REMEDIAL TRAINING: WILL CRM WORK FOR EVERYONE?

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ABSTRACT

This paper addresses the subject of those pilots who seem unresponsive to CRM training. Attention is directed to the need and opportunity for remedial action. Emphasis is given to the requirement for new perspectives and additional training resources. It is also argued that, contrary to "conventional training wisdom", such individuals do not represent a "hard core" which is beyond assistance.

Some evidence is offered that such a new perspective will lend itself to a wider appreciation of certain specific training needs. The role of appropriately trained specialists is briefly outlined, and a selected bibliography is attached for use by those interested in this area.

This paper is based on the combined experiences of several Pilot Advisory Groups (PAG's) within IFALPA member associations. It does not purport to describe the activities of any one PAG. Some small changes to the text have been made to preserve confidentiality. While much of the activities of PAG's have no relevance to CRM, there are clearly some very important points of intersection. The relevance of these points to diagnostic skills, and remedial training in the general domain of CRM will be obvious to the reader.

INTRODUCTION

It was an honor to receive an invitation from NASA to talk to you today at the Second NASA CRM Workshop. Much of my work for IFALPA involves promoting joint management:pilot action in various areas of operational safety and pilot welfare. The fact that all of us here today share common problems and a joint interest in training and safety issues is a valuable starting point in the search for new perspectives and techniques in CRM training.

My subject is the seemingly "intractable individual"--the pilot who does not respond to CRM training, attempts at remedial training, and/or disciplinary action. Sometimes his enduring problems manifest themselves directly as deficiencies in manipulative skill, notably on check or during transition evaluation, but more often they are associated with difficulties in interpersonal relationships in the cockpit, or an apparent inability to understand the appropriate rules of behavior associated with specific operational tasks, or role activities. Such an individual is, in theory at least, a primary target for CRM training. In practice, he is impervious to its benefits.

Now if one reads the available literature one can find numerous references to the various behavioral characteristics of this kind of pilot. Following, are a few examples to introduce my subject.

The first is from the summary of discussions at the 1975 IATA Technical Conference[1]. There is a reference in paragraph 69 to the problem of "incompatibility between crew members" and the need "to identify the odd-man-out pilot". Attention is also drawn to the fact that the best source of relevant information is the pilot peer group. In paragraph 118 it is noted that expertise is available outside the airline industry to help deal with such problems.

Second is a reference, in the report of the first CRM workshop,[2] to the "many first officers [who] spend a lot of time trying to get out of certain captains' blocks of time".

Also in the same report is a reference to the training consequences of LOFT. This is in the "summary of the workshop" where Dr. Billings refers to the possibility that, "when we've evaluated enough people,...we are going to end up counseling, rather than training or observing". I think that Dr. Billings showed commendable insight and foresight in making this observation, though only time will tell if our shared belief about possible counseling needs is indeed correct.

Crucially, Dr. Billings then went on to make a point which is also central to the case I want to make today: "It is important to recognize the difference between a psychological problem and a proficiency problem because the treatment of the two may be very different". He then points out the need for appropriately informed instructors.

Fourth is the reference by Professor Bob Helmreich in his paper, "What Changes and What Endures"[3], to the limitations of CRM for behavior modification. In that paper he notes the failure of certain resource management courses to change behavior in accordance with management and participant expectations. He also notes the pessimistic conclusion, reached by some specialists, to the effect that, "individuals who represent our mistakes in selection. . .will continue to be problems for organizations throughout their professional careers".

This gives us one side of the problem. There are also financial considerations. Those of you who attended the first CRM workshop may recall the comments by Captains Traub and Crump of United on this subject. They estimated that each mistake in pilot selection cost United $250,000[4] (at 1975 prices) in extra training expenses during the course of a pilot's career. Captain Holdstock of British Airways made the same observation in his presentation, when he estimated the then cost to his airline at very close to the equivalent of $250,000 in pounds per pilot[5]. These are but a few of the available references to my subject matter, though they provide a useful starting point for us.

The basic experience on which my paper is based was gained through the operation of Pilot Advisory Groups (PAG). I don't have time to detail their activities and functioning today, though the following remarks will provide you with essential background information[6].

PAG's of one kind and another operate in about ten pilot associations. Those of you from the United States will probably be familiar with the analogous human intervention and motivation scheme, though this particular employee assistance scheme is exclusively concerned with identification and treatment of pilots afflicted by substance abuse. As you all know, this has been a most successful program, and the very best individual examples are those in which management and pilots cooperate to an optimum degree.

