Assumptions and Dilemmas in Training

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Commentary on “Dilemmas in Training for Transfer and Retention” by Beryl Hesketh

INTRODUCTION

The article by Hesketh sets out with an interesting problem, i.e. the question of whether training interventions will lose their effectiveness under conditions of organisational change, and what could be done about it. She suggests that traditional training approaches with their focus on well defined, stable, and nearby goals, will no longer be effective when jobs and tasks are changing. Redirecting training towards more remote aims may, however, produce a conflict between long-term and short-term effectiveness. Furthermore, the type of training that looks most promising in the long term may be difficult to implement due to motivational obstacles. Thus, Hesketh poses three dilemmas, summarised in my own words as: (1) conventional training gives knowledge that may not transfer; (2) the maximisation of immediate training outcomes is at the expense of remote outcomes; (3) factors giving cognitive advantages in transfer pose motivational hindrances.

Rather than concentrating on the dilemmas themselves or on the way in which they can be resolved, this commentary focuses on underlying assumptions. I will argue that the dilemmas have a doubtful status because the assumptions on which they are based may not hold. Examining and clarifying these assumptions is therefore my major aim.

As Hesketh does not present her assumptions explicitly, I must infer them from her article. In doing so I discern two sets of assumptions: (1) ecological assumptions pertaining to the social setting in which the trainer finds him/herself. and (2) theoretical assumptions about the effect of training on people’s competencies and performance. I will scrutinise these assumptions and point out the consequences for Hesketh’s argument when they are not fulfilled.

ECOLOGICAL ASSUMPTIONS

Hesketh’s analysis presupposes a particular social context, minimally comprising a training professional, whom I will call trainer, a (prospective) client firm, and a number of employees considered as trainees. The first ecological assumption relates to the position and the purpose of the trainer. It is clear from the text that he/she “owns” the dilemmas. Apparently the trainer wants to continue supplying training to the client firm and to make
the training product more effective under conditions of organisational change. But the problems that Hesketh signals seem to derive from the specific aims the trainer has. For example, why would the trainer have to aim at goals that are difficult to reconcile, rather than focus on simple goals, either short-term or long-term? Are there perhaps hidden "commercial" premises involved? I feel that Hesketh ought to clarify this matter, as that would help to identify professional settings in which training experts may and may not face the dilemmas she described. Trainers who succeed in defining their professional and business position unequivocally might not run into any dilemma at all.

The second ecological assumption relates to the composition of the group of potential trainees. In pointing out that more effortful training methods may demotivate people, Hesketh seems to suppose that the future trainees, participating in training aimed at broad and lasting competences, will be the same as those who took part in focused skill-training in the past. That does not seem a very plausible assumption because the conditions of organisational change to which she refers are likely to have an impact on the target groups. If the new training were to attract other employees who are motivated by the challenge offered, the third dilemma would not present itself.

In a way there is a contradiction in Hesketh’s analysis. On the one hand she assumes that economic and technological changes have great impact on organisational activities, jobs, and tasks, but on the other hand she assumes that the trainers (and the trainees) are immune to such changes. Yet, the training profession is as likely to be affected by the change as other professions in the human resources field are (e.g. Cascio, 1995; Roe, 1996a). It is beyond doubt that training is an area of intervention that may contribute to effective work performance under conditions of organisational change, but its strengths and weaknesses, as well as its relative contributions compared to other types of intervention remain to be established.

THEORETICAL ASSUMPTIONS

The theoretical assumptions in Hesketh’s article concern the effects that exposure to training has on individuals. Different terms are used to describe such effects, including “learning”, “skill”, and “transfer”. Here I will refer to “competence” rather than “skill” in order to avoid the conceptual confusion in Hesketh’s use of that word. Moreover, I will introduce the notion of “performance”, which is implied in the concept of transfer but deserves to be singled out.

The first assumption is that training is a prerequisite for learning, competence, and on-the-job performance. Hesketh seems to depart from a causal model in which job (or task) performance is based on competence,
competence in its turn is based on learning, and learning is based on training. Or:

Training → Learning → Competence → Performance

The very idea of her article is that people should be trained in order to perform well under conditions of change, and that factors hampering the effects of training should be eradicated. The validity of the causal model may be seriously questioned, however. Training, as a deliberate intervention by a trainer on behalf of the organisation, is by no means a prerequisite (i.e. a necessary condition) for good performance. People also learn in practice from everyday problem-solving, examples, suggestions and explanations of colleagues or clients, instructions from superiors, guidelines from manuals, and so on. As Hesketh herself notes, situations of job change, characterised by unclear demands and ample opportunity for errors, may actually evoke an effective learning process (see also, Frese et al., 1991; Ohlsson, 1996) which minimises the need for training.

Moreover, as the literature on industrial training shows, there are no strong links between training and learning, nor between training and performance on the job. The effectiveness of training and the transfer from training situations to daily work situations are known to be rather limited (e.g. Gielen, 1995), and even the link between learning and competence can be questioned. Each part of the chain is affected by several other factors. Thus, the learning process does not depend only on training parameters, but also on individual characteristics such as learning style, pre-existing knowledge, intellectual abilities, and motivation, as well as on events during the execution of tasks and the interaction with colleagues and supervisors. Competencies, i.e. work-relevant knowledge and skills, do depend on learning but are also influenced by, for example, mental and physical abilities. The literature on performance in work situations provides ample evidence on the role of "performance shaping factors" other than those mentioned by Hesketh. Such factors include the person's subjective task definition, motivation, experience, mental and physical state, available tools, climate conditions, work team characteristics, leadership and so on. There are literally dozens of factors, reflecting intra-individual and inter-individual variability, which affect performance and limit the potential effect of training (e.g. Roe, 1996b; Smith, 1995).

