



Case Study - Some mussica anyone?

By Bengt Collin, EUROCONTROL

In a bus

The bus was late. Not that it was important; a bus left every ten minutes. Perhaps this one is five minutes early, positive thinking he thought and drank some water from his bottle. The bus departed. He put the cap back on the bottle, returned it to his bag and started reading the morning paper.

"Wow, last Saturday was magic, just magic, you should have been there"; a girl in front of him talked on her cell phone. She did not need the phone, who ever she talked to could hear her anyway. Next to the woman was another identical girl. They were both wearing cabin crew uniforms, he could not identify from what airline. The bus was for the airport, it was not unusual to see people wearing uniforms. Normally passengers were sitting by themselves, sleeping or reading, sometimes just looking out at the landscape passing by. The bus left the city behind, they were surrounded by an intensely green forest, a few hills, a herd of cows grazing in an open field;

I wonder what the cows think about us?



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"Have you ever flown on this aircraft type before?" The girl was now talking to her colleague sitting next to her, still using the same loud voice. He could not hear the answer, but he could follow the rest of the conversation, whether he liked it or not.

"Well I have never been inside one; they only trained me on that long aircraft with two engines at the back." "MD80" the other woman replied. "Yes that sounds familiar; anyhow today we will be on a 747; how many emergency exits has a 747? This is going to be exciting!" She almost did not have time to inhale. "And all the way to Greecee". Her way of pronouncing the name of the country was interesting. She continued "I hope I have time to eat some local Mussica, or whatever it is called"; she giggled loudly; he closed his eyes and tried to sleep.

In an office

Arriving at the airport, he remembered his first meeting with the previous head of the training department. It was a long time ago, shortly after he had started his career as a controller. He had just turned twenty three; he thought the other man was very old, probably over thirty. The man was sitting silently in his office. The radio played classical music; it was an absurd scene because nothing happened. The man did not take any notice of him. After some time he started talking, still without looking at him; "when I started here, you could buy real yoghurt". It was the start of a long friendship. He used to help develop training exercises, everything from multiple choice papers, to search and rescue training in the forest next to

the airport. He remembered that time with pleasure, things were much easier then. Now he was in charge of the training, life was complicated.

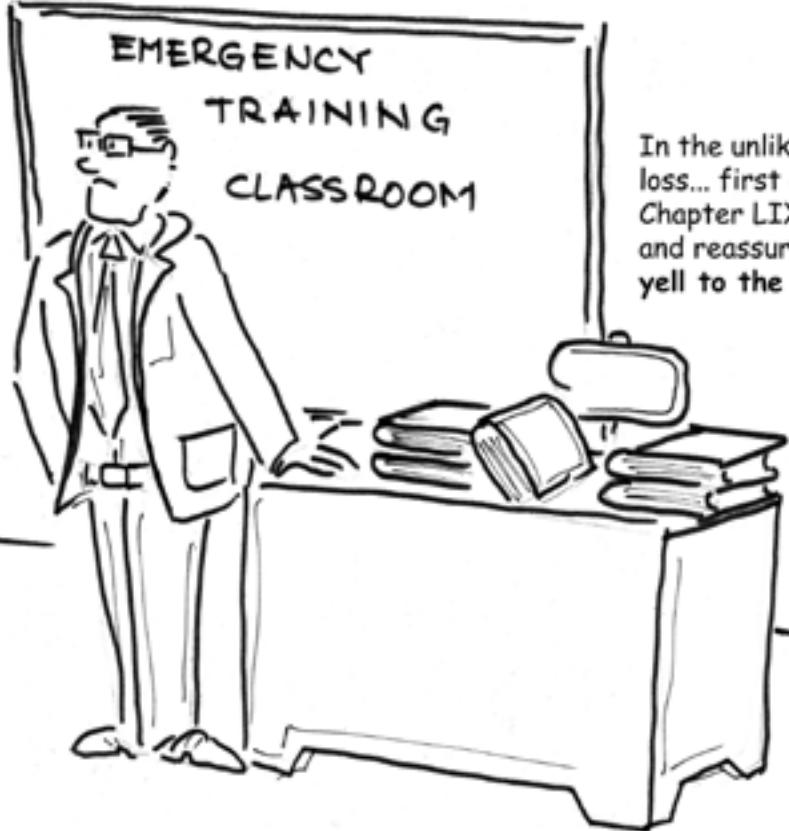
In the meeting room

He had called the meeting and invited three local instructors plus a representative from the ATC Academy. The results for the new trainees were alarmingly poor. This took resources away from recurrent training of centre controllers; for example, the simulator training for degraded modes had been postponed indefinitely.

The man from the Academy explained; "we have tried a new concept at the academy. The basic hypothesis involved was that 'natural talent' does not guarantee success. Studies involving elite sportsmen had shown that routinely it took at least 10,000hrs of practice (at a given skill), often over a 10 year period, for somebody to reach a level where they could be considered as 'elite'. The question was raised whether this could have a read across to air traffic controllers. This would avoid students being kicked out of the academy"; he twisted his pen continuously while talking, he gave an impression of nervousness.

What an idiot, he thought as he smiled at the Academy representative. This is a stupid idea. Intuition? What you need is talent! But he did not say that, instead he asked for advice on what to do.

