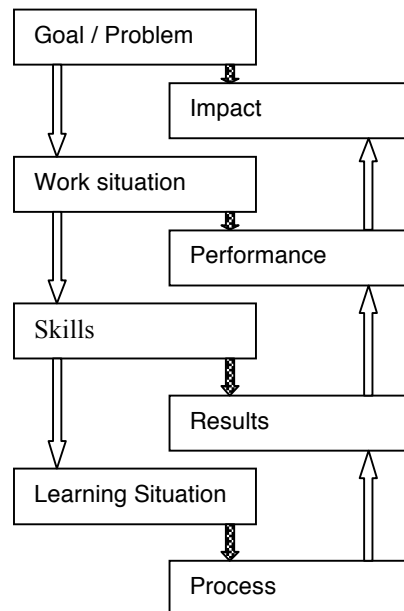


The eight fields instrument:

analysis framework for training effects



J.W.M. Kessels
C.A. Smit
P. Keursten

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Kessels & Smit, *The Learning Company*

1. Goal of the eight field instrument

In this text we wish to provide a framework for examining learning processes in organisations. The basic assumption is that the purpose of teaching and learning in an organisation is to implement a learning process that provides an adequate solution to a particular problem in the organisation. We consciously use the phrase 'learning process' instead of 'training' because we are concerned with the learning and not the training. Learning can take a wide range of forms; the traditional course or training is just one of the possibilities.

With the eight-field framework we wish to provide a handle for answering the questions:

- **What do we want to achieve?**

In the translation of an organisation goal into a learning process we can distinguish four different levels, namely organisation, work situation, skills and learning situation. These levels contribute to the effectiveness of the learning processes because they provide an advanced stimulus to properly specify the intended yield of the planned training investment.

- **When are you satisfied?**

There are also four levels of evaluation for the learning processes. They are actually the mirror image of the first four levels. Their systematic completion results in practical criteria for the evaluation of the learning process. This is important to be able to visualise the results afterwards. The more practical the criteria, the easier they are to measure. In our opinion the question "When are you satisfied?" should be asked in advance, and not afterwards. A better description of the evaluation criteria will enable a more focused approach to filling-in the details of the learning process.

We shall elaborate this framework in sections 2 and 3. In section 4, the last section, we shall specify another three factors that determine a large part of the success of the learning process.

2. From organisation goal to learning process: what do you want to achieve?

The following basic assumptions are required to ensure effective learning processes can be achieved:

Problem – Goal

Learning processes are not goals in their own right. An investment in learning is meaningful if a particular problem in the organisation can be solved through the use of planned learning processes. By 'problem' we mean the difference between the current and the desired situation. This type of problem can be related to a current situation, but also to a future problem or a problem that could arise if certain activities are not carried out. In organisations where the concept of a 'problem' has a negative association, we can also use the term goal, opportunity or challenge.

The first step in crystallising what you want to achieve is to formulate the problem as an achievable organisation goal, such as reducing absenteeism, increasing the percentage of students that successfully graduate from an institution, or reducing costs. These types of goal formulation are typically drawn up using organisation concepts. The method of solution has not yet been specified.

This is not often the case with training issues. The goal is often specified in terms of desired expertise or skills or in terms of the required learning process such as 'employees should have a greater understanding of ...'. 'employees should be trained in the principles of ...'. The formulation of the goal therefore directly implies that training must be given; in effect it identifies a solution rather than a problem. From experience we can see that a quick decision often results in the implementation of training that is not based on an organisation problem or is based on an organisation problem that cannot be solved by training. In both cases, the investment in training does not produce the desired results.

Work situation

There must be a clear picture of how the employee's work situation should be after the desired goal has been achieved. In our opinion training in labour organisations is effective when it focuses on achieving desired changes in the participant's working behaviour. The planning of learning situations is therefore only meaningful if it is known which changes are desired to enable the required goal to be achieved.

