Development of experts and multi-skilled employees at Statistics Finland

Päivi Koivuniemi[1], Sara Tolkki[2]

[1] *Statistics Finland, Helsinki, Finland; paivi.koivuniemi@stat.fi*
[2] *Statistics Finland, Helsinki, Finland; sara.tolkki@stat.fi*

Abstract
This article discusses the development of experts and multi-skilled employees at Statistics Finland. We describe the professional identity groups of statistical experts belonging to the specialised part of Statistics Finland's Training Programme in Statistical Skills (TIKO), the steering process of team leaders conducted in 2014 to 2015, and the guidance to Statistics Finland's multi-skilled small groups to be started in late 2016, and the related development of exper-tise in line with the ESS vision. Coaching as a method for developing expertise is still new at our agency and its effectiveness has not been assessed separately. Coaching aims at learning together, building new knowledge, vision and understanding, as well as management of one's own work and expertise. Based on the feedback received, the objectives have largely been realised.

Keywords: development of statistical experts, multi-skilled employees, coaching, team leader, multidisciplinary teams

1. Definition of coaching

Coaching is researching, assessing and developing of one's work that takes place with the help of a trained coach. It is interpreting and analysing of questions, experiences and feelings related to work, the work community and one's work role together with the coach and/or a group. Coaching can take place between the person being coached and the coach or between a group and the coach. This article focuses on group coaching.

Coaching is a learning process that seeks solutions to improve the fluency of work and promote professional learning. An objective, schedule and rules are determined for the coaching to which the group commits. It is important to create an open and confidential

atmosphere where all parties participate in the work, each from their own viewpoint but together and striving towards the same goal.

Solution-focused coaching puts emphasis on customer orientation, ambition and future orientation, consideration of progress, positiveness, permissiveness, as well as cooperation and encouragement.

2. TIKO and the professional identity groups of statistical experts

Statistics Finland's core competence and professional skills of experts have been enhanced with Statistics Finland's Training Programme in Statistical Skills (TIKO) since 2007. The training programme comprises a basic part and a specialised part. The basic part is part of the orientation of new recruits. The specialised part is further training for statistical experts to supplement professional competence and it lasts for 1.5 years. This examines the specialised part.

The objectives of the specialised part from the organisation's viewpoint are to

- Ensure a high-level of statistical professionalism among the personnel
- Strengthen uniform procedures in statistical work
- Increase learning from one another and cross-statistical cooperation
- Support competence sharing between statistical experts
- Create conditions for internal mobility of the personnel

From the viewpoint of the statistical expert, the objectives of the training are to

- Diversify expertise related to the production process of statistics and its various stages
- Increase knowledge about various statistics produced at Statistics Finland
- Enhance knowledge about social phenomena that statistics describe
- Extend collegial interaction and networking between statistical experts

Enable statistical experts' development and strengthening of one's professional identity

The specialised part has five periods, one of which focuses on the professional identity of statistical experts. The specialised part is described in more detail in Appendix 1.

The period focusing on the professional identity of statistical experts is in the middle of the training. The period includes six group meetings and six themes. The groups consist of five to eight students. There are usually two coaches. The methods of solution-oriented coaching and positive psychology are used in group coaching: coaching is goal and future-oriented, focusing on resources, appreciative and is situation and group-based. Coaching supports group reflection and personal reflection of each group member on the themes of the discussions.

