

TRAINING EXPERIENCE TO IMPROVE AND REINFORCE ASSOCIATED ASPECTS TO THE CONTROL ROOM OPERATORS' BEHAVIOUR IN THE SIMULATOR SETTING

Author A. Santiago Lucas Soriano
Company Tecnatom, S. A..
Address Avda. Montes de Oca, 1
28709 San Sebastián de los Reyes
Madrid
Telephone 91 659 87 12
Fax 91 659 86 77
E-mail slucas@tecnatom.es
Date of birth: January 17th, 1951

“The way of minimum resistance and effort is a mental routine which appears by itself. To initiate the change of the old believes is a hard work. A proud person thinks that it is a sign of weakness to accept that a belief is erroneous if he/she was committed with it. We identified ourselves so much with an idea that it becomes something ours and causes that we defend it closing eyes and ears to any different opinion”. JOHN DEWEY

Abstract.

The experience, explained below, is based on the latest works carried out in TECNATOM, to improve the behaviour of the control room personnel, by an effective involvement of the operators in their own improvement, in which they create their own expectations and the instructors are only guides and advisors in a working place very close to the reality, that is, the simulator.

The experience mainly deals with aspects such as: Teamwork, effective communications, use of procedures, self-checking, decision making, diagnose, motivation and other aspects that are present in the control room.

Methodology

The cycle we have established for the development of this experience is based on the model “Instructor- Facilitator”, which does not give technical or professional superiority to the instructor, but requires from him to help the others, a skill to ask intelligent questions, listen and give a non-evaluating feedback and to be humble enough to show his satisfaction when the students are able to solve their own problems and they receive all the merit.

This type of training may be applied among colleagues, between boss and subordinate or in any other situation where the objective is the improvement of the behaviour

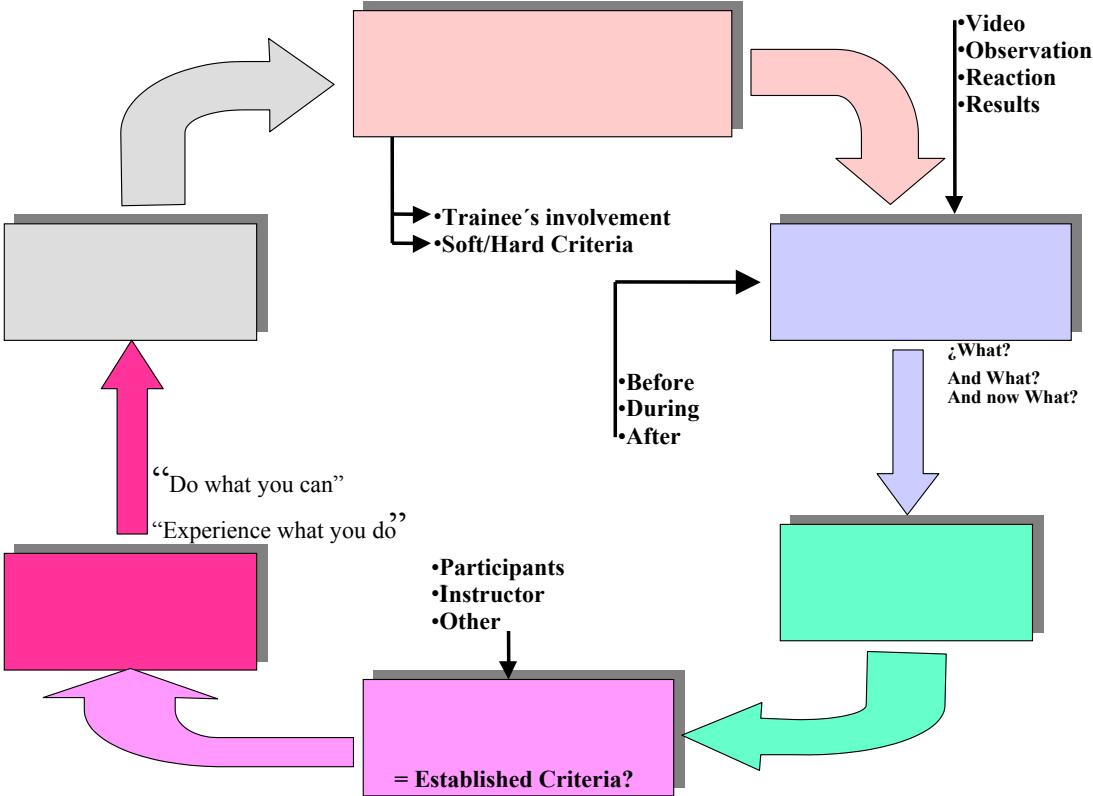
In first place, it is explained, in a generic way, the cycle on which we have based on to elaborate the pedagogical methodology used for this experience “ Improvement of the Operators and Supervisors’ behaviour in the control room”, as well as the role performed by the instructor in the different training phases.

