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transfer, transition and transformation

Jørgensen, Christian Helms

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Christian Helms Jørgensen, PhD, associate professor   Sept 8th 2011

Department of Psychology & Educational Studies

Roskilde University

Postbox 260   Phone 0045 46742923

DK-4000 Roskilde   Email: cjhj@ruc.dk

Denmark   http://www.ruc.dk/inst10/

Teachers learning in TVET: transfer, transition and transformation

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In a study of teachers learning in a FE college substantial problems of transfer were found (Jørgensen a.o. 2006). The paper explores, why transfer is so difficult to accomplish and how it can be understood. It questions the idea of transfer as a process separate from learning, and discusses how transfer can be conceptualised to include the complex processes involved. It is argued that transfer involves not only adjustments of mental and manual tools to a new situation, but a transformation of the skills and knowledge being used. Transfer may also involve transformations of the context for learning, of the social relations and the identity of the learner. In addition, transfer often takes place in connection with a transition of the learner between contexts and a transition in the life course of the learner and thus has a biographical dimension. The methods of the study were individual interviews with 20 teachers involved and observations of teaching. The transcribed interviews were analysed by three researchers in order to develop a critical understanding of the complex processes often involved in 'transfer'.

In Denmark, there is a high level of continuing education for employees in companies. This is due, among other things, to a strong public system for continuing and further education and training, financed by the state and the labour market partners in collaboration. However, there is often dissatisfaction regarding the outcome and the effect of continuing education courses among both the employees and their managers. They often find it difficult to make connections between what has been learned at an external course, and everyday life in the workplace. There is a wish, therefore, to connect external training more closely to the internal learning in the workplace and to changes taking place in the organization of work. Companies have shifted their focus from sending employees on courses, to use external courses to support the employees improvements of their daily practice.

This creates a need for teachers in continuing education (FE colleges/TVET for adults) to change their role as teachers. From teaching according to a fixed standard curriculum, there is now a requirement for them to offer a more tailored and and flexible "delivery" of education linked to the development of the modes of organization and working methods at the participants' workplaces. Teachers are expected to help participants in their courses to apply and implement what they have learned in order to create changes at the participants' workplaces. This entails that the teachers must change their teaching role and style of tuition so that teachers increasingly contribute to the participants in external courses being able to apply what they have learned when they return to their workplace. In the Danish system of continuing education, this is a matter of switching from the delivery of standardized courses to creating "practice oriented learning". This paper is based on studies of a development project in an FE college that was intended to implement a conversion to "practice-oriented learning". The issues examined in this paper are: How can we as researchers understand the issue of connecting learning at external courses to changes at the workplace? And what is the relevance of the concept of 'transfer' in relation to this kind of teaching and learning? The paper is mostly conceptual and explorative.

Weaknesses in the transfer concept

FE colleges often regard the issue as a question of teachers acquiring some new "tools" to identify skills requirements in the companies and incorporating the everyday practice of the participants into the teaching. Among the issue is often approached through the concept of "transfer of learning" (Illeris 2009; Yamnill & McLean 2001). The concept draws attention to the fact that the purpose of the tuition provided by the teachers is not just to support learning in connection with courses, but also to assist the participants to "transfer" what they have learned to another context, the workplace. However, the project showed that there are some weaknesses associated with the concept of "transfer" that make it difficult to understand the nature of the task. That is what I will discuss below.

"Transfer" is about transferring something that is learned in one situation to another situation where it can be used. Usually, the concept is used for the transfer from a training or teaching situation to a work situation, where what has been learned shall be applied, but without it otherwise entailing any changes at the workplace. A precondition for transfer occurring in such cases is that what has been taught can readily "fit into" the new situation. This will usually be the case with simple skills and specific knowledge that is related to known and standardized tasks. In such cases, where both the tasks and the competencies are relatively simple and standardized, it is relatively easy to transfer what has been learned directly from one situation to another. This was previously the case to a large extent for both the students, who worked with routine tasks, and for the teachers, who had a specific curriculum that they had to teach.