As a second step, it is therefore important to specify how the work situation must be changed to achieve the required organisation goal. By examining the essential changes to the work situation a much broader range of potential solutions is achieved than by planning training solely for a particular group of employees. Solutions can include introducing changes in procedures and methods, the division of tasks or task details, assigning responsibilities and powers, the use of aids, the method of assessment and reward, and providing reference material. Whether learning processes are meaningful depends on their contribution to the desired changes in the work. In addition, planning learning processes will often be insufficient on their own to achieve the required changes in the work. These

types of changes usually only occur when training is combined with or integrated in other measures, such as those mentioned in the previous paragraph.

Skills

Once there is a clear picture of the essential changes to the work situation, the question arises of which of the participant's skills can help achieve the required changes. It is important to investigate whether achievement of these changes requires skills that the employees do not yet possess. We have consciously emphasised skills. Expertise and insight are not sufficient to achieve changes if they are not expressed in skills that the employees can use to shape the required changes. The product of the required learning processes must therefore also be formulated in terms of skills.

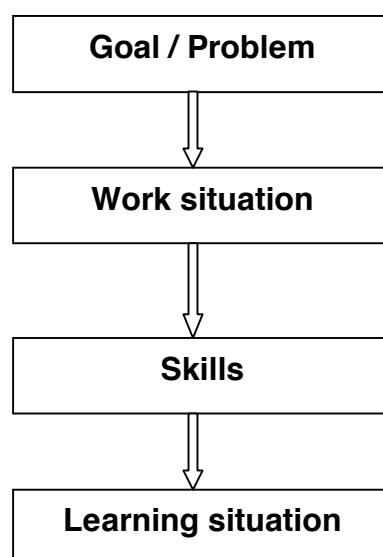
As a result, the third step is the specification of concrete skills that employees need to acquire. If it is not possible to describe specific skills at this point, then we must question whether planned learning processes can contribute towards the required changes in the work situation. If the required functioning of the employees is not hindered by a lack of skills then measures other than training would be appropriate.

Learning situations

The planned learning situations must:

- give the participants in the learning process the opportunity to acquire the appropriate skills,
- with which they can realise the required changes to the work situation,
- so the initial goal is achieved and the problem on which it was based is resolved.

The relationship between these four basic principles is presented in the figure below.

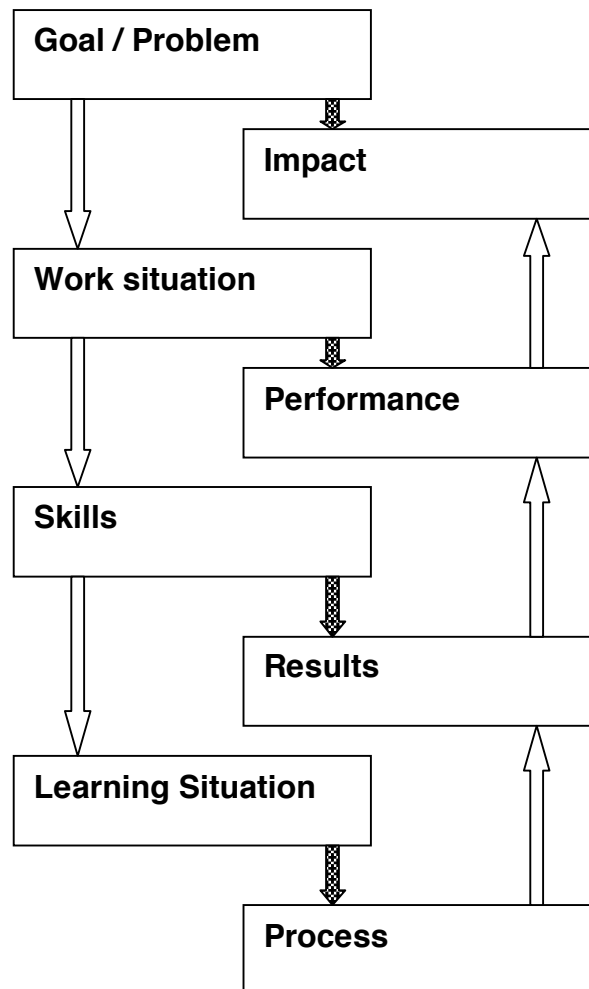


3. Evaluation of the results: when are you satisfied?

The evaluation of the learning process we assess the same relationship as in the previous section except in the reverse order:

- The planned learning situations must result in a learning process that produces results that correspond with specified essential skills.
- These skills should affect working behaviour so that the changes to the work situation have the desired impact on the initial problem.