The model described below, has six chapters:

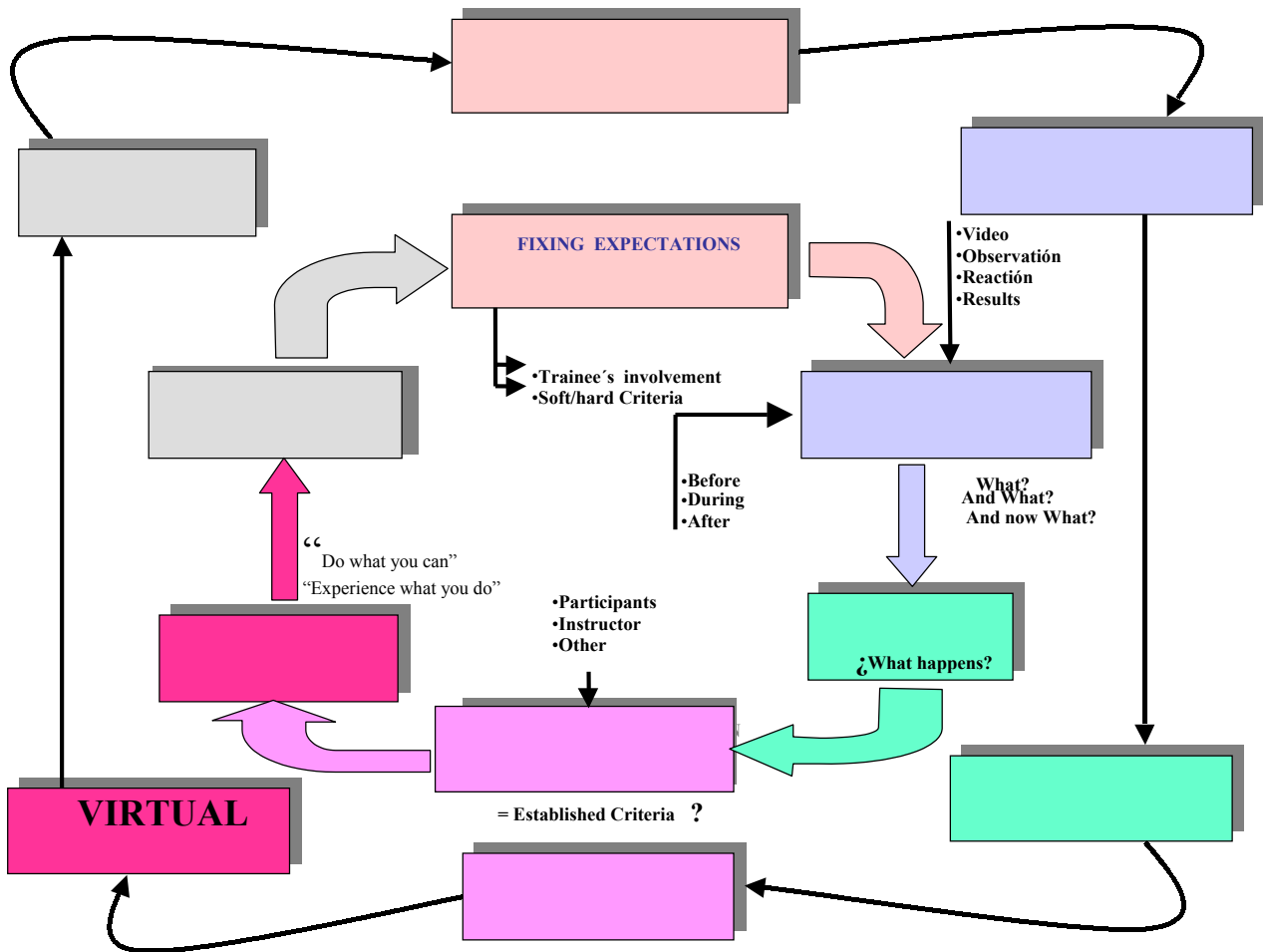
- Criteria and expectations establishment
- Expectations ownership development
- Logic analysis
- Generation and evaluation of alternatives
- Put in practice
- Revision and conclusions

