

Acronyms and abbreviations

CCFO	Critical Cross-Field Outcome
CE	Cooperative Education
CEU	Cooperative Education Unit
CHE	Council on Higher Education
DUT	Durban University of Technology
EU	European Union
GETC	General Education and Training Certificate
NC(V)	National Certificate (Vocational)
NQF	National Qualifications Framework
OBE	Outcomes-Based Education
OECD	Organisation for Economic Cooperation and Development
QC	Quality Council
QCTO	Quality Council for Trades and Occupations
RPL	Recognition of Prior Learning
SETA	Sector Education and Training Authority
SGB	Standards Generating Body
WIL	Work-Integrated Learning

Editorial



Professor Shirley Walters, Chairperson of SAQA

The conference proceedings of the fourth annual NQF Colloquium are contained in this publication. The theme of the NQF Colloquium was Learning@work which was held at the Southern Sun Hotel in Arcadia, Pretoria on 28 October 2008. Why did we choose this theme?

Understanding learning in the context of work is complex. There is growing interest in understanding it more deeply. Although South Africa is desperately trying to close the skills gap, many companies and educational and training providers are becoming increasingly frustrated with the apparent lack of delivery and success. It has been estimated that the private and public sector spend in the order of R150 billion per annum on education and training. With such major financial investment in education and training, it is critical that we understand more profoundly learning at work, and the relationships between 'learning and work'.

With this in mind SAQA invited Professor Knud Illeris to be the keynote speaker at the NQF Colloquium. Professor Illeris is Professor of Lifelong Learning at the Danish School of Education, University of Aarhus. Through his work, the relevance of lifelong and workplace learning has grown in stature in Denmark. Professor Illeris provides substantial insight into a lifelong learning strategy aimed at building a workforce that is skilled and trained.

Many talk glibly about learning, but for Professor Illeris it is a deeply complex process. Professor Illeris' insightful paper on 'Learning, Work and Competence Development' features a model which

contains a number of essential elements, which emphasises the interaction between the identity of the learner, the social environment and the psychological aspect of learning. He argues that learning is determined by how new impulses are connected with prior learning. Furthermore, learning consists of three dimensions: the content dimension of knowledge, skills, abilities and attitudes; the incentive dimension of emotions, feelings and motivation; and the social dimension of interaction, communication and cooperation. Learning occurs in the working environment in both planned and unplanned ways. In essence, workplace learning takes place in the context of an interaction between workplace practice and the learner's work identity; when all the elements of his model are combined, effective learning takes place.

Following Professor Illeris, speakers from the three Quality Councils, Umalusi, the Council on Higher Education (CHE) and the Quality Council for Trades and Occupations (QCTO), and Professor Ian Moll of the University of the Witwatersrand and SAQA, took part in the panel discussion. Two of the responses are included here. Elizabeth Burroughs of Umalusi focuses on the learner and those individuals who enter the work environment. She emphasises the need for ongoing research aimed at making schooling relevant to the workplace. The anomalies of the South African situation, such as high rates of unemployment, have not been considered sufficiently. This is a crucial factor in modelling a workplace learning model in the South African context. Furthermore, issues such as Adult Basic Education and Training (ABET), SETA-based qualifications and fundamental learning have proved controversial. This is compounded by the grey areas of responsibilities between the newly conceptualised QCs. Burroughs refers to interesting research carried out in Manchester, where the youth only aspire to be two things – to be rap singers or soccer players. This example illustrates that career guidance and vocational education are areas that requires urgent attention.

Chris Vorwerk, speaking on behalf of the QCTO, briefly outlines various workplace learning theories and spells out the envisaged roles of the QCTO. He alludes to the skills crisis and the distinction between formal learning (being qualified in something) and workplace learning (being qualified to do something). He suggests that the current South African education and training system has the wrong focus, and a shift is needed. Whilst acknowledging that the Illeris model is valuable, especially in the new NQF environment, argues that any model must be located in its specific context.

