Use of Methods and Tools in ICT and Primary Education Classes

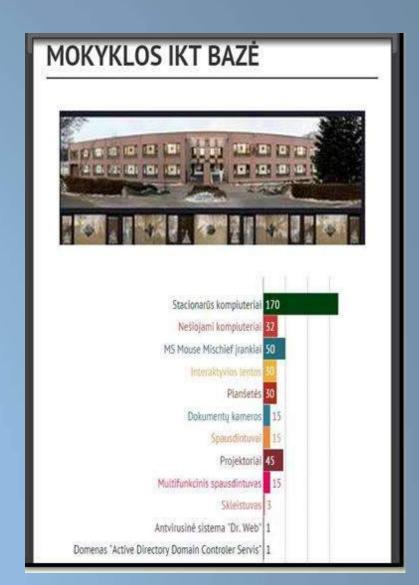
By:
Vilnius Gabijos gymnasium
ICT teacher Loreta Čivinskienė
primary school teacher supervisor Rita Adomonienė

Brief information about lecturers

- **ICT teacher Loreta Čivinskienė**: teaching experience - 6 years.

- **Primary school teacher supervisor Rita Adomonienė**: teaching experience – 22 years, digital teaching aids educational consultant, digital teaching aids creator, lecturer.

School's ICT base

- ~ 220 computers
- 51 multimedia projectors
- 27 interactive whiteboards
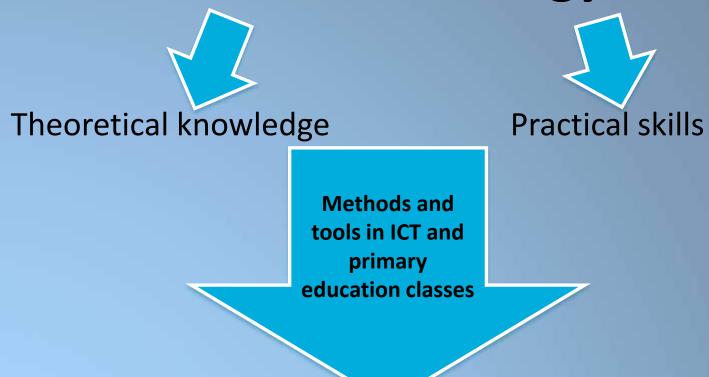- 48 tablet computers

MOKYKLOS IKT BAZĖ

Stacionarūs kompiuteriai	170
Nešiojami kompiuteriai	32
MS Mouse Mischief įrankiai	50
Interaktyvios lentos	30
Planšetės	30
Dokumentų kameros	15
Spausdintuvai	15
Projektoriai	45
Multifunkcinis spausdintuvas	15
Skleistuvas	3
Antivirusinė sistema "Dr. Web"	1
Domenas "Active Directory Domain Controler Servis"	1

The aim of the report:

- To share the good working experience: the use of methods and tools in ICT and primary education classes.

Information technology at school

Theoretical knowledge

Practical skills

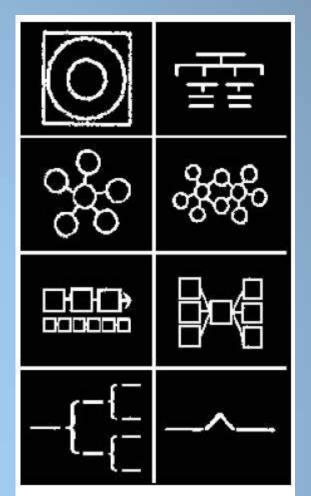**Methods and tools in ICT and primary education classes**

- Thinking maps
- Social network "Edmodo"
- The second generation Web technologies
- Visual practical tasks

Thinking maps
The main idea

- Teach students creativity and critical thinking.

- Teach participating leadership - to take responsibility for the decisions and challenges.

- Create meaningful, motivational teaching - learning environment that encourages to think and learn independently.

