IS TODAY'S ATC TRAINING REPRESENTATIVE OF A JUST CULTURE?

A QUALITATIVE STUDY OF THE TRAINING AT A EUROPEAN ATC TRAINING FACILITY

Project submitted in partial fulfilment of the requirements for the MSc in Human Factors and System Safety

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ABSTRACT

Although the discussion of how to create a *Just culture* is prominent in today's social science literature (e.g. Dekker 2007), few studies have addressed Just culture from a training perspective. Asking the question *"Is today's ATC training representative of a Just culture?* this study set out to examine the training culture at a European ATC training facility. In 18 semi-structured interviews performed on site the students' and the short term instructors' perception of the training culture was explored.

Four themes were captured, each of which relevant for the creation of a Just training culture: *1) The training culture depends to a large extent on the instructors involved 2) A perceived relation between student success and the instructors they are having 3) The required standard perceived not to be consistent for all students 4) Scaremongering.* Three of the four themes were connected to the co-operation between instructor and student. The fourth theme concerned how internal communication at the facility can affect the *perception* of the Justness of the training.

This study concludes that the need for creating a Just training culture in ATC is indeed desirable. With the more or less constant lack of resources in ATC, the training organisations as well as the ATC providers need to acknowledge the connection between a Just training culture and economical savings. Creating a Just training culture would thus not only be beneficial for the students in the system but, through the possibility of actually helping raise the success rate of ATCO students, for the ATC system as whole.

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ACRONYMS AND DEFINITIONS

(ref. Eurocontrol: Guidelines for the development of Unit training plans, edition 1.0, August 2005)

ATC   Air Traffic Control

ATCO   Air Traffic Controller

ANS   Air Navigation Services

ATS   Air Traffic Services

CCC   Common Core Content – a set of agreed standard training objectives and syllabi for ATS jobs, designed to impart fundamental knowledge and skills to enable ab initio/student/trainee ATCOs to progress to unit training

OJTI   On-the-Job-Training-Instructor [a title originally applied only for the instructors who work with students in real traffic, but which has over time more or less become synonym with ATC instructors in all situations, in simulation as well as in real traffic situations]

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PROLOGUE

"I came to the training facility as a short term instructor, for a period of only two weeks. This phase, of apparently normally four weeks, had been rearranged into two weeks with instructors and one week of self-practise in the simulator, without instructors. What the plans were for the fourth and last week of this, the consolidation phase[1], I don't know.

On the morning of my arrival, which was on the Monday of week one, I was introduced to "my" students and got a brief presentation of the training procedures at the facility. After lunch we were given an overview of the status of each student in the course. One of my students, the Course Supervisors told me, had not been doing so well in the previous phase. But that, they thought, was probably due to the student being nervous when working with the previous instructor. I was presented with an Action Plan for this particular student, containing a number of issues in need of improvement, but there was no information or instruction as to anything special being expected of me.

We were also informed that the students would normally not be allowed to continue to the next phase if they hadn't reached all the objectives. My particular student had had a couple of issues where the objectives hadn't been met, but so had apparently a lot of other students and because so many students had not reached the objectives they had decided to let all the students continue into this phase. I don't know why they had taken this decision, and to be quite honest I thought the discussion was rather strange. But maybe they just felt that the students had not been given sufficient training in that phase and that they wanted to give all students a chance in the next phase.

After a short meeting with the students, where we were able to introduce our selves to each other, we went to the simulator to do two runs in the afternoon.

During the first four days I had a total of 6 of simulator sessions with this particular student, in which the student performed ok, but no more. On one occasion there was a situation where safety was compromised but as the other students too had had such situations, I wasn't too worried. On the Friday however, the student had a really good session which I praised him/her a lot for. As I remember we had rather a positive Debriefing[2] where we talked about potential areas for improvement. I didn't focus on safety as such as I hadn't experienced any major problems with that. All in all, the student and I had a rather normal, quite functional instructor-student co-operation. I am quite certain that this was also the student's perception.

When we came back the next week, the first session the student had was ok, but again, no more than that. After lunch on the Monday one of the other instructors approached me and asked if we should change students. The Course Supervisors as well as the other instructors all seemed to think that it would be a good idea to see each others' students at this stage in the training, but also that the students

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[1] *Consolidation*– in this phase the ATCO students are practising what they have previously learned in order to consolidate the knowledge and skills acquired.

[2] *Briefing – Debriefing*: Before each session in the simulator ATCO students are given of *Briefing* of what the objectives of the session is, i.e. what is expected of them. After the session the students get a *Debriefing* to follow up on the performance during the session, especially with focus on the objectives agreed in the *Briefing*.

would benefit from sitting with other instructors. I agreed to this, and had one of my colleagues' students that run. After the session my particular student approached me, asking why we had changed students. I explained why, but when the student still expressed concern for the time it was his/her turn I promised we would work together, I had after all been informed about the student's nervousness and problems with the previous instructor and felt that maybe the student needed stability more than anything else. In the brief meeting we had that day with the Course Supervisors it however became clear to me that I was in fact expected to change students, it wasn't my choice to decide. I opposed on behalf of my particular student but was simply told, by the Course Supervisors as well as by the other instructors, that "this far into training, about to start working in real traffic, they have to be able to cope with working with many different instructors, all the time". I gave in.

It was about this time I began to realise that the worries the Course Supervisors and some of the other instructors had for my student were greater than I felt I had been informed of. I had apparently not interpreted the message from the Course Supervisors the way it had been intended, and I had not understood the severity of their concerns for my student's ability. I was told that they had in fact meant that my student was more or less not allowed to make ANY mistakes at all during the two weeks I was going to work with him/her. And certainly none where safety was an issue.