Shakeel Ori did not present at the NQF Colloquium but at the first Researching Work and Learning Seminar held in Durban on 22 August 2008. His topic of Work-Integrated Learning dovetails well

with workplace learning and therefore has been included here. Ori defines Work-Integrated Learning as “structured and outcomes-based” and a far cry from the concept of ‘monkey see, monkey do’. He develops the idea further by stressing the involvement of key partners such as SETAs, industry, community, government and other institutions with higher education; and the movement of staff between the different work environments to enable their continuing education.

We trust that these papers will stimulate further debate in understanding the relationships between work and learning. Following the international conference which we held in December 2007 on Researching Work and Learning, a new book has been produced, “*Learning/Work: Turning Work and Lifelong Learning inside out*”, co-edited by Dr Linda Cooper and Professor Shirley Walters, and published by HSRC Press. SAQA has also published proceedings on the RWL Seminars on “*Career Guidance: Challenges and Opportunities*” and “*Women, Work and Learning: The impact of violence*” and we encourage you to access these via SAQA.

Our warm appreciation to our partners in these endeavours, particular the Insurance Seta, the University of Western Cape and the Durban University of Technology.

Professor Shirley Walters
SAQA Chairperson
May 2009

Learning, work and competence development

Professor Knud Illeris

Danish School of Education, University of Aarhus

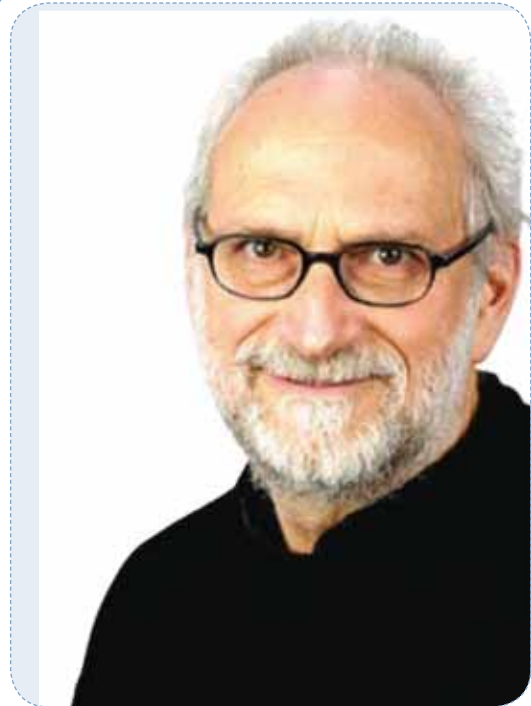
Why learning in working life?

During the 1990s 'learning in working life', 'workplace learning', 'work-based learning' and the like became popular slogans in the context of vocationally oriented education and personnel development. Considerable interest has arisen on many sides – in practice, in theory, in local, national and international politics – on placing rising emphasis on the vocationally oriented learning and development that take place directly at the workplace. This is because such learning and development meet a number of current challenges to the qualification of the staff perhaps better than does learning at courses and in educational institutions.

This situation is fundamentally paradoxical, because as a point of departure learning in working life has been precisely the general and obvious form of vocationally oriented learning and qualification ever since a distinction was first made between working life and the rest of life. Historically there has been a clear tendency for increasingly larger parts of qualifications to be transferred from working life to formalised types of school, education and course activity, as working life and the rest of society have gradually become more and more complex. And there have, of course, been important reasons for this. Expensive school and educational systems would not be established and developed if they were to make no difference.

This development got under way first and foremost with the breakthrough and spread of industrialisation and capitalism during the 19th century. It has been proved time and again that the decisive dynamism in this development lay in the need for fundamental, and gradually more and more differentiated, socialisation and qualifications for the requirements of wage labour (for example Huisken 1972, Masuch 1972). On a basic level, this requires a certain attitude that is not inborn: selling oneself as labour and loyally performing work determined by others within certain time frames.

Ever since wage labour became the general type of work relationship, the requirements of wage labourers' qualifications, practical as well as personal, have grown and grown. They have become increasingly



Professor Knud Illeris

differentiated and it has become increasingly more difficult for workplaces to undertake up-to-date training.

Originally, apprenticeships in Denmark lasted for seven years and periods at school were not included. In time, the apprenticeship was cut to three to four years and evening schools provided a supplement. Starting in 1956, one weekly school day was introduced, and since 1972 lengthy periods of schooling have been built into all types of apprenticeship, while the time at the workplace has been reduced. Today we must reckon with the need for both vocational basic training courses and workplace training to be brought up to date to a considerable extent by supplementary training or direct retraining outside the workplace.

