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**The co-construction of individual and organizational competence in learning
organizations**

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ABSTRACT

This paper explores the competence required by the learning organizations which are prioritized in current EU policy for the creation of a knowledge based economy. Data from a European research project on learning organizations are analyzed to reveal how authority and responsibility for problem solving and continuous improvement is delegated to ordinary employees through the conduct of 'organizational enquiries'. The nature of competence in this context is identified as the co-construction of new working practices as the individual engages with the organization's rules and resources in the context of the organizational enquiries, together with the enactment of these working practices by a combination of individual and collective activity. Individual participation in these enactments of competence cannot be understood in terms of the concept of the individually contained self which is assumed by many EU VET policies. This kind of occupational identity is disintegrating in the face of social change and the decline of the old industrial culture. Instead, the development of occupational competence must be understood as a function of a relational self which exists in and through dialogic relations with others. Occupational competence develops in the workplace as individuals make sense of lived experience by engaging in dialogue, identifying with categories and discourses and using these to position and construct themselves in successive situations. So to engage effectively with the competence requirements of learning organizations, VET practitioners and researchers must focus on how the individual and

the organization co-construct each others' capacity to perform, on the dialogue through which this occurs and on the development of the relational self in this context.

Introduction

In English, the word “competent” means “having the necessary ability, knowledge or skill to do something successfully” (Oxford English Dictionary.)¹ However, although there has been a great deal of research into competence, we are still lacking an adequate account of competent performance in the kinds of work organisation that have developed within the so-called ‘knowledge economy.’ One reason for this is that the policy of ‘competency based education and training’ adopted by many European countries has bureaucratized vocational education and training in ways that have impoverished the national discourse on competence – debates have focused on issues of administration and accountability rather than theorization or understanding. For this reason, it is all the more important to develop a theoretically-informed and empirically-grounded perspective on competence in the ever-developing world of work.

The aim of this paper is to contribute to a theoretical understanding of competence in the European context by investigating the competence requirements of work in a learning organisation, drawing on research carried out in an oil refinery for the EU framework V project ORGLEARN (Fischer and Roben, 2002). The key assumptions which inform the study are:

- competence is not an objective attribute like height and weight, but is socially constructed – to be competent depends on being recognised as competent by the members of the community to which one belongs, and on participating in the customs and practices of that community. Such recognition reflects the dominant values of the community, not just the skills the competent individual brings with him to it. For this reason, it is essential to adopt a research paradigm which takes the culture of the workplace into account.
- competence is context-dependent – to be competent is to be competent in a particular setting or settings. One might be a competent teacher in one school but not in another, due to differences in the way one’s professional relationships

are formed with the two sets of colleagues and pupils. The implication is that the study of competence requires an investigation of the complex interactions between the competent individual and the people and objects with which he/she interacts in the work setting itself.

- competence attaches both to individuals and collectives, including sole practitioners, work teams and entire organisations. In the highly individualistic culture which characterises many contemporary European societies there is a bias towards viewing competence as an attribute of individuals. However, it makes perfect sense to ask whether a construction firm is competent as a *firm* to take on a proposed building project, quite apart from the individual competence of its bricklayers, electricians and carpenters. In such cases, we are acknowledging that a successful outcome depends on collective effort and that collective competence is more than the sum total of the skills of the individual members.

The learning organization in European policy

In the European context, one employment context in which the nature of competence is urgently in need of clarification is the so-called learning organisation. Learning organisations are a contemporary focus for research and development because it is the explicit policy of the EU to create an economy of learning organisations and to network them into learning regions. The importance of the learning organisation in EU policy making is reflected in the statement by Lundvall, one of the policy advisers to the EU in this field, that 'the design of 'learning organisations' may be the single most important factor determining the fate of the firm and even of national economies' (Lundvall, 2001 p. 278). It is therefore important for VET research to establish what it means to be competent in the context of a learning organisation. For as EU policy urges us towards a 'learning economy' (Lundvall, 2001), then VET practitioners will be charged with the responsibility of ensuring that the workforce are competent members of learning organisations and VET scientists will be responsible for providing the intellectual tools to assist them in this task.

If competence is highly dependent on context, we need to begin by exploring the concept of a learning organization and the contextual factors which will determine the nature of competence in that setting. This is not a simple task. The concept of the learning organization first appeared in the social science literature more than forty years ago (Cyert & March, 1963). Since then, there have been many definitions of 'learning organization', the most widely cited of which are 'an organization which facilitates the learning of all its members and continually transforms itself' (Pedler *et al.*, 1991, p. 1), and 'an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behaviour to reflect new knowledge and insights' (Garvin, 1993, p. 80). However, these definitions lack the kind of detail we need to delineate the contextual factors on which competence in such an organization depends. So in an attempt to add some flesh to these skeletal definitions, this next few paragraphs will discuss the *structural* and *cultural* characteristics of learning organizations which have been identified by empirical research.