The process starts with one's own work and describing it, one's own profession and whether it includes professional characteristics. Expertise is approached through learning and doing: what skills I have and what I learn in my work. At the end of the process the focus lies on the content of expertise and on how it is built, developed and changed, and on how it manifests itself in the culture of the workplace and ways of working. Coaching supports one's own and the group's reflection.
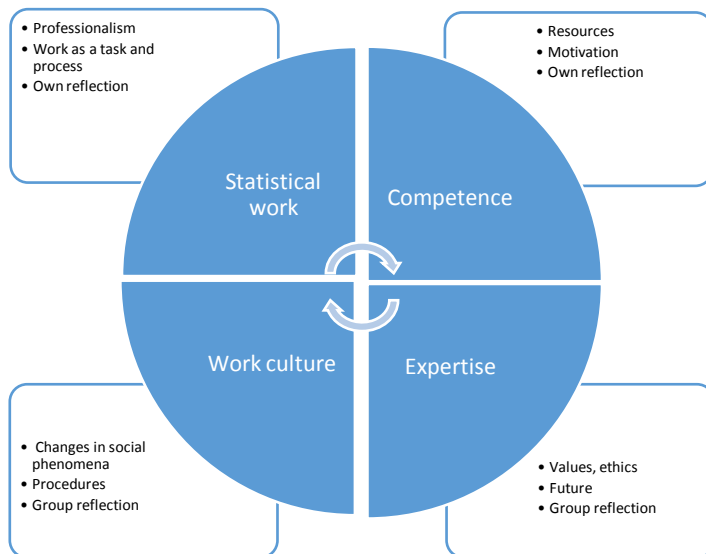

- Professionalism
- Work as a task and process
- Own reflection

- Resources
- Motivation
- Own reflection

Statistical work

Competence

Work culture

Expertise

- Changes in social phenomena
- Procedures
- Group reflection

- Values, ethics
- Future
- Group reflection

Figure 1. Coaching as a whole.

The group members prepare for the meetings by considering the themes with the help of questions sent in advance.

Theme	Questions to consider in advance
Me and statistical work	How did you become a statistical expert? When where your main current abilities formed? Where do you gain motivation and strength for your work? If you meet a new person outside work, what do you tell them about a) your work and b) Statistics Finland?
Statistical professionalism	Definition of professionalism: is statistical expertise professionalism?
Competence and learning in statistical work	What are you good at? In what situations have you learned most? What challenge would you like to take in your work?
Characteristics of expertise	What is expertise? How do you become an expert? Virtues of expertise are...?
Being a Statistics Finland employee and organisational culture	At Statistics Finland we feel that...
Changing statistical work	What does the future of statistical work look like? What kinds of changes does this require in our activities? How do you see yourself in future statistical work?

Table 1. Themes and questions to consider in advance.

After the last meeting, everyone writes a short description of what thoughts the group reflections have resulted in as a final assignment. The coaches compile the final assignments into a summary that is handed out to everyone.

The themes are partially intertwined and overlapping, which makes them challenging. In the groups, different aspects of professionalism and expertise are analysed and compiled under coaching, the practices of expert work are considered and support is given to expertise based on the values, professional ethics, self-motivation and internal objectives of work. The objective of coaching is first and foremost to fortify the experiences of meaningfulness of one's work, motivation and a culture of doing things together.

The contribution of group discussions is that you hear and can share different thoughts and viewpoints of your work and its requirements. Multivoiced opinions increase understanding

and expand one's viewpoint: there is, for example, not one truth about statistical expertise. The coaches support various viewpoints arising within the group.

Here are some group members' thoughts about the professional identity of statistical experts:

- Statistics are born in cooperation between many different experts. These experts are connected by working with statistics and their production processes, which makes them experts in statistics.

- A statistical expert can conceive the whole and is aware of the problems and shortcomings of the statistics. He/she understands the limitations of data. As expertise is strengthened, confidence in doing one's work also grows.

- I am multi-talented in data management, data production, data processing and information services, not a statistical expert. One of the rewards of statistical work is its versatility.

- Statistical expertise requires competence in several different work stages and monitoring of social phenomena.

- At Statistics Finland, expertise manifests itself, for example, as ensuring statistical quality, transparency, values and ethics, a good working environment and working relationships.

- Statistical expertise is not necessarily much recognised or visible outside Statistics Finland.

- I have learned quickly and most in change situations. The best way to learn is by doing. I have started to consider what I can do in my work in order to continue developing and increase my expertise.

- Reflection over one's strengths and challenging situations provides motivation and strength for work.

- Reflecting over my own work has helped notice a change in myself and in the confidence I have conducted my work with in different times.