The two sessions that I had had with my student that day were ok to good. The day after however the student had the first couple of sessions with the other instructors and the performance fell to an alarmingly low level. In just a couple of sessions the student made several severe mistakes, also ones compromising safety. This was discussed in that day's meeting and I asked one of my colleagues, one I have great confidence in, if he would sit with my student. We agreed that the two of us would change groups all together the next day; he would sit with all of my students and I would sit with his. The other four groups did the same.

Also in those two sessions my student performed really badly; one session being terrible, the next one only slightly better. During those sessions, one of the Course Supervisors sat at one of the other positions, watching my student, something that was, maybe not unusual but at least not everyday practise. The course supervisor agreed to the criticism of the first run but was in fact harsher than the instructor on the performance in the second session. This frustrated me, as well as my colleague; we felt that due to his/her "history" my student was assessed according to a much tougher standard than the other students, not being allowed to make mistakes that, somehow, could be disregarded when it came to the other students. It didn't seem quite fair.

After the daily meeting it was decided that we would sit with our usual students the next morning. The afternoon was planned for the writing of reports, something I had made clear I was not going to do on my own as I had apparently not experienced the same as the other instructors.

When I came to the facility the next morning it soon became obvious to me that they had already decided to dismiss my student from further training. When we had finished the morning runs one of the Course Supervisors came to me and said that I did not need to write any report at all since they were going to write a Course Supervisor report and therefore did not need mine.

By now I felt really bad. I felt I had cheated on my student; I had apparently misinterpreted the information I had received on his/her status, being overly optimistic in my weekly summary the first week. I felt I had let my student down as I had promised we would work together but had given in to my colleagues. Added to this, I also felt questioned as instructor; it was a bit strange that I didn't see those mistakes, or that the student didn't make them with me. And of course; since I was asked not to file any report; were my sessions, and the words I would describe them in, worth nothing?

But, being so upset about the fact that my student was going to be dismissed I just didn't have the strength to object on the report writing."

INTRODUCTION

One of the most important features of any culture that you want to call *Just* must be your individual right to an objective and fair treatment.

Air Traffic Control is one of the professional areas that, for some time now, have been subject to discussions on the creation of a Just Culture. Examples exist of ATC organizations that have tried to establish "Blame free" or "Non-punitive" cultures.

But one question that has so far not been prominent in the Just culture discussion is If and How the Just culture concept could be applicable, perhaps even beneficial, to training? Could perhaps creating a just training culture make ATCO training more efficient, thus less expensive?

When the ATCO profession was young the training was anything but just. Most of the operators were trained according to military principles, with all that that has to say about hierarchy and power[3]. Even if this is no longer the case, how far have we come? Is there at all such a thing as a *Just* training culture in ATC? If so, how does it look? And, if not, what would be needed for it to be developed? And, perhaps most important of all; what would be the reasons for creating one?

Charles Bosk, in *"Forgive and Remember"* from 1979, describes a training culture you could call anything but just. During the 18 months he spent at "Pacific hospital" he witnessed several situations where the authoritative attendings struck down any attempt by the residents to take initiatives not authorised by them. The attendings accepted no actions outside their own methodological bank, not even if it was the method of an equal, i.e. another attending. In this environment, the residents had to adjust their methods to whoever was in charge at the time. This is very well described in the preface to the second edition of the book where Bosk describes how "errors that were classified one way on one occasion might just as easily be classified another way on another occasion depending on a staggeringly wide range of contextual factors: who the attending was, who the resident was …" (Bosk 2003, p xx). He goes on to say that "attendings spot […] lapses through a random check of behavior and then generalize from it that an intern who does not even do this must not be doing other things as well" (Bosk 1979, p 100).

Sidney Dekker, in his book *"Just Culture"* (2007), talks about how the response to failure is an ethical question: "We can wonder then, whether it is smart to combine the function of ethicist and lawyer into one person […]. In fact, such a mix could be testimony to the confusion and difficulty of building a just culture" (Dekker 2007, p 20). Further ahead he claims that:

> The main argument for building a just culture is that not having one is bad for both justice and safety. But there is more. Recent research has shown that not having a just culture can be bad for people's:
> * morale;
> * commitment to the organization;
> * job satisfaction;
> * willingness to do that little extra, to step outside their role (Dekker 2007, p 25)

This study argues that if we are to discuss the reasons for building a *Just training culture* all of the above count, but also that having a Just training culture may indeed save both

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[3] Leif Carlstedt and Paul F. Johansson beautifully described the obsolete military training climate in their report Operation Kvalitetshöjning av Flygförarproduktionen (OKAFF) (1979). OKAFF means "Operation raising the quality of Fighter pilot production". With it, the Air Force wanted not only to improve the quality of the training but also raise the success-rate, something that was indeed achieved; the success rate increased, over the years, from as low as around 30 % to almost 100 %.

money and resources. There are few training programs more expensive than Air traffic controllers' training, and dismissing students from training, especially at a very late stage as is often the case, means not only the immediate loss of potential resources but also that time and money has been wasted on the training of students who will never become operational.

Let's consider the example from the prologue; what does this story tell us? It tells the story of a student who had problems, long term problems. It of course also tells the story of a student who was dismissed from further training, most likely a reasonable decision given the seriousness of the student's problems. But, does it tell the story of a student who was treated *justly*?

