

Organizational Context Analysis *Template*

The mission of your organization, and how training contributes to this mission

- *A general statement about the mission of the organization of which your department is a part*
- ✓ NATIONAL WEATHER SERVICE of Argentina must observe, understand and predict weather and climate in the country, adjacent ocean areas and the Antarctic area in order to contribute to the protection of life and property of its citizens and to the sustainable development of the economy.

Stakeholders

- *Who are your primary and secondary stakeholders?*
- ✓ Primary stakeholders are the users of forecasts of weather and climate, for use in aviation, agriculture, industry, security alerts intense phenomena, climatic monitoring, climate change, daily activities, etc.
- ✓ The secondary, are researchers who use the data to develop numerical models, statistical, climatic, mesoscale, etc.
- *What audiences of learners do you serve?*
- ✓ Our primarily audience is new meteorological observers, because right now, most observers are near retirement; we need to fill these positions with people trained in new methods of observation, the use of digital instruments, information of satellite images covering, in the whole country.
- ✓ The secondary audiences are people who somehow relate to meteorology. For example, engineers, biologists, geologists, chemists, etc.
- ✓ We are developing a course in data interpretation of climate trends for users performing tasks in agricultural areas.

How you promote your education and training services

- *Strategies you use internally and externally to promote your services within and outside your organization*
- ✓ *To promote our courses internally and externally, we use media such as emails, web pages SMN / WMO, Facebook, videoconferencing, Skype, telephone, radio and television*

interviews, participation in educational events, conferences, guided visits to different areas of Weather Service and so on.

Factors causing change in your organization

- ***What political, economic, social, and technological changes determine what your organization will be doing in the near future?***

- ✓ Political: the new director of SMN is a person of great experience in the University, thus generating significant strategic changes in the area of education, turning it into a priority.
- ✓ Economic: for education to be considered a priority, higher budget is managed to address the needs of the institution, which allows implementing new technological resources (Moodle), and hiring full-time and part-time professionals in training.
- ✓ Social and technological: Unification of technologies throughout the country to ensure that the access to training is simultaneous, and with the same level in all sectors.

The main problem is that until now, all areas of the Service, particularly those involved in observation, processing, use of data on weather forecasting, climatic monitoring, research, etc. have been working in separated areas. The employees receive an on-the-job training. There is not a unified, systematic and integrated training. The Training Department (TD) is trying to integrate these sectors right now.

Trends in education and training the impact you

- ***Which trends are you adapting to or implementing for how you conduct training?***

- ✓ Current technological resources have changed the concept of education, which allow us to conduct a more holistic development training, Internet use for distance learning courses in Moodle, MOOC, videoconferencing, and the vast expansion of mobile applications, to name a few.

For that reason we have started our teaching on that path, implementing Moodle courses on our own server, also experiment in areas such as the use of simulators for training and assessment.

Your strategic learning plan

- ***Do you have a strategic learning plan? If so, share how it describes your strategy for meeting organizational goals.***

- ✓ The Training Department has designed a course for observers. It is an 18 months course, Blended modality. The theoretical subjects and activities are performed in Moodle, and observation practices are carried out in more than 50 stations distributed throughout the country. This course is carried on by a strong tutorial support - in 2015 we have 180 participants and 30 tutors. To select the participants, the TD develops an assessment before the course, in order to determine the level of knowledge of participants and generate

an order of merit according to the vacancies of each meteorological station where they perform practices.

- ✓ It is common for researchers to generate new resources that are not applied operationally, wasting knowledge and the possibility of profound advances. The learning experiences are done on-the-job, in each area; forecast, climate, agro, etc., and are not shared. One of our strategies to solve this problem is to include professionals, students, researchers, technicians and staff with plenty experience, in the processes of learning, in a part-time mode, as: Tutors in the observer course, where they can see the reality of the stations, the observers and the instrumental. In this way, they generate new points of view when using data for weather forecast, research and reports, creating another engagement with their activity. They also participate in teams to verify forecasts with the use of new technologies, simulators and conceptual models in operational practice.

Facilities and technologies

- ***What key facility and technological decisions have you made recently? Are they delivering the benefits anticipated? Why or why not?***
- ✓ We implemented our own Moodle platform for designing courses, and as a learning management system. This has allowed us a breakthrough in the last two years. In the first instance we had to learn to use DL resources, and this helped us to consolidate as training department.
- ***What new changes in facilities or technologies do you anticipate making in the near future?***
- ✓ In the near future we will be using conceptual models in simulators for training and assessment.
- ✓ I believe that the use of applications on mobile phones is one of the most important technological advances for the development of forecast discussions.

How do you ensure the quality of your services?

- ***List the procedures you have in place for quality assurance.***
- ✓ *By using the Kirkpatrick model we implement levels 1 (reaction) and 2 (learning):*
 - Reaction: with a quiz.
 - Learning: Objective and subjective tests.
- ✓ *Levels 3 (behavior) and 4 (results) are taken sporadically.*
- ***With continued learning process evaluation and assessments.***

- ✓ The Quality Control Division carried out the verification of the Metar messages; and after the Moodle course, a significant reduction of errors was checked.

- ***With forecasting evaluation.***

- ✓ The research department makes the verification of numerical forecast models.
- ✓ The training Department does not get any data about forecasting evaluation.

The problem is that they work in long term periods, shifting every 12 hours, and they have no frequent communication with each other. This complicates the training because it's very difficult for all of them to work in groups. There is also a great distance between the sites where they work in; Argentina has more than 5,000 km long. There is much resistance among the older observers to integrate the new technologies and developments, such as numerical forecasts and new satellite imagery.

Example