These chapters when they have to be put in practice, may be altered and mixed, facilitating a flexibility that may be suitable for several training actions, as it will be shown in the practice experience performed.

In this figure, it is shown the basic model of the training cycle:



In the next figure, it may be seen the role performed by the instructor in each phase of the training cycle.

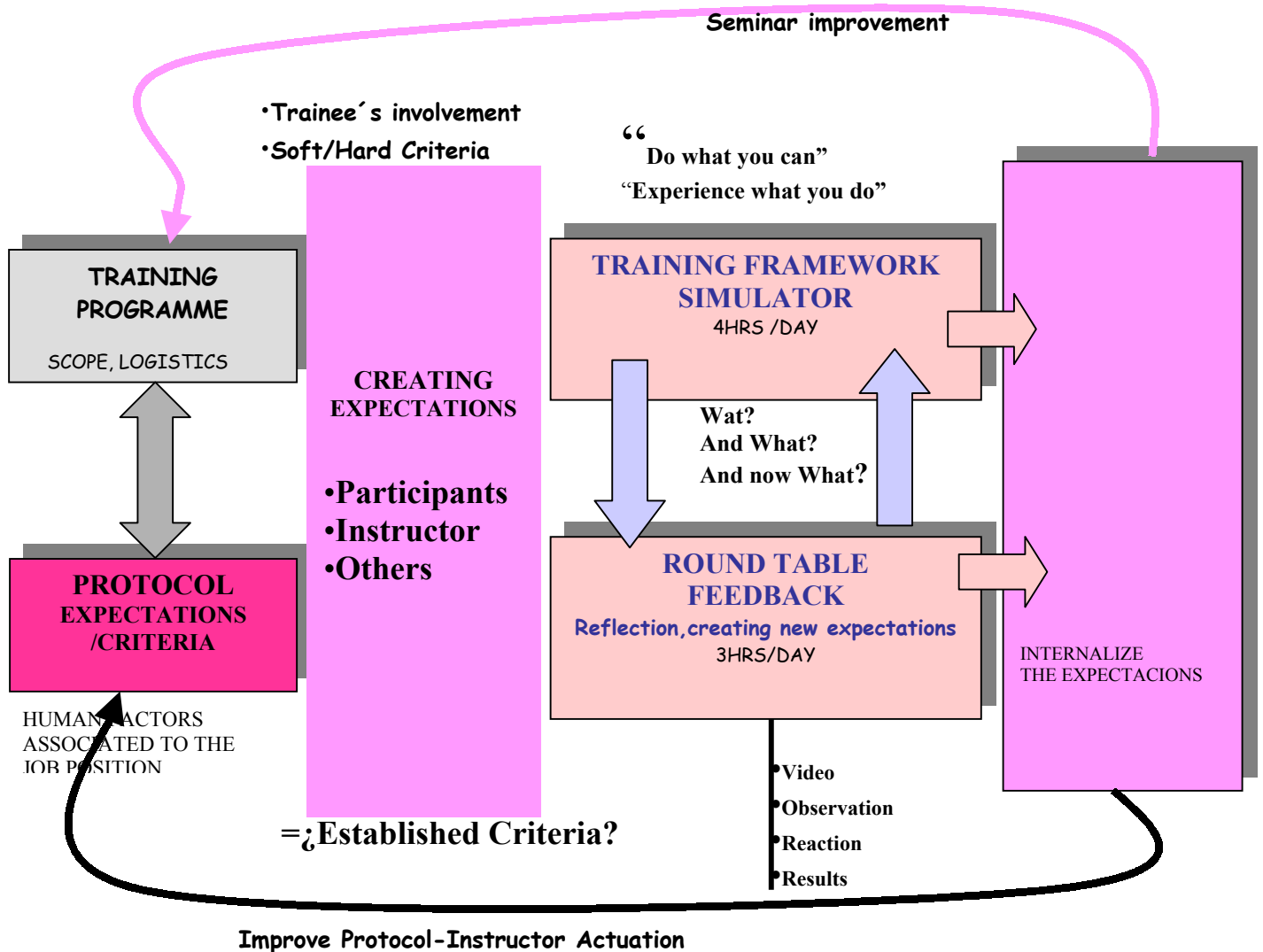


Once the cycle is finished, it might be restarted again and repeated continuously. What is valuable in the cycle is that the result is positive and the trainee and instructor are favoured due to the feedback produced from each to the other. What is not desirable is that a negative cycle be developed, which swallows both, trainee and instructor in a wheel of painful experiences and each of them will be astonished for the capacity of the other to absorb the punishment.

Experience performed

So far, several experiences of this type have been performed and they have allowed to adjust the programmes, scopes, as well as the protocols for tracking (expectations, criteria, suggestions...).

The steps we have walked are the ones commented in the methodological part, with the suitable adjusts of the seminar. In the scheme below it may be seen the steps of the cycle.



In first place, the concrete and precise objectives we wanted to reach, were determined (what behaviours we wanted to enhance), based on the following topics: Teamwork, effective communications, use of procedures, self-checking, decision making, diagnose, leadership,

motivation and other aspects that are present in the control room, without forgetting the adequate profile that a technician must meet to perform the assigned functions to his job (Operators and Shift Supervisors).

That is, what is expected from an Operator or Supervisor?, and considering topics such as: Attitude at work, characteristics of the personality, mental attitudes,... With these data, an expectations protocol and criteria to be taken into account, were elaborated. Besides, a list with suggestions and questions was prepared which helped the instructor. This aspect is very important to allow the instructor to develop all the potential assigned in the methodology. Finally a technical programme for the simulator was developed, so that the adequate setting for the work was present.