Structural. The organizational chart of the typical learning organization stands in contrast to the traditional bureaucratic organization associated with the names of Frederick Taylor and Henry Ford. The latter kind of organization is hierarchical and work is structured around fixed operating procedures which are determined by management and handed down by them to the employees. Work for the latter consists of following these procedures under the close supervision of middle managers and foremen. Whilst the Taylorist organization does of course *learn*, its learning is concentrated at the top of the hierarchy and does not involve the ordinary workers. The managers at the top of the hierarchy use 'management science' to learn on behalf of the organization, but the others have to do what they are told. This way of organizing work evolved at the beginning of the 20th century for the mass production of standardized products at the lowest possible cost, and remains the best way of achieving that particular objective, especially when there is supply of labour willing to undertake repetitive and unintelligent work in return for the high wages it offers. Today, however, EU policy regards this way of organizing work as too inflexible to enable most European firms to compete successfully in international markets. Competitive advantage is believed to depend on quality and adaptability, and an organizational form is advocated which abandons hierarchy and fixed procedures for flatter organizational charts and the involvement of all grades of employee in continuous improvement. Such an organization is believed to possess a

greater capacity to create new products and processes, to abandon old ones, to build quality into the production process and thus to adapt swiftly to changes in the market and also the need for high quality products.

Cultural. However, the abolition of bureaucracy and segmentation achieves little in itself. It merely creates possibilities for collaborative working and harnessing the knowledge and expertise of all members of the organisation in a drive towards better performance. A culture of innovation is required too. The first scholars to treat the learning organisation concept in a systematic way, Argyris and Schön (1996, first edition 1978) described the essence of a learning organisation as ‘a culture of open enquiry’ in which members of the organisation collaborate in ‘organisational enquiries.’ In a learning organisation, everybody is engaged in creating and sharing knowledge about how to achieve the organisation’s purposes. Much of this activity is focuses on organizational enquiries - groups of workers who are convened to find ways of improving the organisation’s processes and products. A familiar example is the quality circle, but as the learning organisation concept has taken hold, many other examples have emerged (Fischer and Roben, 2002). Two examples of organizational enquiries are discussed in detail later in this paper.

What are the implications of these organizational developments for competence, focusing for the moment on the production worker? The major implication is an expansion of the spectrum of required competencies due to an expansion in the production worker’s role. Let us take the example of maintenance technicians and process controllers in continuous process manufacturing. There seem to be two dimensions along which their work roles are extended.

1. Broader technical responsibilities. To achieve the functional flexibility described earlier, narrow technical roles are replaced by broader ones. Typically, the process operator will add first-line maintenance to his role, and the maintenance technician will be responsible maintaining a wider range of systems (e.g. separate electrical and mechanical technicians are replaced by a combined trade of mechatronics).

2. Involvement in continuous improvement. In addition to their ‘direct’ work of repairing equipment and controlling automatic production processes, in learning organizations

employees also participate in organizational enquiries – from time to time they join ad hoc task forces which engage in the ‘indirect’ work of planning, evaluating and improving the work process itself. The nature of this work, as Argyris and Schon (1978) describe it from the perspective of action science, is recognising, questioning and replacing the hidden assumptions (‘theories-in-use’) that underpin the current way of conducting operations.

Thus to be a ‘competent’ maintenance technician or process controller employee in a learning organisation, one is expected to be good at two kinds of activity - the expanded technical duties of one’s trade, *and* working with others in problem oriented organisational enquiries. The task for VET scientists is to gain an understanding of the kind of ‘competence’ this is.

Case study of a learning organization

Empirical data for analyzing this ‘extended’ competence is provided by an empirical study of a learning organization, a petrochemicals manufacturing complex. Located on a major river in the UK, the company is part of a multinational oil conglomerate and its main business is refining crude oil into fuel gas, propane, butane, tops (the base constituent of gasoline), naphtha, kerosene, gas oil, waxy distillate and long residue. After the initial distillation process, these products are fed into 10 plants on the site each of which is operated by its own team. These refine the products further so that they can be sold directly to customers (e.g. as petrol or lubricating oils) or sold on to other chemical companies as feedstock for processing into a range of goods such as plastics, paint, detergents and cleaning fluid. The plant are organised into two main work units. The first unit comprises platformers (which change the molecular structure of naphtha), a merox treater (which takes sulphur out of kerosene), a hydrogen sulphuriser, an aromatics production unit and a base lubricant oil plant. The second work unit comprises a catalytic cracker (which also performs gas separation), an ethyl benzene unit and an alkylation plant.