The essence of the PAG concept is peer group identification and monitoring of any personal situation which may have a deleterious effect on the professional performance of a fellow pilot. An advantage of the system is that it allows normal rules of industrial conduct and process to be suspended, so as to allow for treatment and rehabilitation, rather than disciplinary action. Pilots who have a degree of concern about a colleague are obviously a lot happier to bring their concerns to such a neutral body, rather than risk potentially serious consequences if management is informed directly. Obviously, the more serious operational problems generate both peer concern, and a high likelihood of a serious reaction by management.

The essential principles of PAG operation thus involve:

o   Management-Peer Group co-operation.

o   The constructive and non-threatening use of peer pressure.

o   Independence from conventional industrial and disciplinary machinery.

o   The use of professional diagnostic and remedial help external to the aviation industry.

o   The search for underlying causes of sub-standard performance--in other words, concern is with causes rather than symptoms.

In order to preserve confidentiality the experiences of various PAG's have been amalgamated in my remarks throughout this paper. Before considering some practical examples drawn from PAG experience, let us first look at the traditional responses of management and pilot representatives to CRM problems manifested during pilot training or checking. The conventional administrative and training wisdom would have us accept that:

o   The "problem" has been identified by the normal checking system, thus proving the efficacy of that system.

o   Suitable retraining has been given. The "intractable" nature of the identified problem is confirmed by failure of retraining.

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o   Where it is deemed appropriate, additional investigation, for instance medical assessment, is undertaken. Invariably this confirms the absence of an acceptable explanation, or certainly one that is amendable to contemporary training techniques.

o   If a pilot continues to manifest deficiencies of skill, role performance, etc., the only remaining policy alternatives are discipline or career termination. These, of course, are the perogative of the employer and frequently trigger defensive tactics by the pilot's representatives.

o   It will come as no surprise to a specialist audience such as this to discover that the pilots immediately involved do not often see things this way at all. They deny much of the substance of the case against them. They also harbor considerable feelings of resentment, both at the check failure itself, and at the remedial training provided. A general claim is that the remedial training was, in no proper sense, training.

o   Unfortunately this process exacerbates a growing lack of trust in "the system" by the pilots referred to. This is manifested by a perceived sense of injustice, and very often by an unwillingness to face what most impartial observers would see as the "objective reality".

o   These circumstances also force both management and pilot representatives to argue along traditional and adversarial lines. And, as all PAG members know, this is a recipe for disaster. For the one thing that traditional lines of argument lead to is a general obfuscation of objective problems.

o   The pilot subsequently becomes labeled as intractable, and all parties are locked into the consequent definition of the situation, with all of its adversarial implications.

This is the point at which the story would normally end; a regrettable, but occasional episode in flight operations reaches its inevitable conclusion. Management sees itself as meeting its statutory obligations, and the pilot sees himself as the victim of injustice. So it goes.

There is, however, another way to look at such problems. Central to this perspective is the belief that many of the pilots who find themselves in trouble with their peers or the "check system", are genuinely unaware of their alleged deficiencies. In fact the vast majority of these pilots are never in receipt of a direct and honest assessment of their deficiencies in performance, except possibly in the context of disciplinary action.

Understandably, because their basic problem has not been clearly identified, they are seldom given any specialized training to address specific performance deficits. Now

you may claim that someone with, for instance, a "bad attitude" or "lack of command aptitude" is in no need of specific operational examples of his problem of personality, attitude, or whatever. That, of course, is because the consequences of such deficiencies seem obvious to an observer. But this is, in fact, the crux of the problem: what if pilot concerned does not himself see things this way? The performance problem has not been articulated. Consequently the causal link between low performance and pilot behavior remains elusive. Furthermore, the pilot concerned has not been subject to an honest appraisal of where he stands.

Let us now look at how a behavioral specialist might view this situation. Probably the most revealing and challenging reaction by specialists, to whom such pilots have been referred by pilot advisory groups, is the assertion that we in the aviation industry do a lot less actual training in these problem areas than we may think.

One specialist observed that present training within the aviation industry does not really help these pilots, and while CRM is seen as a significant improvement it simply does not go far enough. For example, one occupational psychologist noted that all of the pilots who had been referred to him had been subject to critical comments and "retraining" by the various airlines concerned. However, at no stage were the precise performance deficiencies of any individual pilot clearly defined. Criticisms tended to be of a most general nature (e.g., "has a bad attitude", or "lacks command aptitude") without any attempt to give specific operational examples or consequences of the declared deficiencies.