It is rarely that straightforward today. A simple transfer is rarely possible under circumstances in which the employees' learning is part of continuous changes in the content and organization of the

work. Under these conditions, learning is associated with employees actively participating in changing their work situation, their social identity and relationships and the organizational and physical context of the workplace. Employers claim that it is not just practical skills that must be learned, but also social and personal competencies (generic skills). Under these conditions, the very notion of "transfer" can be an obstacle to understanding how connectivity can be established between learning in an external training programme and learning in the workplace. This is because "transfer" is linked to an understanding of learning as a primarily individual and mental activity. I will elaborate on these weaknesses below.

Firstly, the dominant meaning of "transfer" of learning in the education system is based on what might be called a concept of "double transfer". The first transfer is the transfer of a given syllabus, knowledge or skill to a participant in connection with the teaching. The second transfer is the participant's conveyance of what has been learned at the educational institution to a practice where what has been learned is applied, implemented or translated (Illeris 2009). This way of understanding the relationship between external training and internal workplace learning is problematic because it regards education as the context in which one *learns*, while the workplace is a context where what has been learned is merely *applied*. The concept of "transfer" is therefore based on an understanding of knowledge as organized in a knowledge hierarchy, which reflects the educational system's own basic form, with the abstract and theoretical knowledge at the top and the practical knowledge and manual skills at the bottom (Fuller 2007). By understanding the relationship between education and the workplace using a dualist concept about *"learning – application",* we tend to ignore the fact that the workplace is an important arena for learning - for many employees it is actually the most important arena. Experiences from the development project indicated that the term "application" of what is learned conceals what are often extensive changes that are required in order for new ideas, knowledge and inspiration from an external training course to be adjusted, expanded or reshaped to fit the company's context. It often requires extensive learning at the workplace in order to utilise the inspiration that an external course can provide. In addition it often requires extensive changes in the organisation, technology and management – or what could be conceptualised as organisational transformations. Instead of talking about "transfer of learning" and distinguishing between "learning" and "application", the task of the teachers may be understood as a question of supporting learners achieving coherence between learning in different contexts – or "connectivity" (Lawy 2000, Guile & Griffiths 2001; 2003).

Secondly, the traditional understanding of the issues does not take into account that connectivity can go both ways. The important thing for teachers is not just "transfer" from education to work, but equally the "transfer" which may take place in the other direction, i.e. from the workplace to education. For example is it a weakness in the dual system of VET in Denmark that it typically starts with 6-12 months of school-based education, before the students begin their training at a workplace as an apprentice. This organization of the programme is based on the assumption that the learning of

theoretical knowledge shall precede the performance of practical work. But it is difficult, therefore, to make school-based tuition relevant, because it cannot be based on experiences that are brought in from practice - through a "reverse transfer". Experiences from many development projects in continuing education for adults suggest that the most crucial factor for a high level of connectivity between education and the workplace is that what takes place in the education shall be perceived as relevant to workplace practices (Jørgensen 2006, 2002). Teachers in FE colleges have therefore started to organize the tuition so that it is based on the learning requirements and problems in the workplace that the participants bring to the education, rather than focusing on standardized competencies. But this is difficult to implement because education policy is increasingly based on principles of competency-based and output-based education, which is designed on the basis of detailed competency objectives. This policy is based on an understanding of learning as acquisition and topping-up, rather than as an active processing and transformation of experiences, identity, environment and relationships (Hager & Hodkinsson 2009; Jørgensen 2001). It is this transformation that is important if external courses are to be effective when the employees return to everyday life at the workplace.

