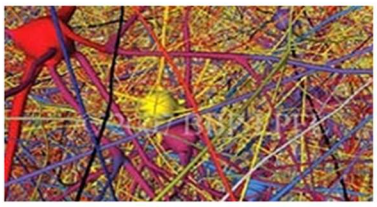
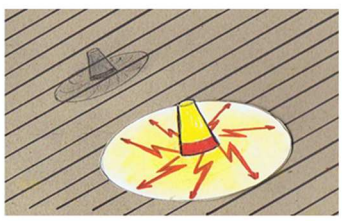
3rd step. Aspects of neurodidactics theory in learning languages, based on project material.

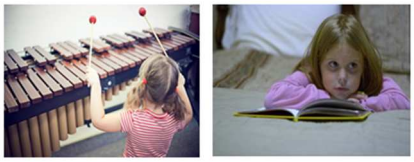
(prepared by Nijole Vaicekauske, learner of the project)

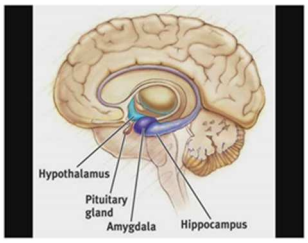
1 slide: Theoretical basis	
TELŠIŲ ŠVIETIMO CENTRAS CURRICULUM (18 ACADEMIC HOURS) "NEURODIDACTICS THEORY BASED FOREIGN LANGUAGE LEARNING AND TEACHING" (LLP GRUNDTVIG PARTNERSHIPS PROJECT "ITONGUE: OUR MULTILINGUAL FUTURE" / 2013-2015) 2ND STEP: ASPECTS OF NEURODIDACTICS THEORY IN LEARNING LANGUAGES, BASED ON PROJECT MATERIAL.	The theoretical basis of the Project is recent scientific research conclusions on brain activity. Further readings for those who are interested in it.
2 slide: Questions	
Mokymosi visą gyvenimą programos Grundtvig mokymosi partnerystės projektą „iTongue: mūsų daugiakalbė ateitis" 2013-2015 iTongue 	It is important to find out: ▪ What makes language learning successful? ▪ How to use modern informational technologies to learn a foreign language on your own?
3 slide: Discussion on new challenges.	
Mokymosi visą gyvenimą programos Grundtvig mokymosi partnerystės projektą „iTongue: mūsų daugiakalbė ateitis" 2013-2015 iTongue  	What does the scale represent? Nowadays a human faces much more difficult challenges than ever before.
4 slide: Discussion on how the past and present differs	

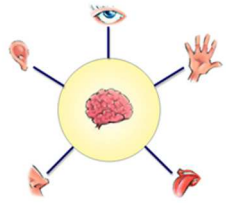
	Practical experience knowledge was passed from generation to generation for ages. What a person learnt during his lifetime he passed to his children without much alteration.
4 slide	
	Rapid progress today makes us adopt our neuron program to rapidly changing conditions.
6 slide	
	▪ The last researches on brain claim that brain activity is **not genetically coded.** ▪ Brain functions depend on its usage. ▪ Curiosity and motivation are the main assumption for learning and teaching.
7 slide	
	▪ ***Neurodidactics*** is a fairly new field in educology, which analyses learning processes in brain. ▪ ***Neurodidactics*** is based on brain researches and their data applied in learning process, trying to get better learning results.
8 slide	

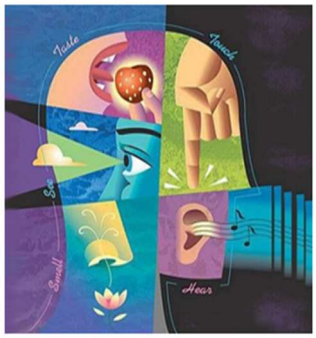
	These discoveries promote new teaching methods. *"We can no longer live as though we know nothing about our main source: the brain".* Prof. Dr. M. Spitzer
9 slide	
	Brain assault starts now. How much would you pay for a modern computer? 2000 Euro or more? Let's imagine, that you have bought one and you have put it in your room but you do not use. We would never do that because we know that we paid such money and we have to use it. Therefore, there should be no questions about using our brain. It is difficult to tell the value of our brain in Euro. So we have invaluable item and we do not use it. It is said, as our lungs need oxygen, our brain needs knowledge.
10 slide	
	Brain: ▪ Not impressive, ▪ Wrinkled grey substance, ▪ Reminds us of a walnut. (It is because, as our bowels, brain is laid in such way in order to occupy as little as possible. Reminds us of soya cheese...) **Appearance is deceptive:** **It is incredibly complicated and always active organ. It does not rest even when we sleep.** Information on brain activity is gathered observing how people act and react after brain damages and strokes. MRI allows us to measure brain activity
11 slide	
	Nerve system consists of cells, as all other organs. When using a microscope we can see that these cells – neurons differ from other ones. As all other cells they have cell body, but they also have specific parts dendrites and axons. Neuron accepts information via dendrits, and use axons to transfer it.
12 slide	