In turn, the "remedial training" was never directed at the source of problems. Indeed it has been suggested that the retraining did not, in fact, involve "training" at all, since it only involved simulated flight which repeated normal exercises. At the end of their retraining, pilots invariably got the message that they were in "trouble", but remained ignorant of what that "trouble" was! Here training is equated more to osmosis, rather than to guided skill development in the problem area.

In another case, a small group of pilots did, by their own admission, have long-term problems which were obvious to both peers and the check system. These had never been referred to in training or check records. The fact that manipulative skills were adequate had influenced records until a point of crisis brought problems of cockpit role performance to a head.

The existence of a clinical case of "testitus"[7] was identified in another case. Here harsh handling set up a vicious circle of check failure and a lack of trust. Ultimately this resulted in the voluntary departure of the pilot from the airline concerned. After a specialized program of relaxation techniques and specific guidance on certain cockpit role activities, he made successful progress in his new airline. Here the real "training" took place outside of the aviation industry, although it involved a sympathetic simulator instructor at the later stages.

It was also noted that several pilots referred by their PAG had been involved in significant "life event" changes just prior to their reported difficulties. One specialist suggested that such events were enough to have a serious effect on all aspects of these pilots' CRM performance. He felt that both social and cognitive skills deteriorated in the

cockpit environment, since none of the pilots concerned had sufficient spare resources to cope with the additional life stresses to which they were subject.

It is interesting that most of these pilots were drawn to the attention of the PAG both as a result of serious personality clashes, and reports of operational problems associated with particularly bad decision-making. Removal of, or accommodation with, the life stressor permitted a safe return to flying status, though specialist assistance and guidance was also necessary.

The hypothesis is offered that in different circumstances these pilots, who are now functioning in a fully acceptable fashion, might simply have been seen as having become permanently below standard. The kind of rationalization frequently used in such cases includes the idea that the pilot was, "always was a bit weak" or "is getting a bit old now". Such statements are often used to rationalize and justify marginal performance and its attendant consequences. They also imply that such marginal performance is beyond redress.

There are many different information sources for PAG's, with each report being assessed using normal PAG criteria. Sources can include peer reports, air safety reports, management reports, check airmen reports, and internal or restricted confidential reporting systems. In addition, there has been limited use of PAG follow-up in cases where a pilot has been involved in an unanticipated or dramatic check failure. Here the seriousness of the failure is itself seen as a problem needing investigation and explanation. Interestingly, there also have been a series of self-referrals by a few pilots who sense the existence of problems with which they need help. This is notable, in that self-referral in most other areas of PAG operation is very rare indeed. Trust and confidentiality are obviously essential to achieve this desirable state of affairs.

One PAG member also observed to me that it is the crew schedulers who really know who are the real "problem" pilots; in his words, "they see who are the bid-around individuals". Obviously this observation only applied to those airlines which use a line-bid system.

In addition problems deriving from personality clashes, seriously inadequate in-flight decisions or crew dynamics, are sometimes reported only verbally to a pilot association, due to apprehension about the consequences of more formal action.

Given information from these sources what does a PAG do when it determines that action is necessary? One PAG simply uses a variation on "normal" intervention techniques; they bluntly put it to the pilot concerned that:

"Your peers think that you are absolutely rude to work with, and the situation now has reached the point where we feel it appropriate and necessary to take action. You must see one of our PAG specialists and then undertake a personal evaluation of where you stand in relation to your career."

In these cases the decision to take action is necessitated by established procedures in which reports are assessed on the basis of how cockpit conflict affects safety. This tends to mean that intervention takes place only when events have reached a fairly serious

stage.

One PAG attempts to achieve early intervention and provide long-term remedial help. This is in recognition of the fact that remedial action may need to extend over a relatively long period if permanent improvement is to be achieved. The reports from this PAG confirm that the pilots concerned deny or rationalize their problems if they are treated in the conventional industrial manner. On the other hand, sympathetic and careful handling will elicit a different response, and the pilots will often concede that there is indeed something wrong, but they are unable to understand what it is, and thus to take suitable action themselves. Priority is placed in this PAG on the willing and active volunteer.

The majority of the pilots referred to are adamant that the formal airline training system has been of no assistance or guidance. Undoubtedly a contributory causal factor here is the primacy currently accorded to manipulative skills. In any case, these pilots tend to have a strong sense of distrust and injustice. This is one reason why such problems are partially hidden from view. If the pilots concerned do not trust "the system" or feel there is no safe avenue for help, it makes formal detection and remedial action that much more difficult. Not least of the difficulties is the defensive, inward-looking and uncommunicative stance of many of the pilots concerned.