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Thinking maps are applied to 1 – 6 grades students

8 types

The use of thinking maps in classes

Develop students' practical skills

Strengthen theoretical knowledge

Primary school students create and draw thinking maps, 5 – 6 grades students perform it with the help of text and graphic editor.
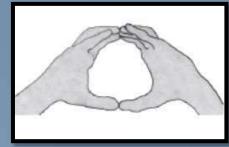
The teacher uses thinking maps as a visual educational tool to repeat previous knowledge, to summarize the lesson or to learn new material.

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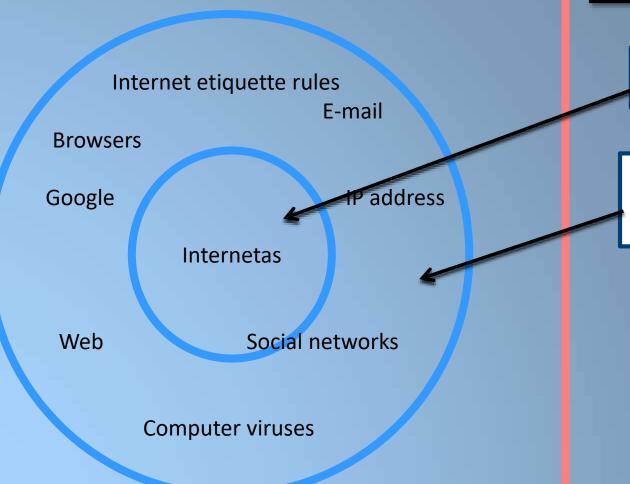# The examples of thinking maps in ICT and primary education classes

The circle map

Internet etiquette rules

E-mail

Browsers

Google

IP address

Internetas

Web

Social networks

Computer viruses
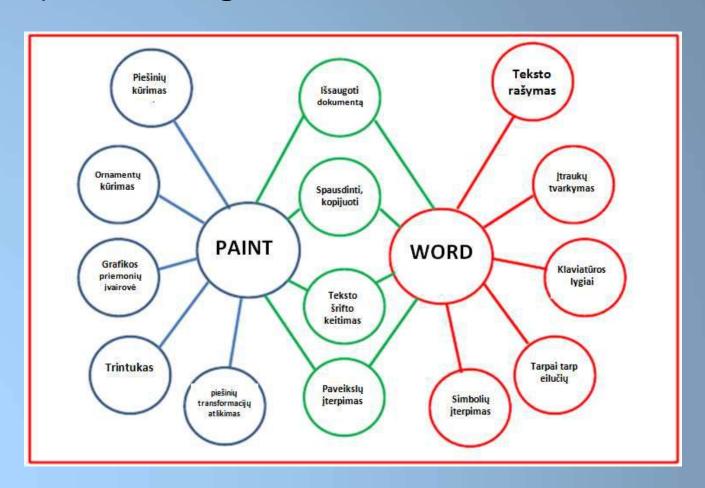
Topic

Students write everything they know

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Double bubble map in ICT lesson

Comparing computer programs (graphics and text editor) and looking for similarities and differences.

The double bubble map in Lithuanian language lesson

- The fourth grade students analyze J. Baltušio text "Alyze bike" and with the help of double bubble map compare extract character's bike and his/her own bike, find similarities and differences.

The bridge map in ICT lesson

- Students find and identify similar links.
  E.g.: 1 KB = 1024 B as 1 MB = 1024 KB

Tema: Kompiuterio informacijos matavimo vienetai

$$= \frac{1024}{\text{Bendras veiksnys}}$$

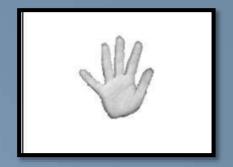1 KB — *kaip* — 1 MB — *kaip* — 1 GB — *kaip* — ...
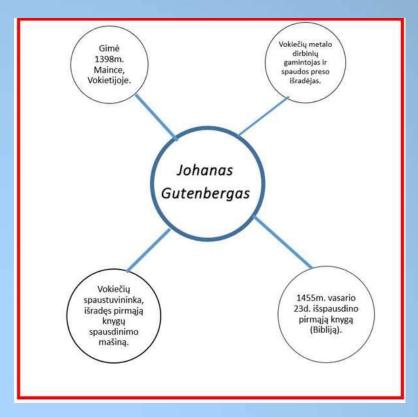
B — KB — MB