First of all this example shows us the difficulty of combining the roles of *instructor* and *assessor*, similar to the problem with combining ethicist and lawyer that Sidney Dekker talks of. When a student like the one in this case has had problems for a long time, the instructing easily turns into assessment; the student is no longer *taught* but instead constantly *tested*, having to prove his/her ability. As one of the instructors in the example was heard to comment after the dismissal of the student, hesitant about coming back to the facility as an instructor again; "This is just assessment, and I hate that!" This resembles a comment once heard from an instructor just starting a training session with a new group of students; "Now, let's go see what they can do!" This comment too indicates assessment rather than training, and to be able to consider a student being as treated Justly, one ought to at least expect that training doesn't end before the students leave school.

The example also indicates the problems with a system that has to "borrow" operational controllers for short periods of training. Despite the obvious benefits of the system, such as those instructors certainly being up to speed with real traffic, as opposed to an instructor permanently working at an institution who has perhaps not been doing any real Air traffic controlling for years, there are also consequences; for example the difficulty of making an instructor become "operational" in their role as instructor in, for example, just two weeks. This story very well illustrates the importance of clear and unambiguous hand-over of student performance, and of what, in detail, is expected of a new instructor, if we are to expect that instructor to make any difference whatsoever during such a short period of time.

Last and, from a Just culture perspective, perhaps most important of all, it shows us how easy it is to lose your objectivity and start measuring students not only according to their present performance but also with the history of how they performed in earlier phases. When telling an instructor NOT to file a report, because you have already taken your decision, that is where this study argues that it becomes unjust for the student. It points to how difficult it can be for a student to "correct" a bad first impression. As one student interviewee put it;

But it feels like sometimes when you make a mistake in the simulator […] it still shows up in the reports, like weeks afterwards. Even if you know exactly when you've done it that it is wrong, it still shows up all the time. […] I just think it's unnecessary, they take it up so many times".

Through this and other examples, the importance of being able to answer the research question *"Is today's ATC training representative of a Just culture?* with a confident Y*es!* becomes alarmingly relevant.

Literature

This study is aiming at coupling the discussion of *Just culture* to an area it has not previously often, if ever, been linked with; Training, and more specifically – ATCO training. The study relies on literature addressing teaching and training (mainly focusing on adult training), leadership and stress in training. It hypothesises on how to, from a Just culture perspective,

compare the punishments operators deemed "guilty" of erring are risking, with the very real risk many Air traffic controller students face during their training;

> … the idea of creating a just culture would definitely be applicable in training too. Not that the students are ever prosecuted for mistakes made in the simulator, but quite a few of them are still to this day dismissed from further training due to the mistakes they make. Rather a comparable punishment. (Lundahl 2009, unpublished)

Interestingly, Jerry Hallier and Philip James, in the article *Group rites and training wrongs in employee experiences of job change* (Journal of management studies, 1999) where they describe their study of how Air Traffic controllers who were moving from one unit to another were trained, make a comparable remark:

> Contrary to the underlying assumptions which guide most socialization and work transition research, therefore, the consequences of early failure in the role are not so much grounded in the employee's decision either to leave the organization or endure its shortcomings as about the possibility of enforced redeployment, demotion, or even dismissal as the *penalty* [emphasis added] for inadequate performance. (Hallier and James, 1999, p 49)

Other important literary contributions are the reports of how the Swedish Air Force managed to improve their fighter pilot training, the quality of it as well as increasing the success rate of students, through changing the social climate of the training; from the former – of testing and dismissals - to a supportive atmosphere, where training rather that judging was performed (e.g. Carlstedt and Johansson, 1979).

Method

The study was performed at a European ATC training facility which admits more than 100 ATCO students yearly. The training is supervised by permanent staff as well as long term consultants, and is further supported by short term consultants, from different ANS provider organisations, acting as instructors.

The study was launched through an "advert" on the training facility's intranet, explaining the purpose and aim of the study [Appendix 1].

A total of 18 semi-structured interviews, with voluntary interviewees, were performed. Two groups of people were interviewed: *Short term instructors* and *Students*.

These two groups were considered the best suited to be able to describe the training culture from the students' perspective. However interesting it would have been to also interview permanent staff of the training facility, this was considered too large-scale to be comprised in this Project study.

The students were at the time of the interviews all in their Rating courses[4], as this guaranteed that the students would have had gained extensive experience of the student-instructor co-operation, on which the interview questions [Appendix 4] focused.

The interviews, which were all performed in English, were recorded and later transcribed by the author of this Project.

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[4] European Air Traffic controllers' training consists of a Basic course and one or more Rating courses, which is a "specialised ATC training to provide knowledge and skills related to a job category and appropriate to the discipline to be pursued in the ATS environment" (Eurocontrol; EATM "Training progression and concepts, 1st Edition, Eurocontrol March 2004)

In addition to the interviews, the story described in the prologue was told by a short term instructor at the training facility. The story was written down and translated into English, where after it received the instructor's consent for inclusion in this paper.

RESULTS

During the analysis of the interview transcripts, four themes emerged, all of which somehow related to the question of a Just culture in ATC training. Three of the four themes were connected to the co-operation between instructor and student. The fourth theme concerned how internal communication can affect the student's perception of the Justness of the training:

1. *The training climate[5] depends to a large extent on the instructors involved*
2. *A perceived relation between student success and the instructors they are having*
3. *The required standard perceived not to be consistent for all students*
4. *"Scaremongering"*

Each theme will be elaborated on separately, with no specific order of precedence. Linked to each theme a discussion will follow, with each theme's relevance to Just culture in close mind

1. The training climate depends to a large extent on the instructors involved

This issue was mentioned by several interviewees. A student remark like "But now when I think about the school I think it's a lot of fun; I have got great instructors" really indicates such a relation. Another student said "Depending on what instructors you have you have a different climate as well, because they affect it to a large degree". When asked "*When you think about training, how does it make you feel?*" one student replied that "…the training itself is fun to do… Especially if you have an instructor who is fun to work with".

