





Improving Statistical Literacy at Statistics Finland

Contents of this presentation


- **Statistical literacy**
 - To whom and why?
 - The process of statistical literacy
- **Development of co operation with users**
 - Media
 - Educational institutions
 - Libraries
- **Development of services for the users**
 - eCourse in Statistics
 - Tools for Learners
 - Business statistics training programme
- **Conclusions**
 - ISLP – International Statistical Literacy Project
 - Challenges

Reija Helenius 19.11.2007 2




Statistical literacy requires practice just as ordinary literacy does

- Statistical modes of presentation on the increase
- Numerical information is flooding through the media
- Statistics are needed in everyday activities




Reija Helenius 19.11.2007 3



What is statistical literacy?

- An understanding of:
 - social and economic concepts
 - statistical methods and parameters
 - the research process
 - the mode of presentation
- The ability to use numerical information in everyday life, work and decision-making

Reija Helenius 19.11.2007 4




Statistical literacy is an ability ...

- ... to understand
- ... to critically evaluate
- ... to appreciate the contributions of statistical thinking

■ According to Katherine Wallman


Reija Helenius 19.11.2007 5



Statistical literacy requires practice

Basic literacy concerns all	More in-depth information concerning most of us working in the information society
Understanding basic statistical concepts and parameters	Deeper understanding of statistical concepts and parameters, methods and the mode of presentation
Ability to use numerical information in every day life	Ability to use numerical information in work and decision making

Reija Helenius 19.11.2007 6

 *Statistics Finland*

The process of improving statistical literacy and the use of statistics

Advancing statistical literacy

- cooperation with users
- training services
- popularisation of statistics


Promoting the use of statistics

- communication and marketing
- information services
- library services
- Internet services

Reija Helenius 19.11.2007 7

 *Statistics Finland*

How Statistics Finland develops cooperation with educational institutions, media and libraries



Reija Helenius 19.11.2007 8

 *Statistics Finland*


Educational institutions – a multidimensional field for cooperation

■ Aims:

- to enhance socially responsible activities
- to raise future information users, decision makers and data providers
- to provide inputs to different teaching and researching programmes
- to attract recruits



Reija Helenius 19.11.2007 9


 *Statistics Finland*

Statistical information and its use is needed in educational institutions

■ Needs:

- Teachers need
 - continuing education
 - information on statistics, their contents and possible uses
 - ready-made exercises
 - databank of concepts
- Statistics support teaching and thesis work
 - Statistics, graphics and numerical information are an important part of background analyses, reports and studies


Reija Helenius 19.11.2007 10

 *Statistics Finland*


Channels for cooperation with educational institutions

■ Possibilities:

- With cooperation programmes: [universities](#)
- Through projects: [polytechnics](#)
- By presenting our organisation: [universities](#), [polytechnics](#), [vocational schools](#), [secondary schools](#)
- By developing web-based learning materials: [eCourse in statistics](#)
- By developing portals: [Tools for Learners](#)



Reija Helenius 19.11.2007 11


 *Statistics Finland*

The media as a disseminator of statistical information

■ Aims:

- Statistics are the base for reliable and objective dissemination of information
- Through the media statistics can be delivered extensively for people to use
- Citizens and others who need information
 - receive key statistical information from the media
 - build an image of statistics through the media

Reija Helenius 19.11.2007 12

 Statistics Finland

Statistics are the media's central information material

- Needs:
 - Statistics are an essential part of articles
 - Reporters need continuing new information on the society
 - Information is needed about different phenomena in different countries during different periods of time
 - With the help of statistics, information can be summarised, combined and compared
 - Reporters need skills to present information in an understandable form

Reija Helenius 19.11.2007 13

 Statistics Finland

Channels for cooperation with the media


- Possibilities:
 - Active contacts and interactive cooperation
 - Supporting the use of statistics
 - developing the contents
 - producing effective Internet services
 - methodological information on the web
 - training and personal consulting
 - Developing the popularisation skills of specialists