It should be clear from my comments that a new approach and new training methodologies or techniques can be of real benefit to many pilots who prove unresponsive to CRM and other training. The fact that our present methods do not meet the needs of all pilots, or those of the total aviation system, is clearly no guarantee that additional techniques are not in fact available.

When dealing with pilots who are unresponsive to CRM training, we are in need of new methods of optimizing our human resources. In particular, we need new methods of identifying performance deficits with precision, and optimizing the developmental aspects of available training techniques. We must also re-examine our methods of performance appraisal. Furthermore we need to find a non-threatening method of bringing relevant information to these pilots. Methods which are perceived as threatening are never effective. Neither are they likely to reduce the associated human, economic and industrial costs to our industry.

In particular we must differentiate between the evaluative or checking elements of assessment, and the developmental or training elements of assessment. These are different processes, and they have markedly different implications for improving interpersonal relations and pilot performance. While evaluation and examination are important to the aviation industry, it is essential that they are kept clear of that remedial training which deals with the sensitive aspects of problems presently under discussion. Not least of the reasons for this are the risk of premature career termination, where everyone is a loser. There is also the central issue of each pilot's self-esteem; a man facing the psychological and industrial "unknown" needs, above all things, to feel secure. I think that you will agree that such personal and emotional security is manifestly essential to effective remedial training.

We must also recognize that pilot manipulative skills are different from management

skills, which are different from CRM skills, which are different in turn from the particular skills needed to assume command. Only a clear recognition of different skill requirements and their behavioral characteristics will allow us to specify deficiencies and provide appropriate training.

In addition any system of performance appraisal and personal development must have clear goals and a commonly agreed baseline. Interpersonal performance can only be improved effectively through a system which involves self-learning and internalization. Clearly the emphasis must always be on future performance and not on past failure.

Two things are becoming clear; the desirability of peer involvement, and the necessity of a more sympathetic and sophisticated insight into the difficulties faced by these pilots. The PAG concept has been effective in early attempts to help such pilots. It allows the normal rules of industrial behavior to be suspended, provides essential guarantees to the pilots involved, and encourages the willing and psychologically honest involvement of the pilots in new training methodologies. It should be clear, however, that a much greater effort is needed in the future to analyze and solve the outstanding puzzles.

I will now direct my remarks to training methodologies used to date. The first task undertaken by one specialist was to identify precise pilot performance, or "pilot behavior", which reflects the generalized complaints which had been made.

He then establishes a baseline for the behavior in question. This helps with measurement of the effectiveness of remedial action. Rating scales are determined in relation to the specific problematic behaviors. Existing documentation from NASA, the FAA, Transport Canada and the Institute of Aviation Medicine, Farnborough, as well as peer reports and self-appraisal have all been used to develop rating scales. Provision is then made for peer- and self-rating using these scales. The general categories addressed to date include command management, social and communication skills, problem-solving and decision-making, task orientation and attention.

In addition, use has been made of a battery of personality tests, of which the 16 PF questionnaire is found to be of value. Specific personality strengths and weaknesses are thus identified and discussed with the pilots in relation to their reported performance.

Skills training and behavioral measurement based on these tests have also been developed. They provide a means of tackling performance deficits which can be objectively observed in the actual flying environment. Remedial training methods include simulation, discussion, use of the repertory grid, and supervised simulator and line flight.

It is anticipated that some time will be needed to achieve long-term change and thus to reach, and report, definite conclusions about the efficacy of these particular training methodologies. However, I can report that pilots involved in such training exercises are extremely happy to find themselves involved in schemes which are tailored to their needs. They certainly feel that somebody is sufficiently interested in their perspective to make the effort worthwhile. Pilots and specialists are convinced that progress is being made, though only time will tell if their considerable optimism is justified.

Before concluding, I would like to make a few observations on the medical and psychological nature of the problems under discussion. One specialist who reviewed an early draft of this paper suggested that I made the pilots concerned sound as though they were all suffering from some kind of "intractable" disease. He pointed out that they certainly did not have a disease of any kind, and suggested that the implied medical analogy was singularly inappropriate. In this reaction he was echoing sentiments expressed by Dr. Stephen Sloan at a recent ICAO Aviation Medicine Seminar[8].

Dr. Sloan suggested that the tendency within aviation medicine is to concentrate on those pilots whose symptomology necessitates medical intervention. These pilots are correctly identified as being "sick". They may be considered analogous to those pilots whose manipulative or role skills have fallen markedly below a satisfactory check standard. Dr. Sloan suggests that this very small number of pilots, at the extreme of the normal distribution, are not, in his words, "the really interesting group". The group of significance and importance to operational safety, are those immediately below the extreme limits of the normal distribution. They cannot be labeled as sick, psychologically incapacitated, or below acceptable skill standards. But their performance is, to a greater or lesser degree, adversely affected by psycho-social stresses or personality factors. They also tend to exhibit CRM performance deficits which may not be responsive to current CRM training.