This programme was basically based on normal operation, malfunctions and emergencies, so that the operators may practice their knowledge, skills and attitudes and so, to allow that they could be observed in a suitable setting, trying to reach the expectations created by themselves.

The evolution of the facts was the following:

The first day was dedicated to develop the expectations of each topic of the human factors and performance criteria in the control room. In this process the participants were: Trainees, two instructors specialized in human factors and one experienced instructor in the operation of the simulator. In this session the behaviours to be followed in the simulator were determined and agreed.

In the following days, each daily training session was divided in two, four hours of practices in the simulator, where the trainees made an effort in performing the adopted criteria by themselves and secondly a round table of three hours of duration. In this second part, it was possible to detect the attitude that the participants had acquired in the developed tasks, some other were modified and new expectations were created for the next day. This method was maintained during the whole experience.

The seminar finished making a summary about the expectations and adopted criteria, improvements that were incorporated and each participant presented his vision “ the seminar is yours” and, with the obtained data a double feedback was done, on one side the programme, scope, logistic,...and on the other the protocol was improved, criteria and instructor behaviour, closing the training cycle.

Conclusions

- ☉ Very positive experience for all the participants
- ☉ Incorporation of the simulator as a supplement of the course of human factors, practicing the theoretical part
- ☉ Strengthening the standards about the behaviours in the control room, in the simulator setting
- ☉ The incorporated methodology drive us to a total participation, where the trainees consider as theirs the experience, incorporating or reinforcing the behaviours to the daily task
- ☉ In the same session the technical and personal (attitudes) qualities are enhanced, in a realistic setting