Three out of twelve students specifically mentioned some kind of relation between their opinion of the climate and the instructors that were involved at the time. This corresponds with a comment from one of the instructor interviewees; "I form, at least much of that, the training climate, for my small group of students every time I come here". The instructor continued:

> I don't know if it's my individual mindset, that I come in here and create a training climate for my students. Maybe others are just coming in here and do what they're supposed to be doing. I'm thinking they are coming in here "Ah, I'm going to be here for six weeks, and I'm going to evaluate students". For me it's more to come in, get to know the students as good as possible, create a relaxed atmosphere; that's creating a

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[5] When asked to describe the *training climate* at the training facility, a majority of the student interviewees mentioned things like "It's very good, it's very relaxed between students and instructors… it feels more like we are colleagues", "every student is motivated and helping each other", "everybody's supportive, everybody wants you to succeed", "I like most of the instructors, and the teachers are very nice, many try to help you and support you…", "everyone is working really well together", "the students are very open and welcoming; you become part of the group pretty soon", "the instructors and the teachers; they're very friendly", "people in the class help each other as much as they can", "[the students are] letting you learn from yourself and others". This indicates that for the students, the *training climate* represents *their perception of the social interaction among and between students and instructors/teachers*. The same words are used by some of the instructor interviewees, with the addition that a couple of them mention things like "I think and hope that they [the students] think that their instructors all believe in them and that the instructors are helping them to become controllers", "I hope that they [the students] feel safe, that they can ask questions. I hope that they feel that you are available to them". In one of the Swedish military's training documents **Folke P. Sandahl** (formerly Paul F. Johansson), one of the directors behind the successful fighter pilot training in the Swedish Air Force, describes the perfect training climate as being characterized by "purposefulness, good comradeship, a coaching philosophy among the instructors (as opposed to a judging one)…" (Sandahl, p 26).

training climate.

Discussion

The last comment above very well describes the possibilities for an instructor to choose his/her own norm for commitment. There seems to be little guidance by the training facility concerning their requirements to the instructors' skills, knowledge or attitude, both practically and commitment wise. And this is where this study argues that it becomes unjust for the students: If an instructor/group of instructors create the kind of climate where the students feel they are being listened to, are welcome to say their opinion, where they are given all available resources and where they are encouraged to think solutions out for themselves during training, then those students could be considered to be treated fairly. Then imagine a new instructor / group of instructors coming in, instructors who create a completely different kind of climate; a climate in which the students feel they have to prove their skills, that they are assessed rather than taught and where they are expected to solve training situations in the manner the specific instructor prefers, not necessarily in a way that enhances their personal learning. This way the climate changes for the students, different standards being set at different phases of the training as well as for different students and different courses, depending on *who* is involved in the training at the time. If those differences are arbitrary, allowed to alter "by chance" and depending on who is involved, then that can not be considered just.

2. *A perceived relation between student success and the instructors they are having*

In the article "Does your leadership reduce learning?" (Leader to Leader, winter 2006) Roger Schwarz, author of "The skilled facilitator", explains how our attitude towards the conversations we have with people, seriously can affect not only the leadership but also the learning;

> you create misunderstanding because you assume that the situation is as you see it and you base your actions on untested assumptions about others. […] This leads people to be wary and cautious in their respons, which you see as defensive. In this way, you create a self-fulfilling process, generating the very consequences you set out to avoid, sealing off the opportunity for learning how your own behavior may be contributing to the team's reduced effectiveness. All this reduces your team's ability to learn, its effectiveness, and its quality of work life. The quality of decisions decreases, the amount of time needed to implement decisions increases, the commitment to those decisions decreases, and the quality of relationships suffer. (Schwarz, 2006, p 43)

Interestingly, all but one of the twelve students mentioned this, one way or another. For some students, the instructor seemed to be a tremendously important component in the training; the student's ability to stay calm, thus being able to concentrate on learning seemed to depend to a large extent on what instructors he/she was having. One student said that "… in the end, you do more things for the instructor than just end [i.e. manage] all the traffic like you would normally do". And one student put it like "… just because it was him sitting behind me I was not as good as I used to be". Yet another described a previously experienced training situation; "I was under a lot of pressure and the instructor kept demanding more and more, not giving any leading words to solve the conflict. Just like digging the hole deeper for me instead of helping me getting up".

Or, you could describe it from a different angle, like one student did; "He was a really good instructor and I am actually grateful he was there, because it might have gone bad otherwise". The same student talked also of a negative experience with an instructor;

I've never felt so much pressure with an instructor as I did with him. […] So every time I sat with him the pressure was really really big and I wanted to do well so badly I did even worse.

For some students the instructor was merely mentioned as an issue of preference, concerning teaching style and personality. Many of the students said things like "For me, a good instructor is…", "I like it when they…", "That wasn't a good instructor for me" or "He has to be kind of, as I like it…". Altogether, it is obvious that students are affected, positively as well as negatively, by their instructors.

When it comes to how the instructors themselves think about this, it is verbalised slightly differently. All of the six instructors interviewed expressed a genuine interest in their role as instructors. Most of them (four out of six) mentioned the word *help* when asked to describe their role as OJTI. It is also very interesting to note that when asked to *"Tell me about a student whom you did not believe in"*, as many as three of them claimed they had never had a student they did not believe in[6].