B - baitai
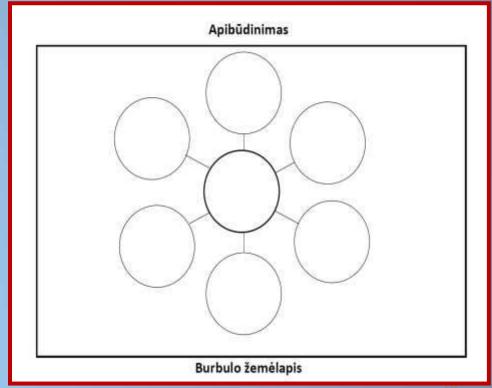KB - kilobaitai
MB - megabaitai
GB - gigabaitai

The bubble map in history lessons

- Students are able to look for information, select and systematize it and write it into the bubbles.
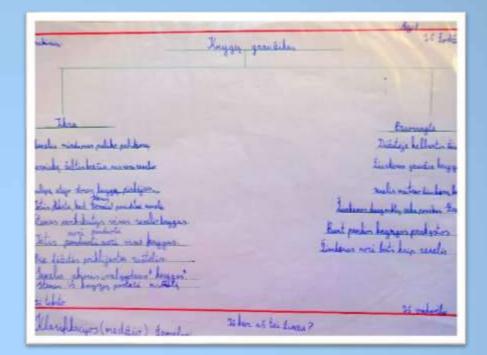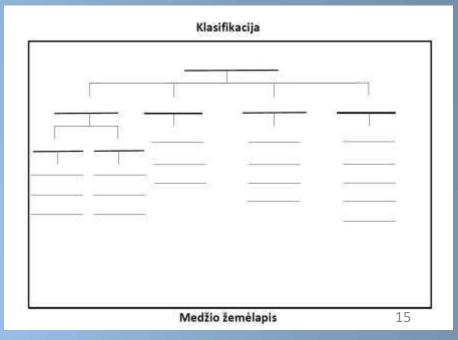
The classification map

Primary school students make the tree map working individually, in pairs and in groups. In Lithuanian language lessons they classify real and fictional things which they find in the text with the help of this map. In math lessons students consolidate various units of measurement.
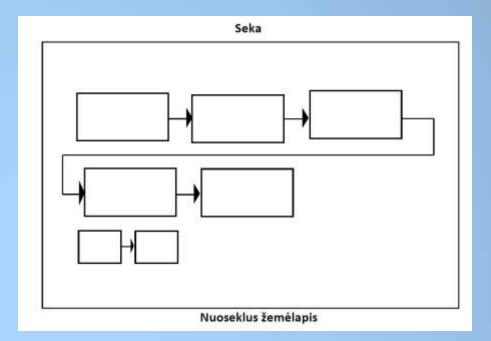

Klasifikacija

Medžio žemėlapis
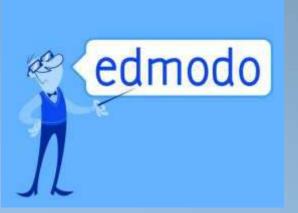
The sequence map

This is one of the most popular thinking maps which helps to memorize the information and makes the learning easier.

Art/Technology lessons – students draw the sequence of working process.

Lithuanian language lessons – students make the coherent sequence of narrative events.

Biology lessons – students draw the food chain and the electric power circuit.

Math lessons – students analyze the tasks (the sequence of condition, question, solution and answer) and make the sequence of numerical phenomena actions.