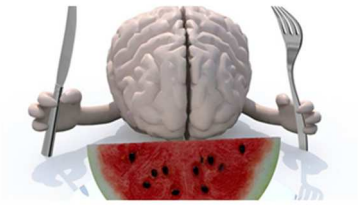
	100 billion of neurons are hidden in our head. Together they make 10 thousand connections. It would be written as 1 and 15 zeros (quadrillion).
13 slide	
	▪ Information is transferred via certain material (myelin sheath), where axons move. Information flows in the inner net. ▪ If this sheath is not created, axons are not used and information is not transferred. ▪ It is necessary to use axons, otherwise they will atrophy.
14 slide	
	An active neuron automatically activates other neurons. Neurons are as a hard disk, where we keep what remains in connection with one another.
15 slide	
	When one neuron is activated it transfers electronic impulses to other close neurons. Other neurons beyond this area are blocked. **Due to this mechanism we are able to concentrate.**
16 slide	

	If neurons are not used, they can be renewed again later. It happens due to proper electric impulses, usually named "brain workout". **It is called neuroplastics.** Due to it we can learn, memorize and recover after brain injuries. It is said: „An old dog can learn new tricks".
17 slide	
	… 80% of students in need of help are boys…, … mass media complains on poor literacy of male…, … what influences unwillingness to learn genes or environment.
18 slide	
	What ▪ **activates** information transference, assimilation and storage in long term memory, so called hard disk, And what ▪ **represses it?**
19 slide	
	First meeting is very important! ▪ Pleasant experience (kept in forehead). ▪ Negative experience (kept in temples). ▪ Memory is connected with experience. ▪ First level is called sensor memory (brain fixes everything we see).
20 slide	

	Memory is stored in hippocampus. Hippocampus is temporary memory storage.
21 slide	
	▪ News and experiences are registered in **Hippocampus**. ▪ It is a short term memory. ▪ At night it is transferred to a long term memory. ▪ **Hippocampus** is like a receptionist in a big company deciding who should go where.
22 slide	
	The length of memorized objects depends on **the way** we received them.
23 slide	
	**Happiness and learning are identic things to our brain.** Feelings, emotions help in memorizing rules.
24 slide	

	We can get information through eyes, ears, nose, tongue and hands.
25 slide	
	▪ New information is connected with an old one.
26 slide	
	▪ Words are placed underneath each other to focus on both. They are stored together. ▪ Words and their translation are activated at the same time.
27 slide	
	**Acoustic decoding**. **Why music?** ▪ Music affects dopamine flow and stimulates pleasant experience.
28 slide	
	Why to repeat a word many times? Learning is a connection among synapsis. Listening just once, leads to nothing. Brain recognize repeated information if it is still in the short memory. So it is useless to repeat long sentences, as the beginning is already forgotten.
29 slide	

	Our experience consists of experience received Unconsciously – 99% Consciously – 1%
30 slide	
	**Last advices:** ▪ Create new neuron connections, using new actions, new skills and new abilities. ▪ Constant practice leads to firm connection. ▪ The bigger the neuron connection net, the more effective is brain work, helping to generate ideas and remain creative.
32 slide	
	New neuron connections lead to creativity in everyday life.
33 slide	
	...discover the new continent of 21st century and...
34 slide	

Mokymosi visą gyvenimą programos Grundtvig mokymosi partnerystės projektą „iTongue: mūsų daugiakalbė ateitis" 2013-2015 	...feed it with good emotions and it will serve for ages...