The relationship that exists between the process, results, functioning and impact is represented in the following diagram.



The information on the right-hand side of this diagram requires the specification of evaluation criteria. In practical terms this means:

- Where should you focus your attention during the evaluation – what should be measured?
- When are you satisfied with the result?

The four levels of evaluation will be discussed below. We shall focus on the formulation of criteria, but also direct a certain amount of attention to possible methods of data collection.

Process

The central question is whether the planned learning situations are suitable to achieve the required goals.

Some of the major issues related to the process include:

- sufficient opportunities for the participants to practice and master the skills;
- sufficient information for the participants on the relevant skills;
- sufficient feedback moments to enable the participants to improve their level of competence.
- a learning environment that provides sufficient safety to experiment with the new behaviour.

Information on the learning process can be gathered using direct and indirect methods.

- Direct: through observations that provide an image of what is actually occurring.
- Indirect: through written or verbal questioning of the participants with respect to their perception of the process.

When using interviews and questionnaires it is important to realise that generalised questions often invite generalised answers. These are often insufficient to draw practical conclusions on which recommendations can be based. We suggest the questions are made as practical as possible, focusing on the formulated criteria. Naturally, it is often meaningful to pose some open questions as well, to gain insight into unexpected issues that could play an important role.

Learning results

The central question here is whether the participants have mastered the required skills to the desired level.

To form an image of the learning results, it is necessary to have a clear picture of the skills that play a central role in the learning process.

- When are the skills performed correctly, and when incorrectly?
- How can you recognise whether a skill is being performed correctly or not?

We shall explain this on the basis of an example. Suppose the goal is to enable managers to correct and instruct their employees in a more client-oriented way of providing services. The following questions must therefore be answered to be able to formulate the evaluation criteria. What is the most suitable form of correction and instruction to improve client-oriented service provision? Which aspects of content should be dealt with during the correction and instruction? How can you recognise that the correction and instruction has

been carried out properly? This example shows that the criteria at the level of the learning result can never be formulated in general terms, but must always focus on specific skills and the context that plays a central role in the learning process.

To assess whether participants have gained the required skills they must be given the opportunity to prove they have mastered these skills. This requires a 'test of competence' in which the participant is invited to demonstrate his skills. Writing or talking about the skills does not provide sufficient evidence in itself. In the example of the correction of employees in the area of client-oriented service provision, it is not sufficient to present a particular situation to him and ask for his response. A test of competence puts the participant in a situation, such as in a role-play with actors, in which he actually has to correct an employee.

Performance

Central issues here are:

- Are the skills applied in a work situation?
- Does this help the required changes to be achieved in the work situation?

As with the criteria for learning results, the criteria for the work situation also concern skills and behaviour. It is therefore not always easy to make a clear distinction between the criteria for these two levels. However, one major difference should be borne in mind:

- The question related to learning results is whether the participant has mastered the skills; whether he is *capable* of using the skills.
- The question related to work behaviour is whether the participant uses and applies the acquired skills; whether he *uses* the skills.

We are all aware that mastering a skill does not guarantee that it will be applied.

Obstructive or motivating factors in the work place often determine whether the acquired skills are applied. During the evaluation at the level of the work situation it is therefore important to focus attention on the major factors at work and to draw up criteria for them. This often concerns support from superiors and colleagues, the availability of time and resources, feedback on functioning and a suitable assessment system.

