CAN SAFETY BE TRAINED?

The priority given by air traffic controllers and air traffic service personnel to safety is powered by two factors: personal experience and beliefs and influence from within the peer group. The best time to start imposing safety is during initial training.

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Training air traffic controllers (ATCOs) and air traffic service (ATS) personnel represents the cornerstone in building future airspace management and safety systems. It begins with recruiting the right talented ab initio students and continues through to training experienced ATCOs to be on-the-job training instructors, assessors or examiners. Supporting air navigation service providers’ (ANSPs) training requirements has far-reaching implications and equates to much more in reality. Training is in fact supporting their safety culture and organisational ethos. It implies assisting essential operational personnel in achieving the high competence level required to carry out their individual tasks safely. Shared responsibility between ANSPs and training academies is the key to creating a failure-proof environment.

Now more than ever, attention is turned towards ensuring exceptional safety standards. During the past 10 years the aviation industry has faced many diverse risks, in ways that were once inconceivable. Public awareness of aviation safety is mostly confined to the experience they receive with regard to airport security, but we in the business know there is much more behind the scenes. Europe is currently feeling the pressure of the recent economic crisis, while continuing its plans to cope with increased levels of traffic, implementing the ongoing Single European Sky initiative, as well as cost reduction strategies. All involve fundamental changes to the ATM system.

While working on the array of different initiatives ANSPs must ensure safety remains uncompromised at all times. One of the ways they are achieving this is by creating a safety culture for ATCOs.

In the aviation industry, safety has always been the ultimate goal behind all activities. For every piece of the puzzle, processes are created, personnel are trained, resources are allocated and safety measures are met. Safety itself is the prized outcome of what continuous awareness means and implies. They are first receive clarifications, logical explanations and examples as assimilating the ‘soft’ issues surrounding safety.

For example:

• Priority of safety. Irrespective of newly evolving technologies within ATM systems (for example, electronic flight progress...
Above and below: Students are closely supervised by experienced ATCOs
strips, electronic conflict detection systems intended for use by controllers, and 4D approaches for aircraft), or of developing legislation, commercial challenges and economic crisis and management changes, safety must remain the top priority.

• Exercising caution when controlling. Air traffic controllers are widely regarded as being more cautious than the average worker. Controllers consider it vitally important to have an inherent sixth sense; it comes with the nature of the job to be continually aware of potential threats, vulnerabilities and common errors.

• The importance of human factors and the ‘reason’ model; the skill of avoiding cumulative small errors that can collectively lead to historical catastrophes.

• The importance of strategies and priorities. Implementing a series of manoeuvres or stratagems for obtaining a specific goal or result. Prioritising the sequence of events so that the strategy is conducted in a fail-safe manner – one of the main factors in error prevention.

• Learning about the ‘grey areas’ in air traffic management, where there are no definite rules.

• Safety mindfulness or how safety can remain in the forefront of people’s minds, whether they are controllers during their daily shift, engineers working in the systems department or management level analysing financial results.

• Learning about the difference between what people believe about safety (personal opinion), what they say (policies, procedures, systems), what they actually do (rules and regulations) and the final outcome.

• Personal and cultural introspection; the driving force behind safety culture from one generation to the next.

• Just culture. Essential safety-related information must be provided, and acted upon, regardless of the circumstances: accidents, incidents or near misses.

• Trust. Human error happens, which subsequently leads to occurrence reporting, and then into the overall learning process from the incident. It is fundamentally important to learn about and support the importance of a blame-free just culture within aviation.

Training air traffic controllers has two main objectives: competences and commitment. If competences represent the outcome of theory lessons and of practical simulator exercises, commitment is subjective to beliefs, attitudes and values. The competences will slowly grow to be integrated into the work within a safety management system (SMS). The personal commitment needs to be translated, during the time dedicated to training, into safety commitment. The association between SMS and safety commitment is essential, because the attention given to both needs to be simultaneous and equal for safety to be maintained and improved.

The theory that students learn during classroom lessons gains more relevance and can be efficiently put into practice once the safety issue is clearly introduced. This is the ultimate purpose and the driver behind the entire industry.

To ensure a comprehensive delivery of the insights surrounding safety, experienced instructors and operational controllers are dedicated to accompanying the students in their exploratory process. Real-life situations are discussed, priorities are established, consequences are analysed, responsibilities are shared and solutions are identified. As well as creating the right mindset to understand the importance of safety, these are important steps in preparing the students for the simulator.
exercises. All steps require time. Time, knowledge, understanding and safe application go hand in hand.

Discussing the work implications of safety culture and being assisted by controllers with operational experience adds a real-life dimension to the simulator exercises. The students are no longer only simulating and running exercises on a generic airspace, but are afforded the same considerations given to real ATCOs controlling live traffic. Increasing responsibility is placed on their shoulders from an early stage, as their performance and skills are developed.

Where theory meets practice, safety culture plays the role of a commitment catalyst, enhancing competences and shaping the right beliefs and attitudes.

Rethinking training

Training itself must continuously evolve. Air traffic management is not stationary in time, so training methods, technologies used, and operational practices employed will always require adjustment. Regulations and processes will change as well as training management. The endeavour to link safety culture to training from the very first days inside Entry Point North academy is done to enforce a positive safety attitude.

During unit training, the students will assimilate the ANSP’s safety culture, which is “an emergent property of the organisation, generated by its unique history and individual members”.

The academy prepares the students to be aware of the effect the organisational safety culture has on their operational performance. Usually it is hard to predict how the individual behaviour and peers’ behaviour directly influences the safety culture, but it is easier to observe how the ANSP’s safety culture changes the employees’ beliefs, attitudes and actions. Nevertheless, the safety culture is a cumulative reflection of everything that happens in the ANSP and of the employees’ perceptions and opinions.

Entry Point North believes in the constant improvement of human performance. New technologies open up new avenues for personal and professional development. This drives us to continuously improve training techniques with innovative solutions. By including safety culture early when training ab initio students, instructors can follow up the students’ perception associated with the real working environment and duties. Naturally, the students’ performance comes as the result of dedication and hard work, but it is also the result of the transfer of experience that takes place.

Safety can be trained in terms of attitudes and behaviours. Beliefs are personal, but during training we can do our utmost to promote the attitudes, beliefs, perceptions, behaviours and values that the aviation industry considers to be fundamental to safety.

One of the challenges brought by the development of airspace management is the integration and interaction of different cultures. Every ANSP that Entry Point North has collaborated with over time, regardless of the service required – recruitment, training, consultancy – has been sensitive to the local culture and requirements. Using this as a model and proof, training is conducted in respect to individual needs and common performance levels established for all students.

References

1) Eurocontrol, Safety Culture in ATM (2008)
2) Smircich (1983)