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SEMINAR ON HUMAN RESOURCES AND TRAINING  
SESSION II

Towards customer-oriented training at Statistics Finland<sup>1</sup>

Submitted by Statistics Finland

I. INTRODUCTION

1. One of the basic functions of a statistical office is to advance the use of statistics in society. Statistics serve equally decision-making, research and ordinary citizens. Understanding and efficient use of statistics requires statistical literacy and user skills. Statistical literacy means the ability to understand statistical principles and regularities, concepts and methods (see e.g. Gal 2002, Wallman 1993, Watson 1997). Each citizen needs the basics of statistical literacy to understand everyday information flooding through the media. Most people in the information society also require more profound statistical knowledge for collecting, compiling and reporting information as well as for interpreting information and decision-making.

2. Statistical offices have various ways in which to advance the use of statistics, for example by developing easy-to-use products and services, by utilising various distribution channels and by efficient communication. One major way is to train customers.

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<sup>1</sup> This paper has been contributed by Reija Helenius, Statistics Finland.

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3. The objective of Statistics Finland's customer training is to further statistical literacy and usage skills and increase people's familiarity with Statistics Finland's products and services. Training services are offered both as charged ready-made courses and as free seminars and online materials. Statistics Finland's eCourse in Statistics has become a very popular service that functions as an open learning environment on the Internet. Statistics Finland also aims to promote the use of statistics by networking with its key customer groups that distribute statistical information, such as educational institutions and the media. They offer a multi-dimensional network for disseminating statistical information. Compiled publications and periodicals are also used to communicate statistical information in an easy-to-understand way to all those needing information.

## II. SERVICE OBJECTIVES DERIVED FROM THE STRATEGY

4. Statistics are generally considered public commodities and they should be made available free of charge to those in need of information. In addition to this, new, innovative products are being constantly developed as charged services.

5. Customer training – as well as any other service development – is based on Statistics Finland's mission and strategic objectives. Statistics Finland's mission is to combine statistical data and expertise into statistics and information services for the needs of society, to promote the use of statistics and to develop the national official statistics. Strategic objectives derived from the customer perspective include creation of a positive public image, development of statistical services for customer needs and utilisation of information networks as the main distribution channel.

6. The reference framework used in Statistics Finland's customer work is the Customer Relations Management model, which is based on customer segmentation, knowledge of customer needs and product development derived from the needs. Statistics Finland's main customer segments are enterprises, local government, central government, research institutes, educational institutions and organisations.

7. One of the objectives of Customer Relations Management is partnership with the customer. In this way products can be developed to serve the ends of both the customer and the information provider.

## III. STATISTICAL LITERACY AND USER SKILLS TAUGHT IN CUSTOMER TRAINING

8. Statistics Finland has been arranging chargeable customer training already for 20 years. Customer training originated from customer demand. Training was first arranged for local government employees and demographic statistics were then in focus. Now customer training covers all statistical topics and customers from all customer segments take part in the training provided. Around 30 courses are arranged every year on statistical methodology, sources of statistical information and topical themes (e.g. the state of the economy, consumption trends, unemployment, ageing).

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9. The Customer Training unit is in charge of the training. The unit prepares the course programme for each spring and autumn and plans the courses together with Statistics Finland's experts. The courses are marketed by means of direct marketing, Statistics Finland's periodicals, homepages of statistics and other co-operation partners, email lists, letters to members of different associations, fairs and events. Tailored training is also arranged for various organisations. Such training is mostly offered about statistical methods and how they could and should be applied to each organisation's statistical needs.

10. Most of the training events last one or two days. Some of the courses are given as multiform training, in which besides classroom teaching, the course includes web learning periods, during which students study in a guided e-learning environment together with other students. In 2002 Statistics Finland introduced a new learning environment application, OppiNet. The OppiNet e-learning environment allows group discussions and exercises and interaction between the students and the teacher.