Seka

Nuoseklus žemėlapis

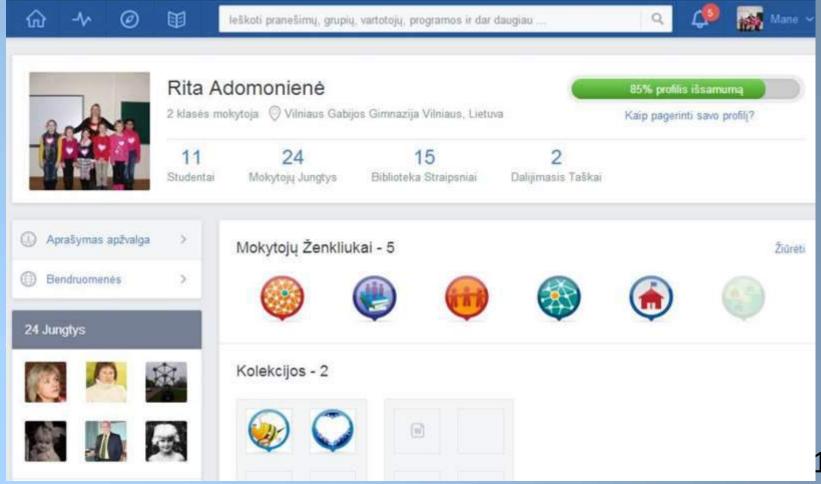PĖTRAS CVIRKA VAIVORYKŠTĖ

SEKOS ŽEMĖLAPIS
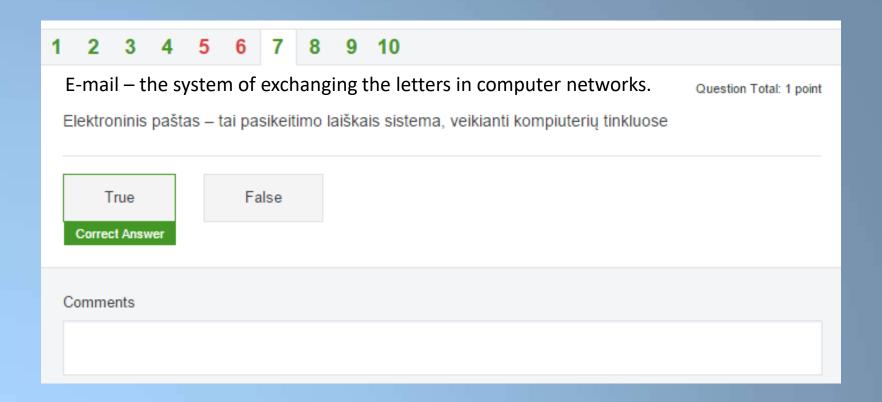
Edmodo environment

- Edmodo is the social network for teachers and students where we can safely cooperate and consult in private virtual classes, share resources, students write tests and teachers evaluate the progress.

- Edmodo social network is used for primary school, 5 – 8 grades students and high school students.

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Various types of tests are created in Edmodo environment which help evaluate students' theoretical knowledge quickly and effectively.
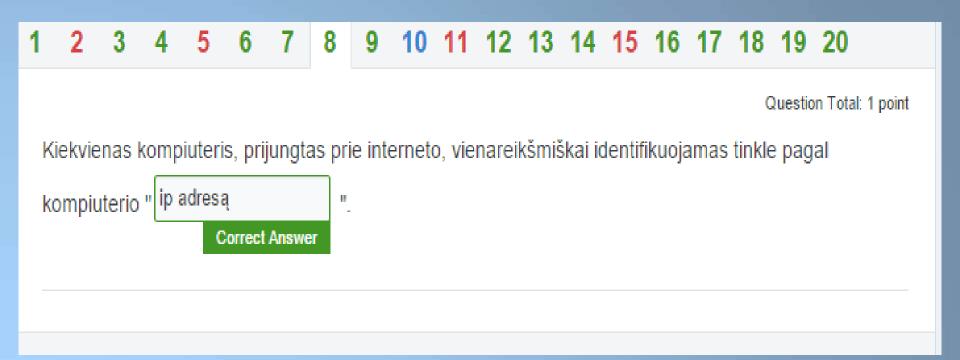
The example whether the answer is right or wrong.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

E-mail – the system of exchanging the letters in computer networks.   Question Total: 1 point

