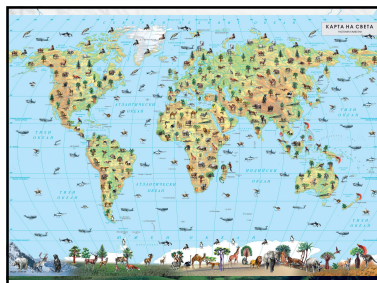


CARTOGRAPHY IN THE SCHOOLS

We are living in a time of rich information society in a global world with many communication possibilities.

Cartography is developing incredibly in the technology aspect. Old paper version products started to be not enough attractive to students, especially in high education.

The tasks of cartographers should be to **find closer way of communication** with students in geographical lessons and this could be achieved by quality information representation and attractiveness of cartographic products.



CARTOGRAPHY IN THE SCHOOLS

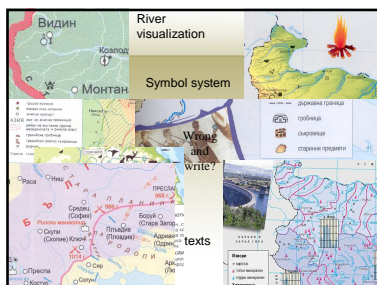
How can we start?

- Are there any reasons to change the exciting old Atlas?
- Who are our users?
- Do we have enough data base?
- Do we have a team of experts?
- Do we have an idea and program?
- Do we have a technology for realization of our project?
- How to get to our users?

Situation in Bulgaria 5-6 years ago

- not satisfying - old contents and design
- school curriculum was changed some times during the last 15 years
- cartographic firms have not been able to give what was necessary for the educational process
- still nowadays many schools have old wall maps with old contents, cartographic information and design; other ones do not have maps for every continent

Are there any reasons to change the exciting old Atlas?



Example – why do we need a new Atlas for 7 grade

- Bulgaria in European Union
- the examinations in Geography
- the complicated school curriculum approved by Ministry of Education
- The outline maps are used very successfully for assimilation of knowledge

Are there any reasons to change the exciting old Atlas?

Levels of geography education

Primary	Secondary	High
1-2 grade 7-8 years old	5 grade 11 years old	9 grade 15 years old
3-4 grade 9-10 years old	6 grade 12 years old	10 grade 16 years old
	7 grade 13 years old	11-12 grade 17-18 years old
	8 grade 14 years old	

Who are our users?

Sources for Atlas creation

- Curriculum in Geography
- Min 3-4 text books in geography
- Existing maps and atlases for these ages
- GIS vector data for the territory
- Statistical data, raster data (photos, pictures), etc.

Do we have enough data base?

Who participates in the process

- Cartographers – authors and mapmakers
- Specialists in GIS
- Geographers, expert's advice
- Schoolteachers - ideas and efforts
- University professors as reviewers
- Professional artists
- Designers
- Ministry of Education

Do we have a team of experts?

Students' help in maps and Atlases designing

- The purpose - find a way for the best communication with students
- Children's knowledge and information - use in the process of maps and atlases designing
- "The cartographer must learn how the non cartographer draws a map, what they want to communicate, what symbolism they use and what is their logic" *Morita, T.1997*

How to get to our users?

Experimental work with children in maps making for their education

- 80 (first and second school year) pupils in Sofia
- Children are not acquainted with the use and reading of maps
- Children show great interest for the experiments and have a desire and possibility to use maps

Symbols are drawn by a student 7 years old

църква стадион училище
дом фабрика планина
река слънце

Palace	Дворец	
Church	Църква	
Golden treasure	Златно съкровище	
Hut	Хижка	
Monument	Паметник	
Snow	Снег	

Mapno-I

Barbara Petchenik Competition in National level Bulgaria in ICA

- primary schools cartographic products are often designed by children's drawing from local entries to the Barbara Petchenik map competition
- Example: Atlas for 3-4 grade – themes of geography and history