In the early 1990s, the company faced a crisis caused by its poor performance against a background of strengthening international competition. At that time it was organized on Taylorist lines, with a hierarchy of managers, supervisors and manual workers. Strong boundaries were maintained between departments and a top-down approach to decision

making was the norm. Most production employees followed fixed procedures which had hardly changed in 20 years. Faced with the threat of closure, a new site manager called a meeting of all the employees and proposed a radically new way of working. This would be based on collaboration, a commitment to continuous improvement and a more flexible labour process. After some vigorous debates this was accepted and a period of reorganization ensued. Today, the restructured company commits itself to the ideal of being a learning organization by declaring publicly that 'learning as an organization' is its main operating principle, that its business strategy is based on its intention to 'learn as a company from past mistakes and successes' and that all employees will 'openly share knowledge and learning within the company'. Employees at all levels are now expected to focus their activities on the corporate goal of becoming 'the best small refinery in Europe' which has been translated into a set of targets and key performance indicators and issued as a glossy booklet. This booklet is updated each year by a collaborative process of all-to-the-table negotiation.

Of special significance to the theme of the present paper, work has been reconstituted by incorporating a comprehensive programme of organizational enquiries into the standard production work, all focused on finding ways of meeting the targets set out in the plan. The earlier pattern of hierarchical communication has given way to the open sharing of knowledge about the business through two-way communications (team meetings, intranet discussions, open forums on the company TV network, etc.) The knowledge created through the organizational enquiries is adopted as new policies and procedures which the workforce adopt more willingly than when policies and procedures were imposed from above. To enable this new way of working, several layers of middle management have been stripped out and more responsibility has been delegated to work teams. Today, many decisions are made collectively by teams of operators which previously were made by shift team leaders, supervisors and charge hands (all grades which have been abolished). At the plant level, teams decide how they will contribute to the site plan, and their strategy is decomposed into targets and personal development plans, the latter providing objectives for the greatly expanded training programme.

The organizational enquiries

For reasons of space, this paper focuses on the practice of organizational enquiry and the work of process operators and maintenance technicians. As described above, in addition to their direct work watching control screens, repairing equipment and inspecting the outsides of the plants for signs of leakage, from time to time these employees join small task forces which address problems encountered in the performance of this work. The task forces involve all grades of staff and can often be led by junior grades. In the study of the oil refinery carried out for the EU project ORGLEARN, we found many that different types of organizational enquiry are taking place within the company. Sometimes an enquiry is set up at the behest of management and participation is mandatory, while others are initiated by ordinary members of the workforce. But in either case, employees explore mismatches between expected and actual performances, create new models of the way the work should be carried out and modify working practices accordingly. The new ways proposed by these groups are almost always adopted as official policy and procedure. In a very important sense, the organizational enquiries are the prime site for organizational learning in the company.

The conduct of organizational enquiries is based on the 'Systematic Approach', a group problem solving technique which employees are encouraged to use whenever appropriate. Specifically, the Systematic Approach is an eight-stage process comprising:

- exploring the presenting problem ('The Task')
- deciding on the aims of the enquiry ('The Purpose')
- stating intended outcomes ('The End-Result')
- setting success criteria
- collecting evidence
- working out a solution
- implementing the solution
- evaluating the solution

All 850 employees have attended a three-and-a-half day residential course on the use of this technique, and the stages are displayed prominently on wall charts in most working spaces. In addition, there are a number of Systematic Approach facilitators on site.

These are ordinary workers with regular jobs in the refinery who have attended a seven-day course on facilitating the Systematic Approach. If called in, the facilitator will moderate the way the group is operating, intervening whenever their interaction departs from the norm. One facilitator described his role thus:

The Facilitator job was to go in, lead them along, help them to use the Systematic Approach, say “Well, you haven’t actually defined your Task yet,” and they’d start looking. The one great thing that we use now is the Flip Chart - we never used Flip Charts before - but now if you go into a meeting, you’ll probably see Flip Chart paper all over the room where people are writing things down. And so, you’d sort of move the process on and try and stop the fighting by saying, “Hang on. You’ve actually said you know the answer, but really we haven’t got all the information together yet, so let’s park it, let’s put it on a piece of paper.”

The Systematic Approach has become habitual, as one of the employees interviewed said:

We tend to use the Systematic Approach now every time we sort of want to look at something. I’d say it’s become part of the culture, in that when we get together now, if we’ve got a problem or we’re having a meeting about a particular issue, we say “OK, what’s the Purpose, what’s the Task, what do we expect the End Result to be?” You’ll hear things like this. “What’s our Success Criteria, when will we know we’ve got to the end?” and I think we do that automatically now.