Elektroninis paštas – tai pasikeitimo laiškais sistema, veikianti kompiuterių tinkluose

| True | False |

Correct Answer

Comments

The example
How to choose one right answer

The example
How to write a word or answer a question
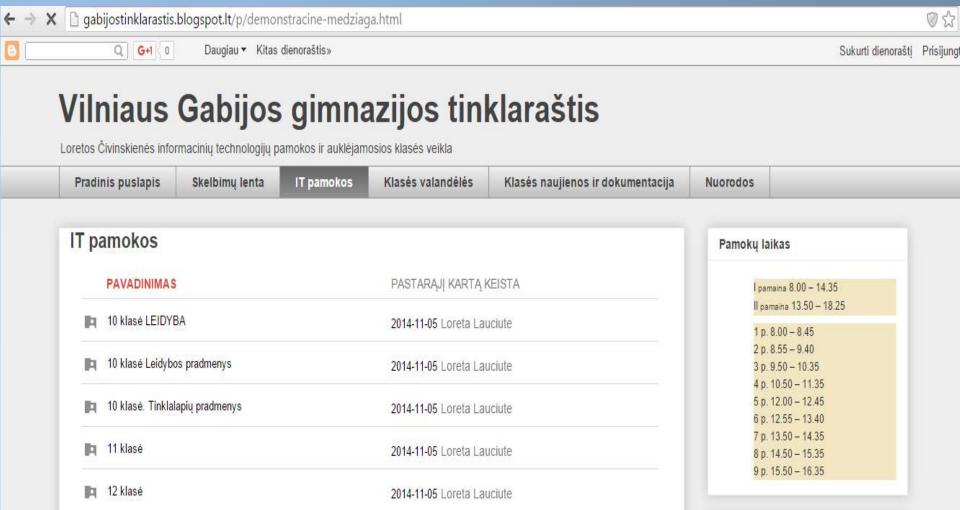
The advantages of Edmodo environment

1. **Communication:** Students virtually consult with the teacher or classmates, make comments on other students' answers.

2. **Access to educational resources:** teachers and students can share links and files with the whole class, a group of students or individually.

3. **Testing theoretical knowledge:** students check their knowledge by doing tests. Every time after the test they can evaluate themselves, check the test's results and observe their progress. Students put all the necessary files into their virtual bags.

Second generation Web services

- We also study remotely by using a website which is designed for ICT classes www.gabijostinklarastis.blogspot.com

Primary education students and their parents can find a lot of useful information, learning material and photos of events and trips on this class website
www.lutute.jimdo.com

The advantages of the website:

- Easy access to information, practical tasks and resources.
- The debatable information and comments are published online.
- Consultations with the teacher.
- Students' projects, creative works and ICT works are published online.
- The easy way for students' parents to find information.
- Lithuanian teachers' websites database is regularly updated.

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In ICT lessons visual practical tasks are used, which stimulate students' curiosity and motivation

- The example of practical Excel task for 7 grade students:
- Students perform actions by taking the data from table 2. When the task is done they can see the written result "excellent" or "error".