Thirdly, the conventional concept of "transfer" entails that learning is understood as acquiring a "thing", a piece of codified knowledge or an instrumental skills that is independent of the learner, which is learned independently of the context and which can be carried around between various contexts, for example from school to working life. From this perspective, learning is regarded as linked to formal education and as an acquisition of explicit knowledge that is context-free and which can be "put into" people, who carry it around and use it as a piece of mental equipment in various contexts. Beckett and Hager (2002) refer to this view as the dominant "standard definition" of learning. This definition regards learning as associated with education and teachers and considers learning to be an individual process where, through a mental process, the learner acquires knowledge, which takes the form of an "object". The problem is that it focuses on a measurable result of learning rather than regarding learning as a continuous process, which transforms both the learner's past experiences and their relationship with their surroundings.

Alternatives to "transfer"

As alternatives to this understanding, there is a need for new concepts about the relationship between education and working life that recognizes the importance of learning in working life. This also creates a need for a definition of learning that approaches learning as being linked to both the learners' experiences and to a context-based social practice – irrespective of whether it is a work practice or a school practice. There are three different theoretical traditions that have formed the basis for the development of such alternatives within research into workplace learning. The first is the critical theories on experiential learning and adult learning (Mezirow 2000, Olesen 2007), which emphasize learning as a subjective process that processes and transforms past experiences - rather than as "knowledge acquisition". The same point can be found in Peter Alheit's concept of bio-

graphical learning and Stroobants & Wildemeersch's (2001) concept of transitional learning. Both regard learning as a task which entails creating connection and coherence between lessons learned from the many different contexts through which modern humans move during their lifetime. Compared to the conventional notion of "transfer", the point here is that learning has a subjective dimension that is about creating meaning and coherence in the individual's lifeworld across contexts.

Secondly, the theory of situated learning (Lave & Wenger, 1991; Wenger 2004) pointed out the importance of communities as arenas for learning, and learning as a dimension of participation in a social practice, for example a work practice. This breaks with the "standard" definition's juxtaposition of subject and object, a cognizant subject and an external reality, that are learned about. It is a conceptual framework that is more relevant to an understanding of the problem of achieving coherence between learning in school and working life. Compared to the conventional concept of "transfer", the point is that learning is not only seen as a cognitive process, but is also understood as social, practice-based, interactive and transformative.

 Thirdly, based on the work of John Dewey, pragmatism has pointed to learning as an integral part of human interaction with and transformation of their surroundings - including the workplace (Dewy 1925; Elkjaer 2005). It is relevant, therefore, to understand the "transfer" problem as a question of creating a transformation which is not only a mental process. Learning across contexts involves not only acquiring new knowledge or the transformation of given mental schemes, as the cognitivist tradition (Illeris 2009) suggests. The context of learning in modern working life will often involve transformations of both the participants' social identity and social relations and of the organizational context. Learning is not just about acquiring knowledge and skills, but of becoming (Colley a.o. 2003). If learning in connection with courses and development projects shall lead to organizational changes, it is often required that the learned, the learner and the context are all transformed. This raises the question of how transformations come about, what are their drivers? In addition to the above mentioned three sources of inspiration, a concept of transformative learning with inspiration from e.g. Mezirow (2000) can be useful.

The driving force in transformative learning
In Jack Mezirow (2000), it is a central theme that personally experienced dilemmas, which create disorientation, give rise to transformative learning. It is in seemingly unsolvable situations of choice that we are forced to reflect on our own routines, prejudices and experiences and where we have the opportunity to transcend them. Dilemmas can lead to a search for new ways to understand both the situation and our own role in it, and can thereby lead to changes in our patterns of behaviour and life perspectives. Transformative learning is not only an inner transformation of the learner. It also transforms the context and the learner's relationship with the context. In the project, this entailed that the teachers' changed their perception of their own roles as teachers and, in some cases, that they relocated their teaching into the workplace. Because the changes are more extensive,

transformative learning requires stronger incentives and greater energy than other forms of learning - such as transfer. But what is the driving force for this transformative learning?