<u>Discussion</u>

Hallier and James found that the "real authority for deciding who would enter the unit [and get validated] was not held by managers but by members of the staff" (Hallier and James, 1999, p 56). This could arguably be said to resemble today's ATCO training and the assessment of the students' performance where the OJTI's are those who have the real knowledge of each student's development, thus also in reality "own" the decision of "pass" or "no pass".

"It was", Hallier and James argue, "this recognition of the critical importance of the mentor trainee relationship which subsequently gave rise to these individuals' sense of disaffection with the process" (Hallier and James, 1999, p 60). Or, as one of their "trainees" put it:

If you get a personality clash, if you don't get on with the person who's training you, then that can have a very detrimental effect on your training because you feel you are constantly being hassled or opposed by this individual, your concentration is not going to be on the work. It's going to be the case that this person is getting on my nerves … I've seen that and it completely reduces some trainees to pieces. When they can do the job but they don't need the pressure from the person behind. So it can make or break some people to tell you the truth (Hallier and James, 1999, p 60).

This comment is indeed consistent with the respons from one of the interviewees above: "He was a really good instructor and I am actually grateful he was there, because it might have gone bad otherwise". The student continued: "I actually feel I really need a positive instructor to be able to perform the best I can".

The issue of whether the units studied could be said to represent a Just culture or not, is clearly touched on when Hallier and James claim that "…during much of the validation period trainees were preoccupied with the hope of *fair* treatment but not clear if it was present" (Hallier and James, 1999, p 60).

The story described in the prologue also touches on a historically persistent belief, namely the one that to become a good Air Traffic Controller, pilot etc you need to be of "the right stuff" (Tom Wolfe, 1979). As the instructors in the Prologue, who claimed that a student in

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[6] Although this study will not follow up on it, no doubt would it have been interesting to look at the success rate of students with reference to instructors and teachers they have had to see if there are any differences.

that late a stage of the training should be able to deal with all types of instructors, there is still in many operational cultures, one of which being the Air Traffic Controllers, a stubborn but obsolete belief that in order to get the best candidates you need to test them, preferably to, or even beyond, the limit. Those that make it through are thought to be made of "the right stuff", thus "worthy" of gaining the desired certificate. Folke P. Sandahl, a Swedish Air Force instructor who has produced many training packages dealing with training, especially stress and its effect on training, gives us, who believe in the opposite way of doing it, a reassuring answer to the question "Will students be capable of meeting the demands of [their future task], having been treated with such considerateness during training?" His answer is as clear as it is inspiring: "Yes, and just because!" (Sandahl, p 26).

Any discussion on student development and the effect instructors can have on it would be incomplete without mentioning *the Oak school experiment*. In their book *"Pygmalion in the classroom"* from 1968, Robert Rosenthal and Leonore Jacobson describe the experiment that set out to examine whether children, for whom their teachers had high expectations, would in fact increase their IQ. They describe how our expectations of other people influence our opinion of that person:

> Our prediction or prophecy may in itself be a factor in determining the behavior of other people. When we are led to expect that we are about to meet a pleasant person, our treatment of him at first meeting may, in fact, make him a more pleasant person. If we are led to expect that we shall encounter an unpleasant person, we may approach him so defensively that we make him into an unpleasant person
>
> (Rosenthal and Jacobson 1968/1992, p vii).

3. The required standard perceived not to be consistent for all students

One student described a "good instructor" thus;

> They should be somewhat loyal to the school and to the course management in the sense that maybe the school and the course management have a different way of doing it [i.e. teaching] than they [the instructors] do, where they come from, but then they should follow the school and just stick with that in stead of … some have a tendency to say "Well, I don't do this stuff".

This student seemed very concerned with the differing standards and mentioned, on a number of occasions, the importance of "agreeing on something", "something that is the institute's way of doing it".

Another student described a "good instructor" this way: "It's good that they are consequent; they don't say one thing to one student and another thing to another student, 'cause that happens", and yet another student described a "good instructor" as "[One] who doesn't tell the student to do the work the way he/she likes it".

One student told of a situation in one of the training phases where the course got a new group of instructors:

> They had higher expectations to us than… normal, I guess. A new set of rules; phraseology…, everything was put on us. In the beginning we had a rough time, the whole group, to understand why we had to work in different ways than we were used to.

Another student described a similar situation:

> They actually seemed to have kind of a competition in between to be the most strict and by the books and by the

rules. It felt as they had no understanding of which level we were supposed to be on at the time being.

Out of the instructors interviewed, only one commented on this theme. This instructor talked specifically about the difficulty for students who have instructors from different countries:

…we have different habits in every country and we don't have the same way to instruct the student. In that case it's not easy for the students to learn because they don't know what to do […] I think it's good if the Course Manager is more deciding what to do […] I just want to know how to do, so all instructors teach the same way

Discussion

Even though only one instructor commented on this theme, it is perhaps not so surprising; the instructors themselves are not likely to be aware of those very differences, especially if no overall supervision of the required standard is performed by the Course Supervisors/Managers at the training facility. But, as many of the student interviewees testified, for the students those differences become evident with every instructor change.

The Student quotes above are examples of how the professional pride of an ATCO can conflict with the necessary objectivity of an instructor doubling with the role of an assessor. The following comment by one of the student really goes without saying: "Instructors should try to be as neutral as possible". As self-evident as this remark may seem, the fact that the student thinks it necessary to mention indicates that "neutrality" isn't something that you as a student can necessarily count on in every situation.