Models of competence

At one level, then, the competence needed to work in the refinery can be represented as the skills of performing an expanded range of technical skills PLUS the skills of participating in group problem solving as described above. This can be depicted in a schematic model such as Fig. 1. This is a ‘bolt on’ model of competence in a learning organization – group problem solving skills are ‘bolted on’ to an expanded portfolio of technical skills.

Figure 1 –The bolt-on model of competence

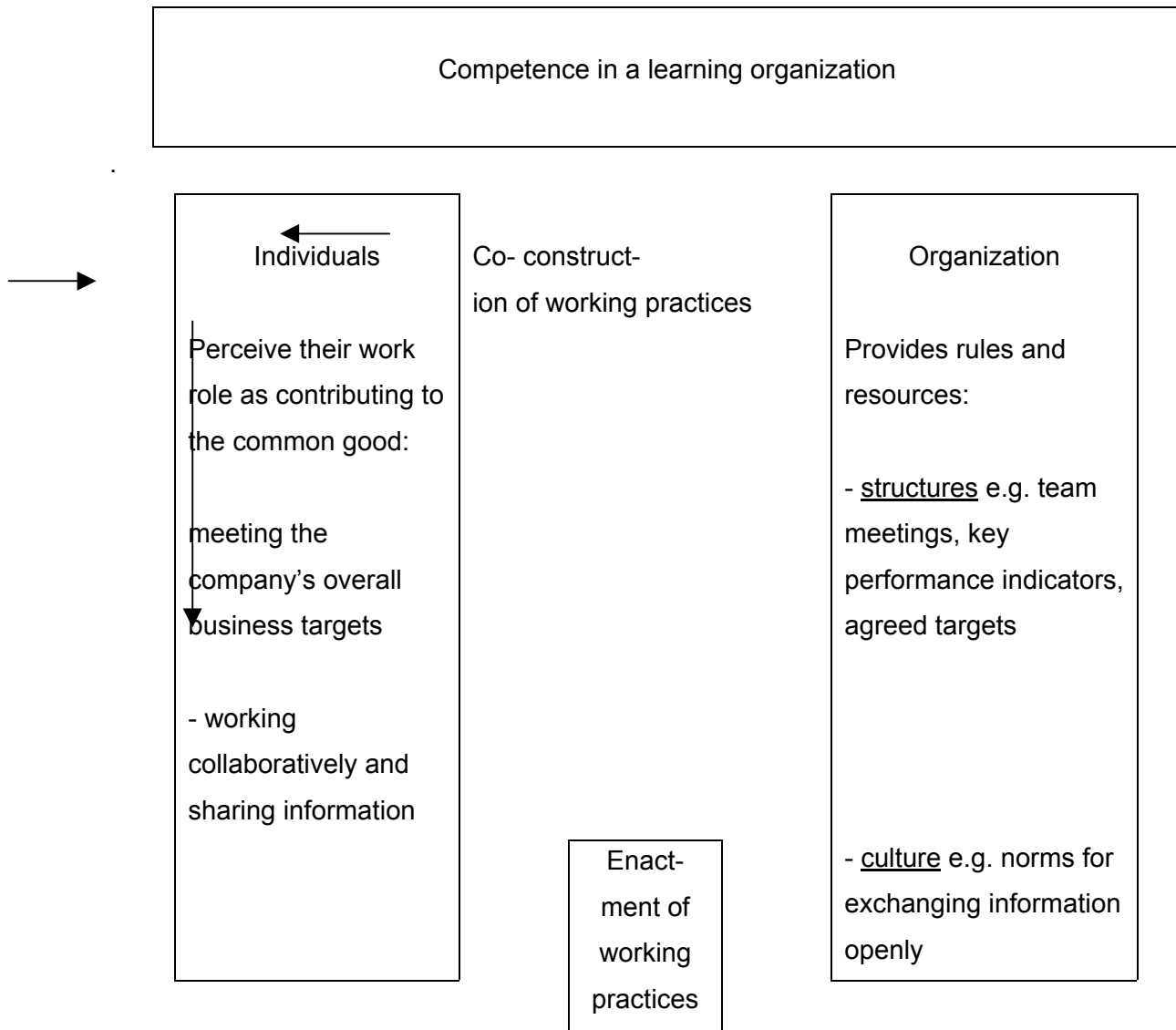
Competence in a learning organization	
<u>Perform expanded technical role:</u> monitor process, diagnose faults, order and fit new parts, etc., across a wider range of technical systems	<u>Participate in organizational enquiries:</u> identify a problem in work organization, engage in dialogue about it, seek a consensus solution to the problem, support the development of shared ideas, manage disagreement and conflict, provide peer leadership, etc.