It has been observed that pilots are more than willing to talk about stress, though precisely what they mean by stress can be hard to identify. However, it must surely be obvious that stress, whatever it may be, is an eternal part of both the flying business and life itself. We tend to associate serious stress problems with the notion of a precipitating traumatic event, such as an accident. Perhaps we would do better to also consider the slow erosion of motivation and psychic defenses over time. The consequences of this have considerable implications for CRM performance. Important also is the probability that any pilot whose social skills have been affected by stress will be unable to respond adequately to conventional CRM training techniques. Or they may appear to do well in ground-based CRM training, while being unable to transfer it to the aircraft.

It is, however, a fact that the vast majority of the "literature" relating to this subject is medically-oriented. As we make a greater effort to look to the psychology of pilot CRM performance, I suspect that we will do best to keep the medical findings in mind, but to use the tools and techniques of the psychologist.

In particular, we must be very skeptical of how we assess the training/CRM problems manifested by a particular pilot. What is seen in the simulator or while airborne might appear obvious, but all may not be as it appears. For instance, why does a perfectly reasonable captain outside of the cockpit, become a tyrant when he goes flying? Or, why does a highly-regarded pilot at the time of employment become an inconsistent and truculent captain later in his career? If we truly understood why these things occurred we would be able to prevent such problems, or more likely, help affected pilots return to a harmonious and safe working relationship with their colleagues.

Such pilots may well manifest problems which should have been evident at the time of selection. Equally they might manifest the results of many years of exposure to stress.

In fact, I believe that the effects of perceived stress over long periods of time will eventually prove to be as much of a problem as personality attributes identifiable at the time of initial selection[9]. However, it remains a simple matter of fact that no one knows to what extent problems, present at the time of initial selection, are confounded with problems that are of more recent origin.

And finally, when discussing CRM and the precise manifestations of problems in the operational environment we must also bear in mind the influence of sociological factors. These often ensure that the particular forms of crew dysfunction in one country do not always appear in another. Indeed within any given country airlines themselves can differ quite markedly in terms of their corporate and operational culture. This too can profoundly influence the practical manifestation of some of the problems discussed earlier.

This paper has been necessarily discursive and allusive as to the nature of "enduring problems", and potential training solutions. This has been an intentional strategy, for the problem as much as the solution, is not adequately documented. But that there is a problem, or far more likely a confusion of several different problems, can hardly be denied.

I hope that one thing at least can be agreed: the failure of any CRM program to change pilot performance should not preclude a search for greater insight, and new remedial training techniques. Failure to respond to CRM training need not of itself be a precursor of career termination. Nor should it preclude the search for other causes of low pilot performance. Certainly everyone is a loser when a productive career is prematurely terminated. Our task in the future must be to jointly and continually seek innovative solutions to these problems, and thus promote the objectives of training efficiency, high operational standards, pilot well-being, and aviation safety.

I would like to end with an entirely fictional story about one of your colleagues. See if you can recognize anyone you once knew. He joined the airline many years ago, about the same time as you did. He was a fine pilot and the most sociable of colleagues, but he is no longer sociable. Neither is he now considered a fine pilot. Actually he is a pain for his co-pilots to fly with, as you recently discovered to your surprise. And over a few drinks co-pilots tell you strange and often inconsistent things about your colleague. Some of them actually think he is not all that safe a pilot, especially under pressure. He seems to undergo a complete personality change when he enters the cockpit. In fact he has changed totally over all those years. Why? And what can I do to help?

Can I suggest to you that the only remarkable elements to this story are the last two questions? By this I mean that you do indeed have such colleagues, but like most of us, you did not recognize the gradual change over time, or you rationalized it away. And we almost never ask "why?" But the central issue must be, "why?" Why has it turned out this way? For myself, I think that this is almost the best question. Actually it is the second best question, for the best question of all is, "What do I need to understand to be able to help?"

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4. NASA-CP-2120 (ibid.) pp 61 & 68.

5. NASA CP-2120 (ibid.) p.81.

6. For a detailed introduction see: "Occupational Stress and the Professional Pilot: The Role of the Pilot Advisory Group (PAG)", A.N. Johnston, Aviat. Space Environ. Med. 1985; 56:633-7.

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9. See, for instance, "Flying and Danger, Joy and Fear", David R. Jones, Aviat. Space Environ. Med. 1986; 57:131-6.

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