

Choosing the learning solutions for an aeronautical forecaster training

In this example, a learning solutions analysis was conducted using three types of criteria: practical, learning needs and pedagogical values. The main aspects to consider when doing the analysis for this case are listed in the scenario below.

Scenario: Aeronautical Forecaster training

- Students must master job competencies for forecasting aviation hazards, including severe convection, turbulence, fog, and volcanic ash.
- Training must prepare them to meet certification requirements within 2 years.
- Training is required by 60 students in your country or region.
- It is estimated that more than 30% of those uncertified have work experience of less than one year.
- Two trainers are available for this project for three months each year.
- The training staff have never used distance learning, although they have been exposed to it. They are familiar with MetEd and EUMeTrain e-learning modules.
- Few students have used distance learning, but all are knowledgeable about the Internet.
- Budget can support no more than 15 persons to travel to the training center once a year, for one week.
- Students work in several offices up to 750 kilometers from the training center.
- Additional content expertise is available in the organization, and can be provided for 1 month.
- 40 hours of online distance learning resources have been identified as useful for the required training.
- A classroom is available.
- Aviation forecasters in your region currently gain most of their advanced knowledge and skills on the job, working with more experienced forecaster

Practical Criteria identified

- Certification is required in 2 years
- 60 students require training
- Students are dispersed across 5 locations
- 2 training staff can devote 25% of their time to the effort
- An additional in-house content expert can devote less than 10% of their time
- The budget will allow us to bring 15 students to the training center each year
- Many online resources are freely available
- We have a classroom available

Initial ideas 1

- Classroom training can be used, but it will reach only 50% of the students in time if it is the only solution used
- It is a major project to which we can devote a high percentage of our time, and bring in an additional expert.
- Distance learning could be used to reach more people.
- Many good online resources could be applied to the training solution. We need to make sure that everyone has access to these.

Learning Needs Criteria identified

- Forecasting competency are complex, requiring understanding of meteorological phenomena and forecasting techniques, including data applications.
- Nearly one third the students have little forecasting experience.

Initial ideas 2

- Training will require a lot of practical exercises to prepare participants for making forecast decisions. Guidance for these exercises by experts would be useful.
- The training will also include knowledge of atmospheric processes related to the hazards.
- Communication skills (issuing forecasts) are also important
- Maybe a blend of classroom and distance learning would help reach more people and accomplish the objectives.
- It is good that many resources are available that can help with the objectives.

Pedagogical Values identified

- Trainers are oriented more toward classroom approaches. They may be unsure about distance learning.
- Students have not used distance learning, and may be uncomfortable using it.
- On-the-job training is a well-established learning solution.

Initial ideas 3

- A blend of classroom and distance learning is called for. The classroom training can focus on practicing skills.
- Perhaps we can use experts in the local offices to help provide some of the practical training as well.
- We will use MetEd and EUMeTrain resources to address some of the background knowledge, and some of the skills as well. We can augment that with some online training of our own that is focused on our specific needs.