The bolt-on model consists of two parallel lists of skills which all employees must possess, one predominantly technical skills and one predominantly soft skills. This is the way that the competence requirements of modernized workplaces are often conceptualized. However, whilst at one level it is an accurate description, it does not do justice to changes in the work process. In the introduction, we pointed out that a learning organization has a different structure and a different culture than a traditional Taylorist organization. We also stressed the socio-cultural dimension of competence - that to be competent is to participate in the culture of the workplace. The weakness of the bolt-on model is that it does not engage with the structural and cultural changes that have made the extended model of competence necessary, nor does it engage with what participating in the such an organization entails.

To address the socio-cultural dimension of being competent in a learning organization, it is necessary to attempt a deeper level of analysis. In particular, this means analyzing the relationship that exists between the individual and the organization. Unlike the static character of the Taylorist organization, where work consists of following fixed procedures and 'staying in your box', the essence of work in the learning organization is participation in a continual state of co-construction of new working practices. In this organic and changing environment, where teams are collectively redesigning the work process, competence – both technical and soft skills – is enacted through the new working-and-

learning practices involved. This is a new kind of relationship between the individual and the organization. In the traditional organization, the organization assigns duties to the individual. In the learning organization, the individual and the organization are constantly recreating each other. Whilst the individual derives his or her work role from the organization, he or she is continually reconstituting that organization through the practice of organizational enquiry and thus participating in the collective reconstitution of his or her own work role. Competence (or lack of it) is one dimension of this process of co-construction. The bolt-on model does not capture the complexity of this pattern of interactions. In an attempt to improve on it, we propose a second model:

Figure 2: The co-construction model of competence



The model of competence in Figure 2 suggests that successful performance in the workplace is the result of (1) the co-construction of working practices – typically, by organizational enquiries in which individuals engage with the organization’s rules and resources, and (2) enacting these working practices both through individual and collective performance. Earlier, we argued that both individuals and organizations can be judged as competent or (incompetent.) The organization is competent if its culture is constituted by certain kinds of working practice (and the means of continually constructing and reconstructing these) while the individual is competent if he or she

enacts those practices (and participates in their continual construction and reconstruction). The crux of competence in a learning organization then becomes the relationship between the organization and the individual, in the sense that the real business is carried out within that relationship, not within the individual (as traditional approaches to competence development assume) nor within the organization (as the traditional approaches to organizational development assume.)

Co-construction of the individual and the organization

The term co-construction has been widely used in studies of interaction, especially in the field of language use. Its popularity can be traced to Vygotsky's theory that the knowledge of the developing child is produced through interaction with others in his/her social environment. Of course, Vygotsky focused on adult-child interactions and his special interest was how the adult actively creates 'scaffolding' to help the child create its own understanding of how to perform a task. Since Vygotsky's ground breaking research, the term co-construction has been applied much more widely. In the present paper we are extending its use to analyze the processes that take place between an individual and an organization.

In the analysis of organizational learning data presented below, I argue that participation in organizational learning was both enabled and constrained by the organization's rules and resources, especially by the way in which it ordered the organizational enquiries which took place within the company. However, while enabled and constrained by the organization in this way, participants were able to exercise individual agency in their capacity as self-directed learners by producing lasting effects on the organization itself – in particular, by reconstituting the rules and resources they drew on to perform their work (cf the concept of structuration developed by Giddens, 1984).

The following examples show co-construction at work in the oil refinery.

Example 1. A complaint was received from an outside building contractor who had been engaged to carry out work on the site that he was experiencing difficulties in obtaining materials from the company stores. The company construction co-ordinator, who received the complaint, convened a Systematic Approach group and invited representatives of the company departments involved (stores and procurement), the

contractor and the company contract manager. After agreeing the task, the purpose, the intended outcomes and the success criteria for their meeting, they dispersed to gather more information. When they reconvened, it emerged that the procedures followed by the procurement department and the company stores gave preference to company employees over contractors, and this was identified as the root cause of the problem. Up to that point, none of the departments involved had been aware that this longstanding practice was causing difficulties for outside firms. The Systematic Approach group then devised a new practice, an appointment system which would give contractors two set times each day when they could obtain the materials they needed for their work. The stores and procurement department amended their procedures accordingly, and future problems of this kind were avoided through the enactment of the new practice. These changes in working practices were implemented without any involvement of senior management, nor by any laborious official rewriting of job descriptions, as would have been the norm under the old Taylorist regime. By implementing the Systematic Approach, the workers affected by the problem were able to focus their thinking on their own and others' actions, judge them as rational, use the rules and resources of the Systematic Approach to guide their interactions, and construct new rules and resources for future conduct of the organisation's business. In a very real sense, the organization learned.