- Working at Statistics Finland is a source of professional pride.

- Statistics Finland seems a relatively happy place to work at.

- How does automation affect statistical work? Will the work become easier or more complicated, will users' expectations grow as a result of automation, will the work perhaps become more international? The level of automation will increase the amount of data from various sources, data scientists are likely to be needed in future.

3. Statistical experts as team leaders

There are a number of roles in the work of a statistical expert. At Statistics Finland, three such roles have been identified: expert, developer and team leader. They are partially overlapping and complement each other.

Here, we examine the statistical expert as a team leader. The expert task that typically focuses on process and content know-how and their development expands to team leading and related supervisory tasks and know-how. At Statistics Finland, team leader work is not usually full-time work: in addition to team leading tasks, the team leader performs independent expert work, as well as project work related to the development of production processes and statistics often as a project manager.

Process competence:
- Masters the work stages of the statistics/statistical system and the related quality criteria.

Content competence:
- Masters the social phenomena described by the statistics and the related challenges.

Supervisory competence:
- Has the ability to communicate about and organise the team's tasks in accordance with the goals.

Team competence:
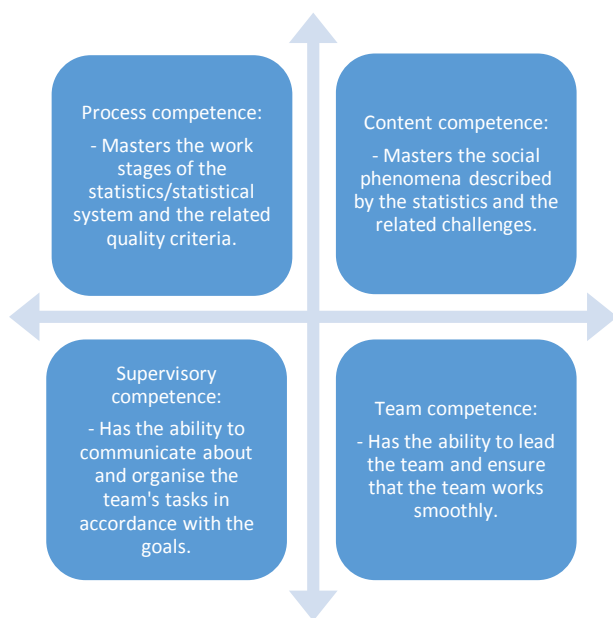- Has the ability to lead the team and ensure that the team works smoothly.

Figure 2. The statistical expert's competence areas as a team leader.

At Statistics Finland, the role of a statistical expert as a team leader has been managed in groups led by a solution-focused supervisor. This has been necessary because the tasks and responsibilities of team leaders and teams are not defined in the agency's management system but they are formed based on the practices and needs of the department in question.

Statistics Finland's activities are arranged into departments that are headed by department directors. The departments are large so they have been divided into units that are headed by supervisors. The supervisor can further arrange the unit's tasks into teams. This is often the case, if the supervisor's unit is large in terms of activities and personnel. Management is based on management by results and a coaching management approach. Process management improves operational efficiency and supports uniform procedures.

Teams are seen as a flexible way to organise activities, for example, production of statistics. The objective and task of teams in this case is to produce the agreed statistics and solve the questions concerning production and content related to their production. The team leader is responsible for the team completing its tasks on time. The team leader also participates in meetings headed by the supervisor where the team's work situation and other topical issues related to production are discussed. In addition, the team leader participates in planning and developing the activities of the unit in accordance with the agreed practices of the unit. The cooperation between the team leader and the supervisor is shared management where they together ensure that production goes well and there are sufficient resources and know-how for production.

When the coaching started in 2014, Statistics Finland had 50 teams and 25 team leaders participated in the coaching. There were four groups. The objective of the coaching was to support the statistical expert in the role of team leader and to clarify the team leader tasks. The starting point for the coaching was that the team leader is a senior expert whose tasks include, in addition to extensive statistical expert work, supervisory work and responsibility for the smoothness of team activities.