One important factor of a just training culture is that all students are given the same chance. To achieve that you need to consider the standard of the very people involved in the training. Instructors of course need to be trained; something that is done in most ATC organisations today, as a result of tougher regulation. But when it comes to selecting the most skilled and the most suitable instructors, many organisations are worse off. All over Europe, the lack of Air Traffic Controllers has put enormous pressure on the ATC providers. The training organisations, on their part, need instructors for their simulator sessions, the very same people that would otherwise be doing operational controlling. This puts the organisations in a situation where they are happy if they can at all fill the positions needed. In many training facilities this is solved partly by recently retired controllers doing a big part of the institutional training hours, something many of them enjoy and do very well. But even so, it isn't enough to solve the problem. This whole situation does not exactly encourage the organisations to be picky about whom they appoint as instructors[7].

But this may in fact be making a big mistake; in a training situation this costly even a single student "saved" into validation is, in the long run, worth all the money spent. Not only the money spent on the training of the students but also on the training of the *instructors* and on raising the status of the instructors, with it following the possibility to select those best suited for the task. As a minimum, at least never forcing anyone who is unwilling to do the task, because, as one of the trainees interviewed in Hallier and James's study put it: "What you've got to remember is that mentors[8] are controllers first and some of them make abysmal teachers" (Hallier and James, 1999, p 60).

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[7] Many organisations even force unwilling controllers to do "their share" of the institutional training. It is of course not hard to imagine the lack of motivation these instructors must suffer (and *motivation for the task* is a well established factor in the contemporary pedagogical literature (see references), when it comes to describing a "good instructor").

[8] Mentor is the term used in Hallier's and James's study for an OJTI or an instructor.

This requires a complete change in the attitude towards the necessity of training the instructors, because now it is more like one controller I met on a course once, with emphasis, said to me;
"We already spend too much time on training and on the refreshing of the instructors!" Many seem, like in this example, to think that training students is an inherent quality of any Air Traffic controller.

4. "Scaremongering"

A "scaremonger" is, according to Collins Dictionary from 1987, "a person who delights in spreading rumours of disaster", or, as described in The Oxford paperback dictionary from 1983, "a person who raises unnecessary or excessive alarm". "Scaremongering" then, could be understood as unnecessarily or excessively scaring the recipient of a message.

One of the students made this interesting remark, of a phenomenon perceived by this student as "scaremongering" (in Swedish "skrämselpropaganda"). The remark concerned an apparently rather frequent phenomenon at the training facility: every time a student is dismissed, the other students at the institute are informed of the dismissal; sometimes via a mail addressed to "All"[9], on other occasions verbally by their Course Supervisor, or someone in the training staff. This information often includes both name and course of the dismissed student. The student interviewed described the feelings this information provoked:

> And honestly I think it is a little bit, with the students who get *thrown out*… like ok, it shouldn't be a secret, but still; sending an email with [his/her] name and "They had a meeting…"; I think it is a little disrespectful. Ok if somebody has taken this [decision]; "I'm going to quit, I don't like this". But getting *thrown out* and then everybody get an email about it, it doesn't feel … It's enough that you know that people are getting *thrown out*, I don't feel you need to know exactly who it is [*Emphasis added]*

Discussion

Although it was just one student making this remark during the interviews, this study considers the comment so interesting that it deserves attention anyway. It is also worth noticing that a similar comment on the same phenomenon was heard once before; by a then newly hired member of staff at the training facility, who was rather chocked when the first "dismissal e-mail" appeared.

The motif for sending these mails, as it has been explained, is to avoid rumours and to effect an open and trusting climate; "The people involved in the training will hear about the dismissal sooner or later anyway, so it's better to be open about it". I don't argue with this. I think it is a reasonable argument. But, *intention* doesn't always go hand in hand with *perception*, something that is only too obvious in this example.

Informing other students at the facility makes it problematic; will the students really consider this as "vital" information, or will they interpret it as a covert threat; "This is what happens if you don't try hard enough…"? This way of informing others could easily be compared to the process Michel Foucault, in his influential book *Discipline and Punish*, describes where "the guilty man […] was given the task, in a sense, of proclaiming it […]: the procession through the streets, the placard attached to his back, chest or head as a reminder of the sentence…". As Foucault further writes, making a dismissal public in the described way, could be a tool for displaying your power: "The public execution is to be understood not only as a judicial, but also

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[9] From another source this study learned that these mails are frequently sent to "All employee", informing all that "student so-and-so has not met the training objectives and will therefore be terminated from further training" or that "student so-and so has decided to stop training". These mails contain name and course of the student concerned.

as a political ritual. It belongs, even in minor cases, to the ceremonies by which power is manifested" (Foucault 1991, p 47). Thus, the aim could very well be misinterpreted as wanting to "make an example, not only by making people aware that the slightest offence was likely to be punished, but by arousing feelings of terror by the spectacle of power letting its anger fall upon the guilty person…" (Foucault 1991, p 58). This very student clearly interpreted the message as a threat. To understand that we just need to look at the words used during the interview; *thrown out.*

And how about the whole process of dismissing students? Doesn't in fact the whole idea of dismissing students resemble a *blame culture*? When students are dismissed, with no possibility for appeal[10], are they in fact not just treated as the *bad apples* Sidney Dekker describes in *The Field guide to understanding human error*? "Throwing out the bad apples, lashing out at them, telling them you are not happy with their performance, may seem like a quick, nice, rewarding fix" (Dekker 2006, p 9).