Example 2. Another more complex example of the co-construction of working practices is the introduction of a new way of writing the company's standard operating procedures. A standard operating procedure typically consists of 4-10 pages of A3 detailing how to carry out an operation in a plant, such as shutting down a distillation column, and workers are expected to follow these procedures when carrying out such tasks. Previously the preserve of graduate-level engineers, the writing of standard operating procedures is now the province of the process operators and technicians who have to follow the procedures.

A particular form of organizational enquiry is used to carry out the systematic rewriting of the procedures, the Procedures and Competence Development methodology (see Boreham and Morgan, 2004, for more details). After selecting a task for which new standard operating procedures are needed, for example by reviewing the risks of the production process, a meeting is convened of all the workers who perform the operation in question, usually one member from each of the five shifts. They are placed in an office

armed with worksheets and other documentary material and follow a structured procedure which one interviewee described as follows:

There's a representative from each of the shifts that sit round that are going to look at this compressor that's blown up, and they're going to stop it happening, and what they do, they all sit round and say, 'Well, how do you do it?' The first person says, 'Well, what I do, I go out and I check these 15 bells and I do this and I do the other'. Then the next person says to him 'Well, I do that but I don't necessarily do this' and they start talking about that, and then the third person chips in and he says, 'Well yes, I can see what you're doing there, but I actually do this as well'. The idea is, you're trying to get a consensus, and then you thrash out what the best practice is.

Having completed their meetings, which involve extensive consultation with other workers whose activities are affected by the operation under scrutiny, the Procedures and Competence Development team writes a 'reference task analysis', a specification of how the task ought to be performed. This goes through an authorization process in which it is reviewed by a refinery technologist, the head of operations in the plant and the plant manager, who check it for safety and compliance with legislation. Then it is placed on the company intranet for all to consult, effectively embedding the results of the organisational enquiry into the organisation's culture. This is another revolutionary change in the division of labour, as everybody now has access to a codified version of a major part of everybody else's expertise. Organisational memory replaces individual memory as the location of a significant part of the company's know-how. The final stage of the methodology is the production of job aids such as flow charts and checklists, which are distributed around relevant work stations to make this know-how available to all.

The original idea for the new approach came from a Systematic Approach group. Concerned about inconsistencies between different procedures manuals and the fragmentation of the whole set, it decided there was a need for a wholesale rewriting of all the standard operating procedures. To support them in this, managers hired an external consultancy to design an appropriate methodology. The way the employees adapted this methodology for their own use is revealing:

We basically picked the bones out of it, said what was good, what was bad and changed it, and came up with the final format ... so it's a good process and it does work (account by employee involved).

The company's policy documents reveal that the Procedures and Competence Development Methodology was intended to create what it calls 'a culture of shared knowledge for the common good'. A major source of conflict in the workplace had always been the relations between older and younger employees, the older trying to dominate the younger by keeping operational know-how to themselves. However, the method of rewriting operating procedures introduced by the Procedures and Competence Development Methodology ensures equal access to the collective knowledge base.

The day-to-day exercise of the scheme is not controlled by managers but by a number of designated facilitators, employees who work normal shifts and organise the writing of the standard operating procedures in their own plants. The extent of the redistribution of power is reflected in the fact that ordinary workers can now select which aspects of their work are to be redesigned. One said:

If you had an incident for example, you are going to try and extract learning from it and take that to the Procedures and Competence Development Methodology meeting yourself.

Senior staff participated willingly in the sharing of power. One refinery technologist, told us:

I found it strange when I came here that I was writing operating procedures, because I'm not the guy who actually goes and turns the valve backYou should get someone who does the job to write it. I like this much better.

A new and productive pattern of dialogue between senior and junior employees has developed from the authorization requirement, which creates two-way communication between the operators and refinery technologists placed at the bottom and the top of the organisation's hierarchy respectively. This enables them to share different perspectives

on the same object. For example, one team of operators formulated procedures by which they could gain better control of the refining process at 'critical control points' (stages in the process which affect the quality of the product). When these went forward for authorization, the team discussed the data they had collected with the head of operations and the refinery technologists. They had discovered that one particular part of the process went into alarm for a variety of reasons on a large number of occasions, indicating the existence of an engineering problem there. In other words, operators whose jobs require no formal academic qualification, had discovered something that even the refinery technologists – chartered engineers – did not know. This led to productive dialogue and the re-engineering of that part of the plant.