A	B C D	E	F G	H I	J K L	M	N	O	P	Q
1	Imdami duomenis iš 2 lentelės, atlikite veiksmus				2 lentelė. Duomenys					
2	1 lentelė. Veiksmų atlikimas			Eil.Nr	Veiksmas	Duomenys				
3 Eil.Nr	Veiksmas	Atsakymas	Rezultatas	1	Sudėtis	5	50			5+50=
4 1	Sudėtis	55,0	Puiku	2	Daugyba	1	5			1*5=
5 2	Daugyba	5,0	Puiku	3	Dalyba	50	5			50/5=
6 3	Dalyba	10,0	Puiku	4	Vidurkis	26	40699			9+499/2=
7 4	Vidurkis		Klaida	5	Sudėtis iš 3 skaitmenu	25	231	2		25+231+2=
8 5	Sudetis is 3 skaitmenu		Klaida	6	Daugyba iš 3 skaitmenu	21	40551,00	23		21*41*23=
9 6	Daugyba is 3 skaitmenu		Klaida	7	Dalyba iš 3 skaitmenu	99	33	1		99/33/1=
10 7	Dalyba is 3 skaitmenu		Klaida	8	4 Skaičiu vidurkis	85	5	10	4	85+10+4/4=
11 8	4 Skaiciu vidurkis		Klaida	9	Kėlimas kvadratu	5	2			5*5+2*2=
12 9	Kelimas kvadratu		Klaida	10	Kėlimas kubu	5	3	6		5*5*5+3*3*3=
13 10	Kelimas Kubu		Klaida	11	Atimtis	98	65			98-65=
14 11	Atimtis		Klaida	12	Atimtis iš 3 skaičiu	99	33	14		99-33-14=
15 12	Atimtis is 3 skaiciu		Klaida	13	Atimtis iš 4 skaičiu	789	145	65	4	789-15-65-4=
16 13	Atimtis is 4 skaiciu		Klaida	14	Atimtis ir daugyba	48	12	2		(48-12)*2=
17 14	Atimtis ir daugyba		Klaida	15	Daygyba ir sudėtis	3	15	54		3*15+54=
18 15	daygyba ir sudetis		Klaida	16	Sudėtis, daugyba ir vidurkis	78	8	7		(78+8)*7/3=
19 16	Sudetis, daugyba ir vidurkis		Klaida	17	Kėlimas kvadratu, atimtis ir vidurki	5	13			5*5-13/2=
20 17	Kelimas Kvadratu,atimtis ir vidurkis		Klaida	18	Dalyba, sudetis ir vidurkis	80	4	84		80/4+84/2=
21 18	dalyba, sudetis ir vidurkis		Klaida	19	Daugyba, atimtis ir vidrukis	88	8	8		88*8-8/3=
22 19	daugyba ir vidrukis		Klaida							
23 20	Dalyba is 4 skaiciu		Klaida							

- The teacher and the students analyze thinking maps, Edmodo tests and visual practical tasks using interactive whiteboards and projectors.

- Students do ICT tests in the tablet PCs class as well because they are able to connect to "Edmodo" system through free programs for mobile devices.

MS Mouse Mischief devices make the learning easier for primary education students

- The students do math, Lithuanian language and other tests willingly with the help of these devices. They get acquainted with the new learning material playfully and learn the evaluation and self – evaluation.

Primary education lessons become interactive while working in the digital environment „Active Class".

The use of the learning programs in the primary education process

- The learning programs give opportunity to personalize learning, i.e. every student chooses the pace of learning and the volume of material according to his/her skills and the level of knowledge.

The basis of information graphics

- In the "MS Mouse Mischief" after class activity 3rd grade students learn diagrams using informational graphics (Piktochart, Infogr.am).

Creating presentations

- 2 – 4 grades students are able to prepare informative presentations using digital tools (Powtoon, Prezi, MS Powerpoint, Animoto).

- These presentations help students to memorize the content of various lessons, develop linguistic expression and increase student's independence and information retrieval capabilities.

The basis of creating a video

- Primary education students learn elementary basis of creating a video using audio and video programs (CamStudio, Movie Maker).

The primer of creating animation

- 1 – 4 grades students created dynamic pictures and small plot movies using ABCYa.com program www.abcya.com/animate

The use of QR codes

- Primary education students are able to encode and decode learning objects using QR Code Generator and QR Code Reader programs which are installed in their smart phones and tablets.

The use of QR codes

- With the help of QR codes the teacher encodes the topic of the lesson, the answer of the task and engages students for new activity.

Conclusion

- The meaningful use of ICT in the educational process opens new learning capabilities for students, helps to know the world better, understand the environment, develops their creativity and encourages communication and collaboration.

Conclusion

• Students with better computer skills absorb new knowledge easier.

• They use different learning methods more effectively. Lessons with ICT are interesting, informative and memorable.

Expectations

- We believe that in the near future the basic knowledge of ICT will be taught from the primary school in all Lithuanian schools.

- Marc Prensky says: "ICT in Lithuanian education becomes not only a necessity, but the norm. In the future school you need to speak with our students the language they understand. Otherwise they will not hear us.

"If I had an hour to solve a problem and my life depended on the solution, I would spend the first 55 minutes determining the proper question to ask, for once I know the proper question, I could solve the problem in less than 5 minutes."

- Albert Einstein