Air traffic control is one of the few professional areas where students are dismissed from training with little possibility for a second chance. If students have been properly selected, according to a number of well founded criteria, then who is to be "punished" if a student fails? The student? Or is it perhaps rather the training system that has failed, failed to give the student the time and resources needed for him/her to go all the way? In the Swedish Air force the OKAFF program (see footnote 3) stated that "each dismissal should render a self-critical analysis of the training as well as of the recruitment" (Carlstedt and Johansson, 1979, p 8). This way the program made it very clear that a dismissal was not mainly the student's problem, a dismissal in fact pointed to problems further up the system, (for example in the recruitment or the training). In the description of *The New View*, Sidney Dekker similarly claims that "Human error is the effect, or symptom, of deeper trouble" (Dekker 2006, p 15). OKAFF was clearly an early example of a "blame-free" training culture, somewhat ahead of it's time.

DISCUSSION AND RECOMMENDATIONS

Michel Foucault, in *Discipline and punish* (1977, 1991), elaborates on how "truth" was established in the eighteenth century's French criminal procedure:

We have, then, a penal arithmetic that is meticulous on many points, but which still leaves a margin for a good deal of argument: in order for a capital sentence to be passed, is a single full proof[11] enough or must it be accompanied by other slighter clues? Are two approximate proofs always equivalent to a full proof? Should not three be required or two plus distant clues? Are there elements that may be regarded as clues only for certain crimes, in certain circumstances and in relation to certain persons… (Foucault 1991, p 37)

Foucault continues: "On the one hand, this system of 'legal proofs' makes truth in the penal domain the result of complex art; it obeys rules known only to specialists…" (Foucault 1991, p 37). He goes on to quote Pouillain du Parc: "Nothing is more incorrect than this way of judging, which, in truth, is no other than a more or less well-founded opinion…" (Pouillain du Parc 1767-1771, p 112-113).

It is not difficult to sense a kinship with the present ATCO assessment system, in one sense indeed "a penal arithmetic that is meticulous on many points" - i.e the detailed objectives in Common Core Content (see Acronyms and Definitions), in another sense "no other than a more or less well-founded opinion" - i.e. the subjectivity of those making the judgements.

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[10] This of course differs from organisation to organisation and from country to country, but in Sweden very few students have been given a second chance once they have been dismissed from training at the institute.

[11] *Full proof*, *approximate proof* and *distant clues* are terms used in the eighteens century penal system to establish "truth", all of which described in detail in the chapter "The spectacle of the scaffold" (Foucault 1991, p 36)

And "the capital sentence" that Foucault talks of can easily be compared with the dismissals of ATCO students.

This study has pointed to the importance of creating a Just training culture for your ATCO students. It has also suggested that this very creation could be of economical interest. In the creation of a Just training culture the following issues are considered to be of such importance that they need to be established, or, if already in place, their importance enhanced:

- *Selection of students* – The first step is to establish a selection process that will, to the best of your ability and in accordance with the latest research within the area, make it possible for you to select, among the applicants, the candidates you believe possess a realistic potential for becoming ATCO's. Once that is in place it will be much easier for you to demand that your training staff consider all students "trainable". It will of course take time and effort to convince all involved that they don't need to regard themselves as the final step in the selection process, but rather as "tools" for the students' successful training. But, as OKAFF (se footnote 3) proved, it will be well worth it.
- *Training and selection of instructors* – Equally important is the selection and training of instructors and other training staff. Do not think that being an ATCO automatically makes you a pedagogical teacher! Any time and resources spent on quality training of instructors, both basic training and refresher training, will have been worth it with an additional single student making it all the way through.
- *Guidance by training staff, permanent as well as short term employees, in order to make sure all students are assessed according to the same standards* – If you are ever to be able to call your training *Just*, you need to ensure that all students are given the same chance. And that can not be done until you take your responsibility and guide those in charge of the training; making demands on the way they assess, on the way they give feedback and, of course, on the standard they measure the students' performance against. It has got to be the same for all students, irrespective of which individual instructor or Course Supervisor they have.
- And, if you really want to make sure you have done everything in your power to get your students through, it's time to acknowledge the importance of the individual aspects of training, by *matching instructors with students according to learning style.* Students do not learn at the same speed, nor in the same way. Let's face it, there are at least as many teaching styles as there are learning styles; therefore the necessity of this matching speaks for it self.
- In order to give all of those well selected students a chance to make it through, you also need to allow an *individually adapted number of practice hours* in the simulator as is, to a large extent, already the case when the students are working with real traffic. By doing this you ensure that all students are given the possibility to meet the standards, but you also acknowledge that different students need a varying amount of training sessions to get there.

With this study we have only begun to uncover the possible characteristics of a Just culture in ATC training. It is obvious that many more studies are needed if we are to be able to establish some kind of "best practises" on how to make ATC training more *Just*. We would need to study for example today's student selection tools and to reflect on what basis instructors should be selected and trained.

CONCLUSION

In the title this study asks the question; *Is today's ATC training representative of a just culture?* The answer seems to be as simple as it is problematic: *It depends*. It depends, as this study has shown, among other things on the individual instructor. If your instructor is a positive kind of person, has a teaching style that suits you, is motivated for the job as instructor, believes in your potential and realises that you are there to learn; then the answer could be *Yes*. But if your instructor sees him-/herself, and is allowed to act, more as a judge, thinking he/she is here to test your ability rather then to teach and guide you, then the answer will of course be *No*.