Reija Helenius 19.11.2007 14


 Statistics Finland

Libraries as information centres

- Aims:
 - to disseminate statistical information world wide
 - to advise on information searching and using statistics
 - to archive materials




Reija Helenius 19.11.2007 15

 Statistics Finland

Libraries give everybody access to knowledge

- Needs:
 - Ensure that everyone gets the information they need free of charge
 - Statistics are easy to use
 - in terms of contents
 - technically
 - Completeness of information

Reija Helenius 19.11.2007 16

 Statistics Finland

Libraries of statistics – open access to information

- Possibilities:
 - Library of Statistics
 - Data searches from different statistical sources
 - Web services, databases
 - Instruction in the use of the library and statistical sources world wide
 - Lending services
 - Information management

Reija Helenius 19.11.2007 17

 Statistics Finland

Development of services for the users
Case examples



Reija Helenius 19.11.2007 18

Statistics Finland

Possibilities to disseminate e-learning materials by the Internet

- **Open distribution**
Social responsibility
- **Restricted distribution**
Customer orientation

Basic information related to statistics can be freely used by all in need of information

To a restricted target group as tailor-made services to users or partners

Reija Helenius 19.11.2007 19

Statistics Finland

Statistics Finland's eCourse in Statistics - e-learning material on statistics

- Aimed at web users, free of charge
- 9 courses, lists of concepts, exercises, links
- Gives a general view of statistics: familiarises with basic concepts and research methods
- No previous knowledge of statistics required

Reija Helenius 19.11.2007 20

Statistics Finland

eCourse in Statistics learning materials

- Introduction to statistical literacy
- Introduction to statistical methods
- How to use data sources
- Demography and population statistics
- Labour market statistics
- Economy statistics
- Indices
- Statistical theme map
- Statistical graphics

Category	Share (%)
Public services	32.4%
Business services Finance and Insurance	13.8%
Trade	15.3%
Industry	19.1%
Transport	7.5%
Construction	6.1%
Agriculture	4.2%
Unknown	1.7%

Reija Helenius 19.11.2007 21

Statistics Finland

Business Statistics training programme

- Web-based learning material on business statistics
 - focus on entrepreneurship
 - approaching the process of starting a business through statistics
 - web material will be produced in cooperation with the users
- Training sessions on business statistics

Reija Helenius 19.11.2007 22

Statistics Finland

Internet portal for educational institutions


- Internet portal for students and teachers: **Tool for Learners**
 - guide to the general information on our website
 - pages on data searching, teaching, learning, and leading an educational institution
 - statistics and statistical services by topic

Reija Helenius 19.11.2007 23



Statistics Finland



Best existing practices as our model

Reija Helenius 19.11.2007 24

 *Statistics Finland*

Conclusions




 *Statistics Finland* 

International Statistical Literacy Project (ISLP)

- ISLP is a project of IASE, whose main aim is to [give information and resources on statistical literacy](#)
- Project has developed series of web-pages from primary/elementary school through adult learners
- National statistical offices have their own web-pages containing
 - Descriptions of the training programmes and learning materials produced by 27 national statistical offices


Reija Helenius 19.11.2007 26

 *Statistics Finland*

Keep it simple - how everyone can understand statistics

- Checklist for national statistical offices producing web-services
 - Present easy definitions linked to the statistical data
 - Avoid difficult statistical terminology
 - Tell how the information has been compiled
 - Use standardised and clear graphics and tables
 - Offer opportunities to learn and exercise on the web

Reija Helenius 19.11.2007 27

 *Statistics Finland*

To sum up

- Statistical literacy is needed just as ordinary literacy is
- We need to support open communication and dissemination
- We can develop customer work together with users
- We should take advantage of networks and new technology

Reija Helenius 19.11.2007 28

 *Statistics Finland*

Thank you!

Reija Helenius
Head of Development, Information Services
Statistics Finland
email: reija.helenius@stat.fi
tel. +358 50 386 3309
www.stat.fi