11. In 2005, of the 500 course participants 37 per cent came from enterprises, 32 per cent from central government, 19 per cent from local government and 12 per cent from associations or other organisations. Typical course customers are employed in various research, education or communication tasks. The course instructors are Statistics Finland's experts, a total of 46 in 2005. In addition, specialists from outside Statistics Finland are used as instructors.

12. Feedback comments are collected from customers during each course. The feedback received is taken into account in developing the courses further. In 2005 the participants gave the overall grade of 3.93 to the course they participated in (scale 1 = poor, 5 = very good). According to Statistics Finland's Customer Satisfaction Survey, customer training was considered to produce the highest value for money of Statistics Finland's all products (Statistics Finland's Customer Survey 2005).

13. The most popular courses in 2005 were:
- (a) Statistical graphics with Excel;
  - (b) Basics of statistical graphics;
  - (c) Statistics Finland as provider of information;
  - (d) What new on the housing market;
  - (e) How to make a good data collection form;
  - (f) Market research;
  - (g) Basics of interpretation of statistics;
  - (h) PC-Axis product training.

#### IV. eCOURSE IN STATISTICS – OPEN LEARNING ENVIRONMENT ON THE INTERNET

14. In addition to chargeable courses, Statistics Finland has developed free eCourse in Statistics available on Statistics Finland's Internet service for all those needing statistical information. eCourse in Statistics instructs how to read and use statistics; it provides a tool for understanding basic statistical concepts, for interpreting statistical information and for understanding the use possibilities of statistics. eCourse in Statistics also contains a number of examples from actual statistical data. Concrete examples can be used to illustrate how various



everyday things are compiled into statistics and how statistical information can be exploited in everyday life.

15. eCourse in Statistics also contains exercises intended for self-study. The exercises can be used to assess one's knowledge of different statistical concepts or to practise how to calculate and interpret statistical figures. The exercises are multiple choice or discussion exercises. Statistics Finland's own data are used in part of the exercises, so the learning environment also has data-based exercises.

16. The course can be used in upper secondary studies as support material for mathematical and social subjects or in tertiary education as orienting self-study material. The course is appropriate for all needing statistical information at work. In addition to customers, Statistics Finland's personnel make use of eCourse in Statistics as part of job orientation, for example.

17. eCourse in Statistics was launched in 2001 on the basis of the measures presented in Statistics Finland's competence strategy. Development of web teaching coincided with Statistics Finland's need to diversify its training services and products in customer and personnel training. The idea was to link the learning material also to Statistics Finland's other products and services, by which people's familiarity with Statistics Finland's services could increase more generally.

18. Statistics Finland's top experts have prepared the modules for eCourse in Statistics. One of the main reasons for developing this web-based course was the desire to transform the knowledge of the best experts into shared competence. The modules were produced as multi-professional teamwork and Statistics Finland's statistical experts, educators, graphic designers and Internet experts were involved in their implementation.

19. At the moment eCourse in Statistics has the following nine modules:

- (a) How to read and use statistics;
- (b) Search for statistical information;
- (c) Introduction to statistical thinking;
- (d) Demography and population statistics;
- (e) Labour market statistics;
- (f) National accounts;
- (g) Indices;
- (h) Thematic maps;
- (i) Statistical graphics.

20. The learning material consists of modules that are divided into lessons and lessons into topics. It also has examples and exercises. Apart from the exercises, the learning materials were produced using Statistics Finland's normal Internet publishing system (FastWeb).

21. eCourse in Statistics is one of the most popular of Statistics Finland's services and it constantly receives positive customer feedback. In 2004 eCourse in Statistics took part in an e-learning product competition arranged by the Association of Finnish eLearning Centre. Nearly 40 Finnish e-learning products, services or activities entered the competition. eCourse in Statistics was among the top ten as the only public administration service product, and it received commendation in the competition.