The problem is that when you add those two answers, there is no longer room for the positive version. In a training culture that so depends on the individual instructor but with little capability to select and choose the instructors best suited for the task, instructors that possess a specific skill or attitude according to your needs; then the answer is as sad as it is clear; *No way*.

REMARK

It is important to note that this study has looked at how *Just* the culture may be at this very training facility. The quality of the training has in no way been assessed, nor has the social climate, as that was never the purpose of this study. In fact, several of the students interviewed said that they are very happy there, that they "want to stay on for ever", "will miss it", and that they "want to come back as instructors" [See also the outcome of the control question used in Appendix 5].

Nevertheless, one could presume that a student who has been terminated, or is on the verge of failure, would put it slightly differently.

APPENDICES

Appendix 1 – Interview advert

To Short Term Instructors and Students at [the training facility]:

My name is Maria Lundahl, I am an Air Traffic Controller employed by LFV. Until mid January [2009] I worked 50% at the Human Factors Department at [a training facility], the other 50% I spent on Master studies in *Human Factors and System Safety*. Now my studies are coming to an end, the only thing remaining is my Thesis.

For my Master Thesis I have chosen to write about "The Training Culture in ATC", something that I naturally have a big interest in. During my years of coaching OJTIs, I have tried to figure out what it is that constitutes as *best possible conditions for learning.*

In order to continue this work, I would like to interview some of you. I want to hear what you, as Students and Instructors, think about the present training culture.

I would like to interview people from all the countries represented at the institute, preferably 2-3 from each country, Students as well as Instructors.

The interviews, which will be anonymous, should take no more than one hour per person. Interviews can take place either at [the training facility] or in my office at LFV, whichever suits you best.

I will begin the interviews in week 13, around the 25th of March.

If you would like to take part in the interviews, please send me a mail on the address below, or contact my Thesis Advisor Christian Bjursten Carlsson, head of Human Factors department at [the training facility].

If you have any questions don't hesitate to get in touch!

Thank you for your interest, I look forward to seeing you!

Maria Lundahl
LFV ASD/CSS
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Appendix 2 - Interviewee data/instructor

Interviewee no………………………

Gender

Male ☐ Female ☐

Nationality

X ☐ Y ☐

Z ☐ Other ☐

Number of years of operational experience

0-5 ☐ 5-10 ☐

10-20 ☐ 20+ ☐

Size of present operational unit (number of operators)

1-5 ☐ 5-15 ☐

15-40 ☐ 40+ ☐

Overall impression of the training culture

1	2	3	4
Very negative	Negative	Positive	Very Positive

Comments:_____

_____

_____

_____

_____

Appendix 3 - Interviewee data/student

Interviewee no…………………………

Gender

Male ☐   Female ☐

Nationality

X ☐

Y ☐

Z ☐

Other ☐

Overall impression of the training culture

1	2	3	4
Very negative	Negative	Positive	Very Positive

Comments:_____

_____

_____

_____

_____

_____

_____

Appendix 4 – Interview questions

Interview questions - Instructor

1   Describe your role as OJTI as you see it.

2   Tell me of your impression of today's selection and training of ATCO students.

3   How do you feel about being an OJTI?

4   Tell me about a student whom you did not believe in.

5   Tell me about a student whom you believed in.

6   Describe, from your point of view, the training climate at [the training facility].

Interview questions - student

1.   Describe a good instructor.

2.   Tell me of a situation where you felt great support from your instructor.

3.   Tell me of a situation where you felt a lot of pressure.

4.   When you think about the training, how does that make you feel?

5.   Describe, from your point of view, the training climate at [the training facility].

Appendix 5 – Outcome of the control question:

Overall impression of the training culture
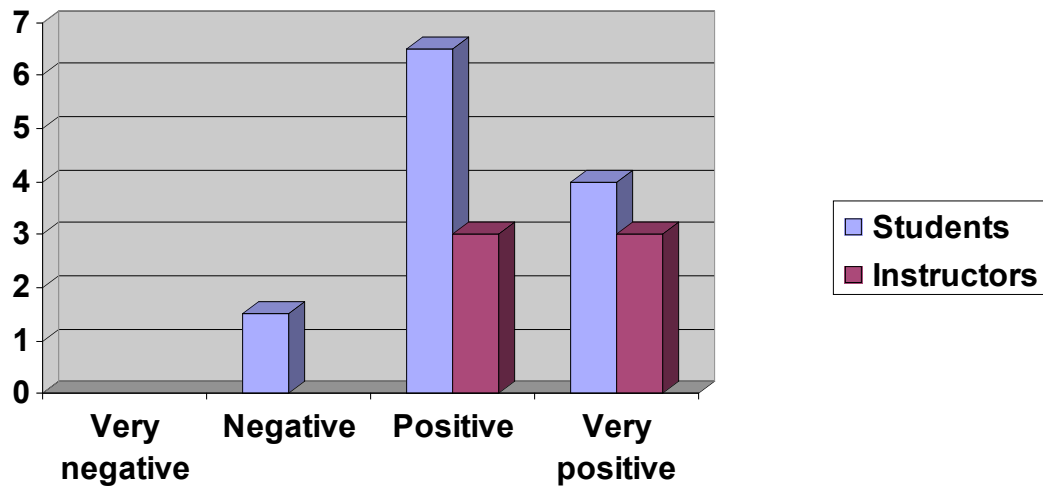
* One student placed the mark between "Negative" and "Positive", here therefore presented as 0,5 for each column.

The number of students interviewed represents 5-10% of the students enlisted in the facility at the time of the interviews.

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