To summarize the main elements of co-construction in these situations:

- Co-construction starts with an open situation (e.g. a discrepancy between the way something should be done and what is desirable – a contractor is experiencing delays, a pump keeps blowing up or the process keeps going out of control)
 - Several actors spanning the individual-organizational divide (the organization's rules and resources on one and the individuals concerned with the problem on the other) contribute more or less equally to the joint creation of a new working practice (e.g. an appointments system for obtaining materials from the stores; a new standard operating procedure)
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- All participants share the same goal (e.g. the organization's overall objectives, set out in the site plan)
 - They proceed by enacting a recognized practice of collaboration or co-operation (the Systematic Approach, the Procedures and Competence Development Methodology, the Authorization Procedure for new operating procedures)

Implications for VET

The main implication of this analysis is that competence can no longer be identified primarily with attributes of the individual employee such as technical expertise and the virtues required to participate in problem solving (the bolt-on model). Nor can it be identified with attributes of the organization, such as its technology, its HRD procedures, its patents and its organizational memory of standard operating procedures – as long as these are conceived as supra-individual. Whilst both individuals and organizational structures are resources to be drawn upon, the essence of competence becomes the dynamic interplay between them which we have characterized as the co-construction of new working practices. The empirical findings from the oil refinery suggest that this interplay can enhance *both* organizational *and* individual agency. Without the employee-initiated organizational enquiries the organization would be less successful - there have been more than 200 recorded Systematic Approach groups, one of which alone introduced a reform which still saves the company £500,000 per annum. And without the opportunity to engage in organizational enquiries on behalf of the company, ordinary employees would not be empowered to change the conditions under which they work, a process which has enabled them to define work roles which they have found more satisfying, but probably more significant than that, to eliminate many sources of job dissatisfaction. And of course, successful participation in continuous improvement has brought everybody a feeling of achievement and increased financial rewards.

Thus to be competent in a learning organisation is to participate in the co-construction of new working practices and to enact them. By focusing on these two aspects of the complex relationship between the individual and the organisation, VET practitioners and researchers obtain a new agenda for their work. Instead of individually-contained notions of skills and static concepts of organisational structure, the focus changes to the promotion of dialogue and the building of the relational self. There are probably other agendas to address too, but for the time being let us focus on these.

The promotion of dialogue. The late 20th century ‘linguistic turn’ in methodology has emphasised the study of organisational behaviour in terms of relating and narrating. This creates opportunities to understand how the worker and the organisation that employs him or her ‘are created in ways that either expand or contract the space of possible action’ (Holmberg, 2000, p. 181) – which in our view lies at the heart of both individual and organisational competence. It would be easy to underestimate the extent of the

revolution in working practices that the introduction of organisational enquiry represents, especially for basic-grade employees in the petrochemicals industry. Previously, under the hierarchical management system then prevailing in the organization studied here, it was usual to work in isolation. Typically, an employee would come into work, report to a charge hand, supervisor or middle manager and be assigned a task to carry out alone. If a problem was encountered, it would be reported to the charge hand etc. who would take over or provide more detailed guidance. As one interviewee told us:

If you went out and did an operation on a column, ... in the old days you wouldn't necessarily tell anyone what you'd done, or how you'd done it, or whatever ...

Now, however, the organisational enquiries have normalized dialogue:

Where people are more likely to talk now is: 'Hey, I went out and did this, and I followed the procedure, but that's not the way we should be doing it' ... And then talking to their mates and saying 'Well, what do *you* think of it?'

Dialogue – the structured exchange of messages, both verbal and non-verbal – is the foundational process of competence building in a learning organisation. There are alternative sociocultural accounts of dialogue. Here we draw on the writings of Bakhtin (1981), who represents the common world as a plurality held together by dialogue conducted according to principles such as willingness to listen, respect for others and openness to alternative interpretations. He stresses that dialogue can pull communities apart as well as bind them together, so the capacity to constitute a shared world depends critically on the organisation's capacity to enact dialogical relationships appropriately. It is *how* the dialogue is conducted that is crucial.

The development of the relational self. It is also important for VET practitioners and researchers to consider the identity of the individuals who work in learning organisations, whether competently or otherwise. To address this agenda, it is helpful to take account of the theoretical recentring that has occurred in recent years in relation to the concept of the self. Gergen (1999a) has challenged the longstanding tradition of conceptualising the self as individually-contained, tracing its origins to the time of the Enlightenment and arguing that it is now disintegrating in the face of social change, especially the decline of