Learning is related to situations where the established practices and patterns of understanding of the learner are inadequate, and where "the right solution" to the relevant problem is not quite available. Usually, learning entails simply adjusting and adapting the existing practice to handle this type of situation. Since there is not usually a more wide-ranging transformation, it may be because the necessary preconditions are not present. It requires time, space and resources to leave behind familiar practices and try new understandings or initiate experiments that are contrary to the hitherto accepted practices in the area. This often requires that the colleagues or the work team and management actively support and participate in changes. In relation to the project on teachers in FE colleges, it was useful to regard transformative forms of learning as a result of the handling of contradictions or dilemmas of the work situation.

The teachers' descriptions of their tasks indicated that the tasks were contradictory and marked by dilemmas. The core of a dilemma is two conflicting requirements, where none of them can be ignored. This leaves the person who is affected by the dilemma in a situation where, no matter which of the requirements they try to fulfil, the other requirement cannot be satisfied. A dilemma exists as long as the person is constrained, or allows themselves to be constrained, in a contradictory situation, where both (or all) the solutions are problematic or have undesirable consequences. Due to its nature, a real dilemma cannot simply be "resolved". It appears as an indispensable condition. The way out of the dilemma is often driven by a perceived need for change and the desire to move on - but requires both choice and action. Since the choice also involves problematic choices and unwanted consequences, the dilemmas often block action and therefore also block learning.

A dilemma for the teachers was, for example, whether they should prioritize specific skills or general skills. In the short term, the most relevant and motivating approach will often be to design the tuition for specific skills that can be directly applied in the workplace. However, the more specific the skills are, the shorter the shelf life they will typically have. General competencies cannot always be applied here and now, but they usually have a longer shelf-life and offer greater flexibility because they can be used in many different contexts. Teaching from the exemplary principle may be one way to solve this classic dilemma. By working with specific problems as exemplary of more universal problems, a more general knowledge can be achieved about both the specific and about general problems.

Such a handling of the dilemma may involve the necessity of a transformative learning of teaching practices and teachers' relationships with the learners. Transformative learning in a creative process can thus remove or dissolve the blocking "either-or" dilemma, and - to a greater or lesser extent - allow a "both-and" solution.

Summing up

By replacing the conventional concept of transfer of learning with a concept of learning as transformation, attention is focused on the connection between the mental processes of change (reflection and knowledge acquisition) and the other changes that are a prerequisite for creating connectivity between learning in different contexts. The fact that there is often a limited effect from an employee participating in external courses is not only due to the individual employee not understanding how to apply what they learned. Rather, it is often because the mental and cognitive changes must be combined with changes in the work's organization, technology and management, or with the employee's transition to new types of jobs and participation in changing social relationships. It requires that individual learning is connected with social and organizational learning. Thus in the project, it was relevant to differentiate between 3 types of learning as transformations.

1. *Individual transformative learning* by the individual employee, which occurred when working tasks in daily life were both understood and practiced in a radically different way than previously. Transformative learning entailed that the employee developed a new vision of themselves in relation to others in the organization and/or in relation to the customers and clients at whom the organization's work is aimed. This was the case when teachers who had taught standard courses for years changed to teach tailored courses closely linked to specific organisational changes in companies. This could also entail the transition of the teachers to another department of the FE College, which took care of the 'tailored' courses.

2. *Transformative social learning* can be experienced by people in group situations. Thus, a collective transformation of social communities in the workplace can occur, which is initiated by transformative learning by a group of employees through the establishment of a new practice and new knowledge in a workgroup. Such changes can be initiated by the group having experiences and/or working with teaching tasks that create common learning processes that alter the often unspoken norms and mutual expectations of the group.

3. *Organizational transformation* can occur when conscious changes take place in the company's division of labour, social conventions and/or management style, resulting from a new perspective on work tasks or the introduction of new working methods. This can be expressed by e.g. the delegation of tasks from middle managers to a group of employees. It can also be expressed through changes in the internal division of labour within management, or by an entire department being closed down and the tasks being transferred to employees in other departments.

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