"You should give them time and trust", the reply was interesting, time, how much time? "Forgive and forget



In the unlikely event of a pilot report of a total engine loss... first open your Emergency Manual... volume XIX... Chapter LIXIV... and read the instructions aloud in a calm and reassuring voice... And only when you finish... yell to the supervisor to call 112...

that is my advice. They will develop into bright young controllers; just let time do the job".

In the aircraft

Already when the pilots had accepted their jobs with the airline, they knew that things were not perfect, but they never dreamt it could be this bad. The owner was a true entrepreneur; some called him a cowboy, this was his third airline. The airline consisted of two hired MD80s soon to be returned, plus three newly-leased Boeing 747-200s, which had first flown in the late '70s. Little or no documentation on the maintenance of the aircraft existed. And whilst the pilots were experienced and well paid professionals, the cabin crew were young girls, with very limited training.

"Why is it so high?" The Captain did not sound worried at all, it was more of an expression of genuine interest. When you have 13,000 hours plus you never sound worried. The temperature on engines three and four was relatively high, not too high but high enough to ensure that the pilots stayed alert.

In the meeting room

"We have to do something", one of the instructors started the conversation two seconds after the door closed behind the Academy representative. "But what?" said the Training Manager. "We have budget restrictions, no overtime is allowed". "I do not care about budget restrictions; this is not going to work" the instructor replied. "Should we really continue training new students under these conditions, perhaps we should focus on our own recurrent training instead" the third instructor added. "But we will need the new controllers before the summer vacation period" the manager replied. "And now we are going to pay for our parking too" another instructor added. The conversation faded away.

In the centre

A tower controller visited the centre to talk to the supervisor. After entering, he walked slowly behind the row of approach controllers; "yep, now I have a full radar rating again", he said loudly enough for the controllers to hear. No one got upset, this was typi-

cal banter. In both approach sectors, student controllers were working. The trainee handling arriving traffic for the left hand runway had a relatively inexperienced instructor behind him, the other trainee a very experienced one. Or should have had, the instructor was temporarily outside the control room. Now and then he left; it was his way of teaching the trainee to handle the traffic himself. "The system is frozen", a controller from the left side of the room shouted, in fact they could see it by themselves, no labels were moving.

In the aircraft

They reduced thrust on engines three and four, it helped temporarily but soon the temperature on engine number three started to rise. "Shut down engine number three" the Captain told the First Officer, still in a very calm way; "I'll tell control that we want to return".

In the centre

The supervisor acted quickly; he pressed the button for the back-up system. All the standard systems were duplicated, plus they had an extra system with reduced presentation capability. This was the first time since they moved to the new centre three years ago that he had needed to start this final back-up system. "We have an emergency", an area controller shouted at him, "answer your internal phone, I am trying to call you". He picked up his phone; "a 747 is returning with one engine out, guess what airline". "OK, check souls on board and fuel endurance and switch him to approach", the supervisor replied. ▶▶

Case Study

Some mussica anyone? (cont'd)

When the normal system stopped, the two student controllers were immediately overloaded. Even the less experienced of the two instructors was momentarily a bit lost, although he would never admit that afterwards. The 747 Captain called the trainee controller for the right runway whilst his Instructor was returning to the position, slowly walking across the floor completely unaware of what was going on. At the same time the other instructor took over control of the left runway from his student plus giving orders to the other student, "turn that aircraft NOW", he pointed at the returning 747. "T-line 123 turn right heading three three zero", the student for the right runway gave the instruction immediately, slowly resuming a normal awareness. He was not used to this back up system, the labels had returned but the scale, the colour was different. "Say again T-line 123". The instructor controlling the left runway observed that the T-line was not turning, instead giving an instruction to his own aircraft; "J-line 224 turn right immediately heading one six zero, opposite traffic twelve o'clock two miles same altitude. "TCAS climb J-line 224". The aircraft passed within half a mile horizontally whilst separated by only a few hundred feet vertically. The more experienced instructor was now back in position, he started working with fast short, focused, instructions. Finally everybody had the picture; the instructor turned and descended T-line for the ILS to the right runway. "Established runway 34 Right, T-line 123".

In the aircraft

He made a brief PA to the passengers to say that they had a minor technical problem and needed to return back to where they had taken off from. Always safety first, the phrase was perfect to use when something went wrong. The cabin was not chaotic but some minor incidents occurred when the passengers were told to remove the snacks and drinks the cabin crew had just sold them; "I want my gin and tonic", one passenger was almost crying. Finally everything calmed down. The aircraft landed and stopped on a taxiway, I hope I do not need to open the emergency exit; the cabin attendant thought to herself, the slide is locked into the lavatory.

ing again"; one of the students explained. All the personnel involved were sitting in the de-briefing room after the shift ended. The walls of the room were white and the room had a bright wooden floor. In the corner was a small bronze statue of a large fish. "I thought you trained for such things at the Academy", one of the instructors asked. "No, we just do normal radar training, I do not even know if the system is capable of simulating these sorts of events", the other student replied. "The problem is that even if you train for it, such events are so rare that you forget what to do when it happens", the Training Manager added. "What could we have done differently?"

In the de-briefing room

"I did not know what to do when the radar screen went blank. The seconds felt like minutes before it started work-

In the pizzeria

"No Greece today but still so exciting", the cabin attendant was in high spirits despite the abrupt end to their journey. "Come on, let's order a pizza with Italian Mossaka cheese". S

