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Session 1: Statistical literacy

School corner – statistics and statistical data can be comprehensible to everyone

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Taking into account that 21st century is the age of information society where everyone using different technologies can create information, as well as manipulate it, Central Statistical Bureau (further in the text - CSB), as the most important producer of statistical information in Latvia, has decided to advance a new project in order to promote the understanding of statistical data and correct usage of the data among youth.

In February 2009 Information, Publishing and Printing Department of the CSB (further in the text - IPPD) started the implementation of new, educational, colourful and informative material for the needs of general schools. This was first try of the CSB to illustrate and explain indicators significant for the society in simple language and expressive form, avoiding the use of complicated terms where possible.

Aim of the implementation of such a project was to develop instructional materials for the needs of general schools, to advance the understanding of statistical data among youth, and showing that statistics is useful and also can be exciting. With the help of project "School corner" CSB tried to explain and prove that statistics and statistical data can be comprehensible to everyone. To implement the aim put forward, the CSB moved out two main tasks:

1. to reflect statistical data in a meaningful and attractive way;
2. to develop informative materials for the needs of pupils and teachers.

Project "School corner" was developed within the framework of existing resources, it was implemented by three IPPD of CSB employees: two editors and a graphic designer in cooperation with other structural units of the CSB. IPPD offered ideas and prepared models of informative materials which were accepted by the unit responsible for interpreting statistical indicators and terms explained for the pupils' needs.

IPPD started the development of the project with choosing a subject. It was chosen based on the study contents for 9th grade's geography lessons developed by the National Centre for Education¹. Additionally, CSB included such significant subjects as Maastricht criteria which can be used in basic economics lessons. For each subject illustrative, colourful and explanatory material was prepared which was also transformed into black and white format, in order to facilitate the use of materials during lessons. In total there was developed a set of 45 informative materials in breakdown by subjects.

Subjects of the school corner

Subject	Explanations	Number of informative materials
Geographical location of Latvia	Territory of Latvia: land, inland water, total protected area, length of the territory from North to South, length of the border, land boundary length with each neighbouring country, sea boundary length, farthestmost points of the territory.	1
Population of Latvia, territorial disposition	Dynamics of the number of population, natural movement of the population, rates of fertility, mortality and natural increase, age, sex, demographic burden of the population, life expectancy, national composition of Latvian population, disposition of population, urbanization and migration.	9
Geographic environment of people's life and activity in Latvia	Highest points, mineral deposits in the territory of Latvia, climate, inland water, forest resources and woodland in the territory of Latvia, national parks and reserves of Latvia.	6
Geography of Latvian economy	Gross national product and gross national income, working age, economic activity of population.	3
Primary sector of the economy	Agriculture, farms, vegetable-growing and fruit-growing, crop production, livestock production and fish catch	5
Secondary sector of the economy	Significance of industry in national economy, key industry sectors, industrial production, energy and construction	5
Tertiary sector of the economy	Transport, transportation of passengers and freight, information technologies, education and tourism	5
Latvia in the world	Foreign trade	1
Latvia and European Union	Indicators on the Baltic States, demographic indicators in the EU, EU member states, area and population of the EU, economic value of the EU, economic stability – Maastricht criteria, labour and remuneration in the EU, education in the EU, information technologies in the EU, biological agriculture and environment, energy and sustainable development issues in the EU.	13
Information sources	Summary of the UNECE country profiles or key indicators is translated into Latvian, as well as information where additional information can be searched for.	2

¹ National Centre for Education – Geography for grades 7-9, example of general education subject programme is available at: http://visc.gov.lv/vispizglitiba/saturs/dokumenti/programmas/pamskolai/geografija_7_9.pdf (reviewed:30.05.2014.)

School corner was developed in the time period from May-September 2009, when, as the new school year began, new materials were published on the CSB homepage with the aim to ensure the use of statistical data in the study process.

Illustrative material of each subject was developed according to united concept and graphic design which determined that every informative material is attractive, easy to perceive and structured. Structure of informative material determined that the following elements are included: definition of statistical indicator, statistical data in form of tables and/or illustrative chart, calculation formula of statistical indicator for those indicators which can be calculated. Calculation formulas of the following indicators were offered to pupils: changes of the number of population, natural increase, net migration, rates of fertility, mortality and natural increase, population density, woodland, i.e. indicators which help pupils to strengthen the understanding of new terms.



Illustration 1 Illustrative explanation of labour force definition

The majority of informative materials included definitions of statistical indicators and they were explained in understandable, short, simple and illustrative form.

With the beginning of the new school year the CSB started popularization and advancement of this project in the society by sending out the press release² and sending more than 3000 e-mails to teachers. In 2010, within the framework of e-Skills week, IPPD of the CSB developed an explanatory and informative video presentation on the project "School corner"³. To estimate significance of the project "School corner" once a year a summary on the number of downloads of informative materials using *Google Analytics* is carried out.