To assess whether employees have not only mastered the skills but also apply them, data must be gathered in the work situation. Information on the work behaviour of participants can be gathered by:

- questioning participants, their superiors or colleagues using questionnaires or interviews. What is their assessment?
- observations in the work situation, such as using 'mystery guests'. What evidence is there of the application?
- the collection of data that reflects work behaviour such as source studies (records, reports and plans), product meetings or customer studies. To what products or results does the application lead?

Impact

The central issue here is whether the changes to the work situation have solved the initial problem in the organisation.

The indicators for the impact of a learning process on the initial problem can be determined from the original statement of the problem, if it was formulated in organisation terms. In the example of goals formulated at the top of page 2, this would result in criteria such as:

- Absenteeism: the number of absentees decreased by 20%, the average duration of absenteeism decreased by 20%, the absenteeism percentage is less than 4%.
- Diplomas: a minimum of 80% of the people who register leave the institution with a diploma.
- Cost reduction: total annual costs reduced by 10%, budgets not exceeded.

The methods that are suitable for collecting data on the impact depends strongly on the type of problem being investigated. The studies into organisation effects can be carried out in a manner similar to the prior analysis of the need for training. Several of the methods already mentioned are suitable for use.

The importance of evaluation criteria

We have seen that formulating evaluation criteria in advance has a positive influence on the effectiveness of the learning processes. This is certainly the case if it occurs in consultation with the major parties involved, namely the client (manager), the developers of the learning process, the teacher and potential participants. Studies have shown that often the closer the expectations for the learning process of the parties involved, the greater the effects of the learning process. More specifically, the prior explicit specification of evaluation criteria contributes to the following goals:

- It is clear from the outset what the learning process can and cannot achieve in an organisation.
- It is clear from the outset which measures must be taken in the work situation to produce changes in it. Training activities often only play a modest role in this.
- If the evaluation criteria have clarified what the required results of the learning process should be and how they will be determined, it is simpler to design learning situations that focus on reaching these desired results.
- When designing an evaluation instrument afterwards, there is the risk the instrument will focus more on the study material used during the learning process on offer than the required goal of predefined skills.

The lack of evaluation criteria naturally does not mean the learning process will fail. It does however make it more difficult to determine afterwards whether it was worthwhile. Not formulating evaluation criteria deprives the organisation of the opportunity to fundamentally consider what can and cannot be achieved with the learning processes and training. This will mean that the 'training' instrument will remain an underdeveloped management instrument. Evaluation criteria that are formulated carefully and regularly will result in a clearer picture of possible solutions for a particular problem, both in terms of training as well as non-training aspects.

4. Major factors that enhance results

Finally, we would like to mention three factors that experience and scientific investigation have shown often largely determine the success of a learning process. They are important in advance, during the design and set-up of the learning situations, and also afterwards, as points for attention during the evaluation.

Involvement of the local superior

The degree to which the students' immediate superior is involved in the design and implementation of the learning process is very important to its success. They have a major influence on the transformation of the learning results into new work behaviour. This influence can be used consciously to improve the results.

The learning situation is as similar to the work situation as possible

A learning situation that is as similar as possible to the work situation has the following advantages:

- It will be easier for the employee to understand the usefulness of the required skills in the work situation.
- The problems that arise in the work situation while acquiring the new skills and transforming them into new work behaviour will be dealt with during the learning situation.

A learning situation is similar to the work situation if:

- the learning situation takes place in a relevant work situation.
- the cognitive operations that are important for performing the tasks in the work situation are included as topics in the learning situation.
- the problems that arise in the work situation are included as topics in the learning situation.

The teacher has experience of the student's work

It is important that the teacher (supervisor, coach) has comprehensive experience of the student's work that plays a central role in the learning process. The teacher:

- must be able to select learning situations that suit the actual problems the student will be faced with in work situations.
- unconsciously uses jargon and examples that makes it easier for the student to be ready to accept new skills and experiment with them.
- can provide feedback with content that better suits the exercise situations.