The themes of coaching were the position of teams in the organisation, key tasks and responsibilities of team leaders, cooperation between team leaders and supervisors and its content, questions related to the fluency and functionality of team work, and different kinds of teams and their challenges in changing statistical work.

Themes	Questions to consider in advance
The position of teams in the organisation	Tell about your team and its basic tasks What are the hot topics concerning teams?
Team leader's tasks and responsibilities	Tell about your own experiences as a team leader What do the team and your supervisor expect from you? What have your successes as a team leader been? What do you need clarity with?
Cooperation between the team leader and supervisor	In what issues do you cooperate as a team leader with your supervisor? How is this cooperation organised? How and on what issues do you notify your team and cooperation partners?
Working team	Forming of the group and smooth cooperation, how it is built What are the rules of a working team? How do you assess the smoothness of your team's activities?
Teams and changes in statistical work	How is process management visible in team activities? Teams as a node of production management and data There are different types of teams

Table 2. Themes and questions to consider in advance.

The coaching highlighted, for example, the following issues:

- Diversity: different teams have different objectives, tasks and rules. The team leader can, together with the team and supervisor, agree on the practices for the activities.
- The primary task of the team leader is to ensure the flow of information and make production smooth.
- Ensuring the flow of information is networking (information must flow between the supervisor and team leader, within the team and, for example, between the various actors of the different process stages). The team leader is at the node of core activities and that relevant information in terms of production is conveyed.
- In making production smoother, task coordination is essential. This is planned together with team members and is part of daily cooperation.
- The team leader creates team spirit by being positive about changes and the future.
- Working as a team leader is one role in expert work. The working hours spent on team leading is agreed with the supervisor in target and appraisal discussions.

4. Multidisciplinary team work

In today's statistical work, expertise is needed in a wide variety of areas. Statistics are born in collaboration between many experts and a common language and understanding is needed on what the objectives are. However, it is hard to find single persons who would have sufficiently

extensive competence. Plenty of good experts in the statistical field can be found through whose cooperation a wide competence basis could be utilised. What makes it difficult, is that the experts are placed in different units, whose tasks and responsibilities have been differentiated from one another. New ways to work together, share know-how and learn across organisational boundaries are needed.

Due to changes and the diversity in data sources, one must also find ways to analyse data together in new ways. Here, coached multi-skilled teams could be the solution: team members who all have different competence profiles and viewpoints originating from their task find a common language and learn to work together and solve problems.

Means of target-oriented coaching can be used to promote cooperation of various experts and solve topical challenges. At the moment, the acute topics we will advance in coaching are:

- Promoting the coverage of statistical information in social media, where we combine competence in topic areas and competence in IT and communication;

- Utilisation of big data, where we combine competence in statistical methods as well as competence in topic areas and productisation;

- Production of new services, where we combine competence in product development, customer knowledge and statistical competence.

Appendix 1.

TPSS advanced studies				
Module 1: **Introduction** 0. Orientation to studies I. Statistics and the society II. High-quality statistics production	**Module 2:** **Statistics production** I. Operating environment of statistical work II. Planning of statistics III. Data collection IV. Editing and analysis of data V. Presentation and publication of statistics	**Module 3:** **Statistical Information Services** I. Service concept I: SF's ready-made products II. Service concept II: SF's expert services III. Good practices of statistical information services IV. Information services in a changing world V. Successful service situation VI. Practical training	**Module 4:** **Professional identity of a statistical expert** I. Statistical work and I II. Statistical professionalism III. Skills and learning in statistical work IV. Hallmarks of expertise V. Being part of SF and organisational culture VI. Statistical work in transition	**Module 5:** **Objects and contents of statistics** I. Prices and costs II. Enterprises III. Labour Market IV. Population V. Living Conditions VI. Environment and natural resources VII. National accounts
(Term 1)	(Terms 2 and 3)	(Term 4)	(Terms 2 and 3)	(Terms 2 and 4)
Practical work assignment: Statistical Auditing				(Term 4)
Final assignment				(Term 4)