**Sensibilization on quality at the training center of the French National Statistical Institute**

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**Abstract**

*In the training center of Insee (Cefil), the culture of quality is disseminated to the future staff of the NSI through a process of acculturation. Quality is omnipresent in all the courses and is presented to the trainees in various dimensions going from methodological to ethical dimension.*

*Different principles of quality are approached through study projects. For example, the project of concerted analysis of statistical tables demonstrates the necessity for the statistician to present the results of his works in a clear and understandable way. By organizing a forum, the skill transmission project emphasizes the importance of pedagogy. The statistical survey project places the trainees in situation to build a collection of data from scratch in order to answer to the request of a public actor. This exercise requires to use every skills of a collective, to meet the deadlines, to restore results in compliance with the statistical secret and to document the data. It teaches the trainees how to manage the impact of a data processing on the final result. The Cefil also offers a classic sequence on quality to the trainees but the education of the training center wouldn’t be efficient enough to the objective of professionalization if it dispensed only this sequence. Indeed, the support of quality is observed to be more induced by a daily behaviour than by a knowledge of an academic subject. Operating in project mode takes there all its interest. The approach of quality is thereby embedded in a holistic conception of the educational route of whom it is a component.*

**Keywords:** Quality culture, training, education, learning by doing

**1. The training center of the French national statistical institute**

*1.1. Missions and values of the CEFIL*

The CEFIL is a professional training center which contributes to the national training of the staff of the French NSI, INSEE, by conceiving and deploying trainings towards the new entrants and those who have been promoted. Therefore, the center is responsible for the initial training of the future middle managers of INSEE.

By its education, the CEFIL give to the trainees an approach and a professional posture, transmitting them the culture of the Institute, particularly in its ethical dimension. The quality requirement in the working activities is omnipresent in this process of acculturation.

The three values carried by the education delivered by the CEFIL put the appropriation and the transmission of quality requirement at the heart of the educational device :

**- identity** develops an attitude in compliance with the culture of the Institute, yet quality requirements are an integral part of this culture ;

**- sharing** allows the trainees to learn by explaining to the others and to transform the diversity of the profiles of trainees into an advantage rather than into an obstacle, yet sharing is a strong element of quality ;

**- involvement** which is the foudation of pedagogy for adults ; when involving themselves, trainees manage, in the projects, the level of quality of the services they are producing.

*1.2. Pedagogy of the CEFIL*

Educational methods developed at the CEFIL are inspired by pedagogy for adults, centered on trainees which are actors of their own training, developing individual and collective autonomy.

Mutualization, cooperation and mobilization of resources are developed during the implementation of projects. Teachings and contributions arrive when they are needed. Training programs deployed towards the trainees aim at **developing the attitude of the statistician**.

For a trainee, to develop the attitude of the statistician means to learn according to three axes :

* to acquire or to deepen knowledge (in statistics, demography, economy, on softwares, on the institute, and so on) ;
* to work according to an approach which respects rigor and objectivity ;
* to be a colleague, to play collective, to take a step back ;

Quality requirement plays a major role in this attitude. Trainees have to apply it through various projects.

**2. Sensibilization on quality in the training programs**

*2.1. Teachings on quality integrated into projects*

In its goal to professionalize the trainees, the CEFIL assumes that the support of quality is observed to be induced more by a daily behaviour than by a knowledge of an academic subject.

Adopting a project approach takes there all its interest. The quality approach is thereby embedded in a holistic conception of the educational program of whom it is a component.

▪ **The project of concerted analysis of statistical tables** on which trainees work individually and collectively on the demography of territories from a set of statistical tables and graphs. This project teaches and entails the trainees to write in a clear, rigorous and impartial way. Those are essential dimensions of quality in the communication of statistical results. It also formalizes collaborative working periods between trainees.

▪ **The skill transmission project** prepares the trainees to management. They act as tutors of other trainees-colleagues, relying on the pedagogy lessons they received. This experience of management is one of the skills expected of an intermediate manager who will have to identify and develop collective and individual skills of his - or her - team, to capitalize the acquired experience, to formalize and share processes of his - or her - team. Individually, it also allows him - or her - to be a referent.

In transmission of knowledge, we find several elements of a quality approach : instruction of a demand, organisation and planning of the relevant activities of transmission, timeliness, evaluation of the transmission.