It should perhaps be added that the transitivity assumption behind the overall model is questionable as well. Even if, in studying a particular domain, evidence were to be found for (probabilistic) links between training-learning, learning-competence, and competence-performance, a different overall model might be postulated. If one were to assume task performance to invoke a learning process, the model might look like the one
shown below. Such a model would seem more adequate from a work-pyschological point of view and lead to rather different implications:

\[ \text{Training} \rightarrow \text{Learning} \leftarrow \text{Performance} \]

\[ \downarrow \quad \uparrow \]

\[ \text{Competence} \]

The second assumption is that \textit{training has specific effects on competencies}. In analogy to what was noted with regard to training in general, Hesketh seems to assume that each training intervention produces a specific kind of competence. It is crucial for her assertion that the training needed to establish a particular competence A is irreconcilable with one aiming at another competence B. I will not reiterate the earlier criticism but rather question the specificity assumption by introducing a distinction between levels of competence. At a low level, then, the assumption of specificity does indeed have some plausibility. Actually, the literature on skill acquisition (e.g. Holding, 1989) provides several examples of training resulting in the acquisition of particular fine-grained psychomotor skills, such as moving levers, pushing pedals, or throwing balls. But whether the same applies to complex competences (also called "skills"), such as operating a machine (psychomotor), inspecting multi-component visual displays (perceptual), or making a medical diagnosis (mental), remains to be established. In fact, it is \textit{most unlikely} that complex competences, i.e. those that are mastered only after six months or longer, would show such specific dependency on what happens in the training. As a consequence the issue of interference in transfer may be overstated.

The issue may be clarified by taking a look at work activity theory. According to this theory different regulation mechanisms are involved in the execution of work tasks (Frese & Zapf, 1994; Hacker, 1986). Complex tasks and new tasks call for a serial stepwise execution that is consciously monitored. Componential tasks are executed in a semi-automated fashion, on the basis of previously learned if-then rules. Elementary tasks, in contrast, are executed by means of automated routines, with minimal cognitive control. Repeated execution of the same tasks is postulated to lead to a learning process that makes the level of regulation decrease. Thus, two factors restrict the automated execution of tasks, i.e. their novelty and their complexity. That changing over from one set of automated routines to another may produce interferences is a well known problem in work psychology. A good example is offered by the so-called "conversion training" of air pilots. As the old routines may thwart the new ones, a systematic retraining is necessary. But the problem of potential interference may well be confined to the level of automated routines, and perhaps that of rules. At the highest level, that of cognitive regulation, one would expect few
problems, as cognitive monitoring typically implies the acquisition of meta-knowledge (Falzon & Teiger, 1995; Ferguson-Hessler, 1993) that actually helps in generalisation. Thus, apart from earlier points of criticism it seems that the first dilemma would only occur in situations that call for highly specific competencies, i.e. posing well-known and simple tasks. In other cases one would, on the contrary, expect more general competencies which do not suffer from lack of transfer.

The third assumption, that of limited transferability of competencies, can be considered as the complement of the second one. It holds that particular competencies facilitate the performance of specific tasks, but fail to facilitate the performance of other tasks. This assumption obviously implies that tasks show little or no overlap in content, which seems rather unrealistic in practice. During organisational change, existing tasks may be partially retained and partially modified. Old tasks and new tasks may show a greater or smaller similarity in structure. Tasks may change in content only but not in structure. It seems likely that the degree of cross-generalisation depends on the overlap or similarity of task elements. It follows from the previous section that at the level of complex tasks, based on broad competencies, a high degree of transfer can be expected, quite contrary to what the first dilemma suggests.

IN CONCLUSION

Whether or not trainers will really face the three dilemmas that have been addressed here, cannot be ascertained on the basis of the arguments put forward by Hesketh, and will depend on how trainers approach their task. First of all, trainers would have to clarify their assumptions regarding their professional role and the theoretical basis of their interventions. Second, trainers would have to perform work-analysis covering the expected organisational change as well as the scope and content of the job (or tasks) before and after change, in order to identify the needs and specific problems of training. In fact, this is the recommended practice in training design (Goldstein, 1991). As I have argued, some of the training problems mentioned by Hesketh may show up under particular conditions, but successful performance during and after organisational change may also be achieved without such problems, or even without training at all.

REFERENCES

Transfer of Training and Self-efficacy: What is the Dilemma?

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In the last several years, transfer of training has begun to receive the research attention that it so desperately deserves. Given the increasing importance of training for individuals and organisations, and the potential implications that investments in training can have for a nation’s economy and global competitiveness, this is a topic whose time has come. This is all the more important given the long touted dismal estimates of the extent to which trained skills and abilities actually transfer to the work environment, and the recognition of a “transfer problem” in organisational training (Baldwin & Ford, 1988). Thus, it is within this context that one can appreciate Hesketh’s paper on the dilemmas and conflicts surrounding the transfer of training in today’s rapidly changing world.