the old industrial culture. His alternative is the relational self (1999a, p. 115). This is derived in part from Bakhtin's (1973; 1981) theory of dialogue, according to which individuals exist primarily in their relations with others. Whilst the individually-contained self is an independent entity with fixed qualities, the relational self is a process of dialogic self-construction. The self develops as individuals make sense of lived experience by engaging in Bakhtinian dialogue, identifying with categories and discourses and using these to position and construct themselves in successive situations. Personal growth must be seen in these terms, not in the solipsistic way preferred by many of the older schools of psychology. Many critics of the learning organization have assumed that by participating in organizational enquiries members of a learning organization relinquish autonomy. However, this is only inevitable if we adopt an individually-contained view of the self. Sherwin (1998), for example, has argued that the concept of autonomous agents as people cut loose from all ties is unconvincing, and that would be preferable to represent the autonomous person as one who is embedded in complex networks of personal and organizational relationships. Arguably, autonomy depends on relationships because it is only through relationships that we can engage in cultural activity, and hence engage in the co-construction which can prove beneficial to both the individual and the organization – by building the competence on which success in the world of work depends.

References

Argyris, C. & Schön, D. [1978] (1996) *Organizational learning II* (Reading, Addison-Wesley).

Bakhtin, M. (1981) *The dialogic imagination* (Austin, University of Austin Press).

Boreham, N. (2004) A theory of collective competence: challenging the neo-liberal individualization of performance at work, *British Journal of Educational Studies*, 52, 5-17.

Boreham, N. & Morgan, C. (2002) Cases of organizational learning in Company U (United Kingdom), in: M. Fischer & P. Röben (Eds) *Cases of organizational learning in European chemical companies: an empirical study*, Universität Bremen, Institut Technik

+ Bildung Arbeitspapiere 35 (Bremen, Institut Technik + Bildung), 149-59. Accessible <http://www.itb.uni-bremen.de/projekte/orglearn/orglearn.htm>

Boreham, N. & Morgan, C. (2004) A sociocultural analysis of organizational learning, *Oxford Review of Education*, 30, 307-325.

Boreham, N., Samurçay, R. & Fischer, M. (Eds) (2002) *Work process knowledge* (London, Routledge).

Cyert, R.M. & March, J.G. (1963) *A behavioral theory of the firm* (Englewood-Cliffs, NJ, Prentice-Hall).

Fenwick, T. (2001) Questioning the concept of the learning organization, in: C. Paechter, M. Preedy, D. Scott & J. Soler (Eds) *Knowledge power and learning* (London, Paul Chapman), 74-88.

Fischer, M. & Röben, P. (Eds) *Cases of organizational learning in European chemical companies: an empirical study*, Universität Bremen, Institut Technik + Bildung Arbeitspapiere 35 (Bremen, Institut Technik + Bildung), 149-59. Accessible <http://www.itb.uni-bremen.de/projekte/orglearn/orglearn.htm>

Garvin, D. A. (1993) Building a learning organization, *Harvard Business Review*, July-August 1993, 78-91.

Gergen, K.J. (1999) *An invitation to social construction* (London, Sage Publications).

Giddens, A. (1984) *The constitution of society: outline of the theory of structuration* (Cambridge, Polity Press).

Holmberg, R. (2000) Organizational learning and participation: some critical reflections from a relational perspective, *European Journal of Work and Organizational Psychology*, 9, 177-88.

Lundvall, B-A. (2001) Innovation policy in the globalising learning economy, in: D. Archibugi & B-A. Lundvall (Eds) *The globalising learning economy* (Oxford, Oxford University Press), 273-91.

Pedler, M., Burgoyne, J. & Boydell, T. (1992) *The learning company* (Maidenhead, McGraw-Hill).

Reckwitz, A. (2002) Towards a theory of social practices, *European Journal of Social Theory*, 5, 243-263.

Schatzki, T.R. (1976) *Social practices* (Cambridge, Cambridge University Press).

Sherwin, S. (1998) A relational approach to autonomy in health care, in: S. Sherwin (Ed) *The politics of women's health: exploring agency and autonomy* (Philadelphia, Temple University Press), 19-47.

Taylor, F. [1911] (1947) *Scientific management* (New York, Harper & Row).

NOTES

¹ This brief definition needs to be extended and several other facets of the meaning of competence can be identified by examining the way the word is used in vocational contexts. This suggests that in general being 'competent' implies :

- Being recognized as a fit and proper person to be entrusted with a task or responsibility – to be competent is to occupy a social position
- Performing that task / discharging that responsibility successfully (i.e. efficiently and achieving the desired outcome) – competence implies success
- Possessing the abilities needed to perform up to this standard – being competent is more than making one lucky strike. It implies having the capacity to perform successfully on successive occasions
- Having acquired this ability by recognized training and /or experience – we often only attribute competence to someone if we know that they have had the necessary formative experiences, which in the case of professional competence might be subject to stringent formal regulation

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- Having credentials – a competent performer is often known by a publicly available attestation of competence, such as a golf handicap, a batting average or a professional diploma hanging on the office wall.