In 2013 informative materials of the project „School corner” were downloaded 9 555 times. Mostly materials on the population of Latvia and their territorial disposition were downloaded (46% of all downloads), followed by informative materials on the European Union (14% of all downloads). Third most popular subject was tertiary sector of the Latvian economy (9% of total downloads), but fourth – primary sector of the Latvian economy (8% of all downloads), fifth – informative material on geographic environment of people's life and activity in Latvia (7% of all downloads). Sixth and seventh place is taken by informative materials on secondary sector of the Latvian economy and on geography of Latvian economy with 5% of downloads, but only 3% of downloads were on the foreign trade of Latvia. Least interest was in the geographical location of Latvia and other informative materials (each subject had 2% of the total number of downloads).

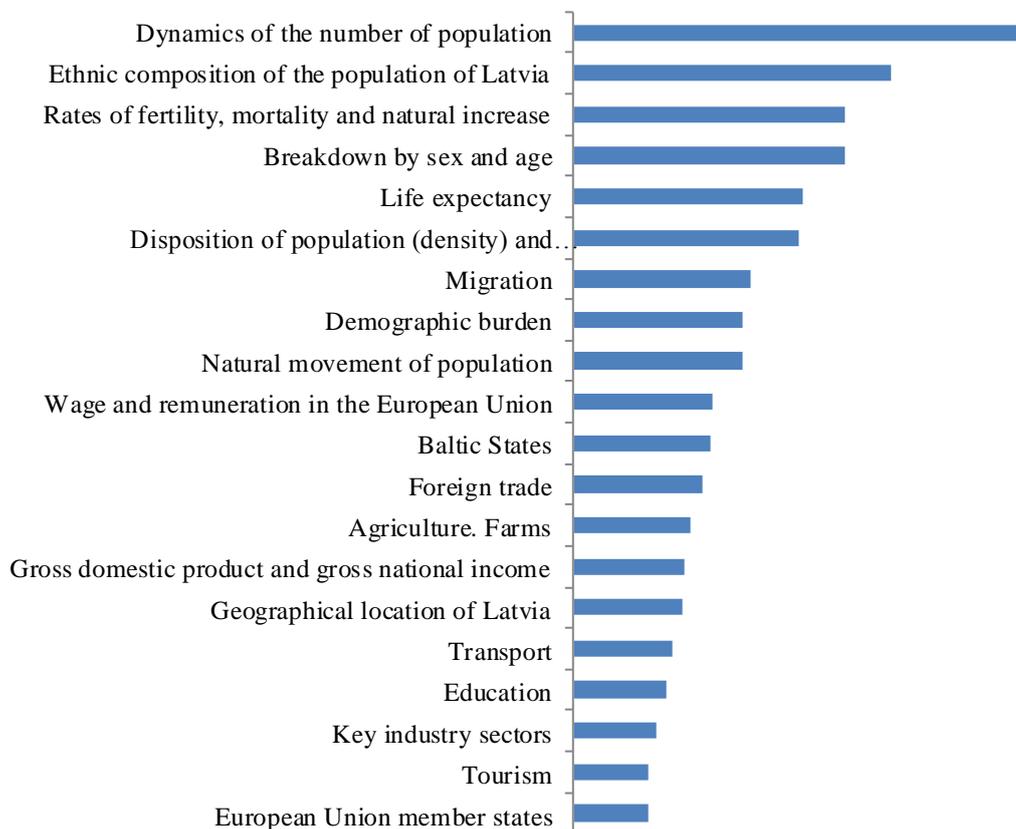
As compared to 2012 the total amount of downloads of informative materials in 2013 decreased by 26%. In 2012 total amount of informative downloads on all subjects had dropped. The largest decrease of the number of downloads was on the following subjects: Geographical location of Latvia (decrease of 58%), geography of Latvian economy (reduction of 38%) and secondary sector of the Latvian economy (drop of 34%).

² New homepage section – School corner - <http://www.csb.gov.lv/en/notikumi/new-homepage-section-school-corner-27653.html>

³ Statistics to pupils and teachers - <http://www.csb.gov.lv/sites/default/files/skoleniem/22022010a.swf>

In 2013 the most frequently downloaded informative materials were on the number of population (815 downloads, 8.53% of total number of downloads), ethnic composition of the population (568 downloads; 5.94%), rates of fertility, mortality and natural increase of population (488 downloads; 5.11%), sex and age of population (485 downloads, 5.08%), life expectancy (411 downloads; 4.30%) and population density and urbanization (403 downloads; 4.22%). Of lowest interest were environment, energy and sustainable development (34 downloads; 0.36% of all

TOP 20 downloads in 2013



downloads), biological agriculture (41 download, 0.43%) and tourism in the European Union (46 downloads; 0.48%).

Due to the project "School corner" representatives from CSB are regularly invited to schools to inform and explain significant statistical indicators to pupils. School corner and materials it includes are used to explain statistical concepts at different presentations and seminars both in educational institutions and outside them.

In order the project does not lose its topicality, twice a year statistical information is updated by supplementing it with new illustrations and subjects, for instance, in 2013 new informative materials on information technologies and their use in Latvia and European Union were developed. For the development of the project "School corner" a number of activities are planned: to train pupils to make diagrams and charts using statistical information prepared by the CSB, to provide basic knowledge and give advice on how to optimally depict visual data using graphical charts of different kind, i.e., at what condition row, line or at diagram should be used, to train on carrying out simple survey, e.g., survey on spare time, music listening habits of class mates, explaining and using simple statistical calculations, such as arithmetic mean, grouping, median, mode, etc.