22. eCourse in Statistics is available in both Finnish and English. Appropriate parts of the course were translated into English, because Finnish educational institutions have a growing need for English learning materials. eCourse in Statistics has also aroused interest in the statistical offices of many countries. The English version is available at [http://tilastokeskus.fi/tup/verkkokoulu/index\\_en.html](http://tilastokeskus.fi/tup/verkkokoulu/index_en.html).

## V. FUTURE STATISTICAL EXPERTS TRAINED IN CO-OPERATION WITH EDUCATIONAL INSTITUTIONS

23. Statistics Finland started systematic development of services for educational institutions in 2002. Educational institutions are one of Statistics Finland's strategic customer groups. Co-operation with educational institutions makes it possible to develop educational contents so that statistics are also taken into account there. Training of teachers has a key role in this, because educational institutions raise future users of statistics, decision-makers and data providers as well as producers of statistics.

24. Statistics Finland has placed educational institutions into the following sub-segments:

- (a) Universities and institutions of higher education
- (b) Polytechnics
- (c) Vocational education
- (d) Upper secondary schools
- (e) Comprehensive schools
- (f) Early education, and
- (g) General education.

25. At the moment the co-operation focuses on universities and institutions of higher education, polytechnics, upper secondary schools and comprehensive schools. The long-term intention is to extend the measures to all education sectors.

26. This year a website was opened on Statistics Finland's Internet pages for educational institutions, which has services directed specifically to them and a selection of other useful services and products produced by Statistics Finland from the perspective of educational institutions. The website has received very useful comments from teachers and numerous suggestions for improvement, which will be taken into account in further work on the website.

27. Marketing of products and making them familiar are important. Statistics Finland markets its services to educational institutions by email and direct marketing, by taking part in fairs, by writing articles to educational periodicals, by arranging customer events for educational institutions, and by networking with various actors in the teaching sector, such as with the unions of teachers of mathematics and of history and social sciences. Co-operation has started with the associations of head masters and principals. Statistics Finland's collaboration with Finnish universities is extensive and it is being developed further.

## VI. AN EXAMPLE: VIRTUAL STATISTICS PROJECT

28. In recent years Statistics Finland has placed particular emphasis on co-operation with



polytechnics within a separate project supported by the European Social Fund: **Virtual Statistics Project (VIRSTA)**. The project co-ordinated by Statistics Finland has produced e-learning materials and a number of courses for teachers together with three polytechnics in the Helsinki area (Helsinki Business Polytechnic Helia, Helsinki Polytechnic Stadia and Arcada Polytechnic) and the City of Helsinki Urban Facts.

29. The e-learning materials and courses produced for polytechnics teachers were based on a needs survey made to teachers of the partner polytechnics. The web materials of the VIRSTA project are primarily meant as further training material for teachers, but students can also use them for self-studies. The e-learning materials are available to all Finnish polytechnics through Finland's virtual polytechnics network.

30. The **Find statistics** e-learning material introduces the basics of searching for statistical information and directs to the major Finnish and international sources of statistical information. The service has links to Finnish and international statistical data available on the Internet. The service is also available in Swedish. The **Economic data** e-learning material guides the user to the most important Finnish and foreign sources of economic and business statistics and key regional and demographic statistics. The e-learning material has examples of how to set up a business and how to utilise statistical information in concrete situations. The **Statistical data collection** material instructs how to make a questionnaire-type inquiry and interview survey.

31. The central topics of the courses arranged for teachers have been teaching of statistical literacy and user skills, sources of statistical data, statistical methods and different statistical topics appropriate for the subject concerned. One of the main objectives has been to integrate statistics into teaching in a practical manner.

## VII. COOPERATION WITH THE MEDIA – DISTRIBUTORS OF STATISTICAL INFORMATION

32. The function of a statistical office is to produce understandable and easy-to-use statistics and instruct in the use of statistics and ensure that the background information related to the statistics are easily available to their users. It is particularly important to develop services and co-operation modes with the media, which as distributors of statistical information are essentially responsible for how people perceive and understand statistical information. The key service modes for the media include improvement of self-service possibilities on the Internet and provision of training services.