▪ **The statistical survey project** where groups of a dozen trainees realize real surveys for public stakeholders, from the initial phase of identifying needs to the final step of presentating the results to the partners. This project endows trainees of several reflexes in compliance with the respect for a quality approach :

* exploitation of data to answer to a stated request ;
* mobilization and organization of all the skills of a team ;
* follow-up of the work progression ;
* planning and animation of follow-up meetings ;
* production of the process documentation (eg. methodological note) showing the importance of metadata ;
* respect of schedule deadlines, arbitration under constraint ;
* targeting of works, in particular to avoid the ”over-quality” ;
* controls and checking of collected data ;
* rigorous restitution of results in compliance with statistical confidentiality.

This project teaches the trainees how to manage collectively the impact of a data processing on the final result.

▪ **The project CO**, CO for communication and collaboration, consists in making the trainees think about their role in the Institute regarding to the network of collaboration they are taking part in. This project allows the trainee to approach the quality on its human and organizational dimensions by thinking individually and collectively about the network of collaboration to which each belongs : what this network brings to him - or her - and what he - or she - brings to the network.

All those projects take clearly into account several aspects of the quality that are expected regarding to the specific attitude and services of a statistician.

*2.2. Additional contributions on quality provided in trainings*

In complement to these projects, more academic trainings are provided in statistics, demography, economy, on softwares (Sas, R, or Open office), and so on. Missions of the INSEE, its works, its legal and institutional environment are also presented in the aim to educate the trainees about the culture of the NSI.

These trainings are an opportunity to present in other contexts the aspects of quality which have already been addressed, especially during the projects, or to mention those that weren’t.

At the end of each training program, contributions on quality provided in trainings and projects are repositioned according to the principles of the European statistical code of practice. The following board shows an example in one program.

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| ***Institutional Environment*** |
| **Principles** | **Trainings and projects** |
| **Professional independence** | - Presentation of the governance of the French statistical system (presentation of the French Statistical Governance Advisory Board, the Public Statistic Authority)- Presentation of missions of the NSI- Presentation of the quality approach at the NSI |
| **Mandate for data collection and access to data** | - Phase of identifying needs of the survey project (with the rewording of a request into a questionnaire)- Presentation of the governance of the French statistical system (presentation of the French statistical Advisory Committee, the National Council for Statistical Information) |
| **Adequacy of resources** | Survey project with mobilization and organization of all the skills of a team |
| **Commitment to quality** | Presentation of the quality approach at the NSI  |
| **Statistical confidentiality and data protection** | - Presentation of the governance of the French statistical system (subject on statistical confidentiality)- Training dedicated to the management of statistical confidentiality- Phase of elaboration of dissemination products of the survey project- Training «  Response of the NSI to a request of a local public stakeholder» |
| **Impartiality and objectivity**  | - Phase of the results analysis of the survey project- Project of concerted Analysis of statistical tables |
| ***Statistical processes*** |
| **Principles** | **Trainings and projects** |
| **Sound methodology** | Phases of data collection, control and correction of the survey project |
| **Appropriate statistical procedures** | Survey project in its globality |
| **Non-excessive burden on respondents** | Phase of questionnaire design of the survey project  |
| **Cost effectiveness** | Survey project with mobilization and organization of all the skills of a team |
| ***Statistical output*** |
| **Principles** | **Trainings and projects** |
| **Relevance**  | Phase of identifying needs of the survey project (with the rewording of a request into a questionnaire) |
| **Accuracy and reliability** | Project of concerted Analysis of statistical tables |
| **Timeliness and punctuality** | Respect of the deadlines within all projects  |
| **Coherence and comparibility** | - Phase of data mining of the survey project - Project of concerted Analysis of statistical tables |
| **Accessibility and clarity** | - Phase of documenting the data and preparing the result restitution of the survey project- Project of concerted Analysis of statistical tables |

**3. Quality approach in the work of the teaching staff**

Quality approach is also present in the training center in the functioning of the teaching staff. Indeed, the CEFIL is committed into an approach of continuous improvement of the quality of educational activities. This approach includes four main dimensions :

▪ regular reviews to maintain and develop educational programs, by educational assessments and regular meetings of the teaching staff ;

▪ a referenced and updated documentation, accessible to the trainers on a dedicated IT platform, and an Intranet site for the survey project ;

▪ a continuous professionalization of the teaching staff, by an individualized program of integration of the newcomers, followed by workshops of analysis of practices, frequent training-shares and continuous collaboration ;

▪ teachings which meet the identified needs of the Institute. Those are transformed into educational objectives and end in programs the coherence of which is assured by a guiding principle : to develop the statistician attitude.