33. In addition to knowing the key data sources and the statistical concepts used there, journalists also need to be familiar with data collection methods and presentation modes, such as tables and statistical graphics. The hectic nature of journalistic work sets its limitations on presentation of statistical information; in all that rush, too little attention is often given to methods and concepts, and they will not be transmitted to those following the mass media.

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According to Statistics Finland's Public Image Survey (Taloustutkimus 2005), every fourth Finn of working age feels that it is difficult to understand statistical information.

34. Statistics Finland targets courses to journalists, which often focus by practical examples, such as newspaper articles, on what should be taken into consideration when making news from statistics and what are the most typical errors in news about statistics. Instruction is also given on statistical graphics and key concepts, and various service modes intended for journalists are introduced. In addition to training events, Statistics Finland's Director General invites representatives of different media to Statistics Finland every year. In this event journalists are told about particularly interesting statistics and topical issues connected to or described through statistics.

35. The feedback received from the training and visits has been very useful and it has helped to intensify co-operation with journalists and increase their readiness for self-use of statistics. The events also give valuable feedback to statistical experts on how to develop statistical products and services. It is important that journalists meet statistical experts and when necessary, they can contact directly the expert of each statistical topic when needing additional information.

#### VIII. SHARING OF EXPERIENCES AND LEARNING FROM BEST PRACTICES

36. Advancement of statistical literacy and user skills is a challenge for each statistical office. The educational content is the same for all statistical authorities: understanding of statistical thinking, statistical concepts, regularities and methods. The new technology enables learning from the experience of others and acquisition and distribution of open information on the kinds of services and learning materials that have been developed to support customer services of statistical offices. Statistics Finland's materials, which will also be translated into English and partly into Swedish, will be available worldwide to all those in need of statistical information.

37. Statistics Finland is involved in the international Statistical Literacy project co-ordinated by the IASE (International Association of Statistical Education), the sub-section of the International Statistical Institute. As a whole, the mission of the **International Statistical Literacy Project (ISLP)** is to provide those interested in statistical literacy with information and resources and to aid them in the development of statistical literacy around the world. At present the main focus of the project is on the development of a series of webpages that will provide users with resources that are useful for the development of statistical literacy at all levels from Primary/Elementary School through Adult Learners. There are also webpages for official statisticians and for journalists and the mass media. Further, there is a webpage devoted to useful datasets and a webpage listing statistical literacy projects, websites, and so on that have been developed by national statistical offices, national statistical societies and other non-profit organisations (<http://course1.winona.edu/cblumberg/islplist.htm>).

38. National statistical offices have their own webpages within the ISLP project: Descriptions and links to training programmes and learning materials sponsored by national and international statistical offices. Statistics Finland co-ordinates these webpages. At the moment, the pages contain descriptions of the training programmes and learning materials produced by 27 national statistical offices or international organisations. More information is added to the pages all the time. The general tendency seems to be that more and more is being invested in services for



educational institutions and different co-operation modes. The Internet and the web learning environment create increasingly better opportunities for this. Several statistical offices already offer e-learning materials through the Internet.

## IX. CONCLUSION

39. To succeed in advancing people's statistical literacy and use of statistics we have to develop actively various information distribution channels to inform and train our customers. Here information technology such as web-based training can be one effective solution.

40. Recognising customer needs and satisfying them is not, however, all that simple. We understand that we still have plenty of work to do to determine customer needs and then to adapt to these needs and apply them to product development.

41. But even statistical professionals need to be trained and updated constantly so that they are sufficiently prepared for customer-oriented product development. We do not suggest that we are experts yet, we are still in the learning process ourselves, but we do understand that our customers need alternative training services. Our training services, as well as in-house training and web-based training, must be simple and effective, as well as user-friendly in adoption. It is particularly important to learn from each other's experiences.

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