The development trend has been absolutely clear: more and more schooling and less and less educational training at the workplace. How is it, then, that a significant counter-trend has arisen at this precise point in time that wishes to 'return' as much learning as possible to working life?

The cause should be sought primarily in the extensive and profound developments and changes in the structures of society that have been described as the transition to late modernity, post-modernity, cultural liberation, the knowledge society, the information society and the like, and which encompass the breakthrough of market management, globalisation and the new technologies (for example Giddens 1990, Beck 1992, Bauman 1998).

This process of change has meant two key development trends in the area of learning and education. Firstly, there has been a shift away from the notion that education and qualification belong essentially to childhood and youth, and were complete once a certain vocational competence had been acquired upon which to base one's activities for a 40- to 50-year career, if necessary with occasional updating. This notion was well matched by a school and educational system that could deliver such vocational competences and could be expanded and differentiated in step with developments.

But it is clear that this situation no longer prevails. People must be prepared for their working functions to change constantly and radically during the whole of their working lives. Therefore, what is needed today is what is typically called *lifelong, lifewide and lifedeeep learning* (for example European Union (EU) Commission 2000, Illeris 2004). How, and the extent to which, it best takes place and the role the school and the educational system can play in this context are open questions.

Secondly, 'what is to be learned' has changed in nature. At one time the learning targets of school and education programmes were referred to in categories such as knowledge, skills, attitudes, or, more generally, qualifications. All of this is, naturally, still necessary. But at the same time it must be constantly updated, developed, reorganised and recreated to fit new situations, so that it can be used rapidly and flexibly in changed contexts that are unknown at present but which we know with certainty will come. This is the essence of the current concepts of *competences* and *competence development* (for example Beckett & Hager 2002, Illeris 2004). And it is undeniably a challenge to the school and education system to supply competences for solving problems and situations that are unknown at the time of learning. How is this to be done?

It is first and foremost on the basis of these questions that the new ideas about learning in working life have emerged and gained ground. Would it not be easier, less expensive and more efficient if such development and constant adaptation of competences were to take place in the location where the competences are to be utilised, and where there is always first-hand knowledge of what is new? In the case of vocationally-oriented competences, this is in working life, in the workplace, or in networks and organisations that are workplace partners, all of which ensure that the processes are always up to date.

And would this not also be more democratic? After all, in this way those who are directly affected can always know what is going on and play a part in deciding what is to take place and how. At any rate, this is the basic idea behind the philosophy of 'work that develops' developed by the trade union movement in Denmark. Does society not also have a broad interest in ensuring in this way the development of up-to-date competence and co-decision-making for ordinary people, which can be far more wide-ranging and direct than when learning takes place in schools and institutions that have their own agendas and modes of functioning?

There would seem to be many good arguments for the idea of learning in working life from the point of view of learning theory, efficiency and democracy. This is also why it has gained many strong adherents, not least the supranational expert organisations such as the Organisation for Economic Cooperation and Development (OECD), the EU and the World Bank, as a key element in lifelong learning that can lead simultaneously to economic growth, personal development for the individual and increased social balance, nationally and internationally (for example OECD 2000, 2001).

But other interests are also at stake that cannot be disregarded if a full perception of the new trend is to be obtained.

Firstly, it is clear that the steadily growing education requirements are expensive, and the state has, therefore, an obvious interest in some of the burden being moved out of institutions – but not all of it, because the state also has overall responsibility for the level of education and training of the workforce as an important prerequisite for economic growth and global competitiveness. If vocationally-oriented training is left completely to the labour market, qualifications could easily become too short-sighted and narrow. Therefore the state will generally aim for interaction between institutionalised vocationally-oriented education and learning in working life, and seek to get the business sector and the participants to undertake as much of the financing as possible.

The enterprises/employers will naturally be reluctant to undertake this. In Denmark, at any rate, they are used to education being publicly financed unless it is significantly personal or enterprise-specific in nature. But on the other hand, learning in working life would give enterprises more influence over what is learned and how, and a lot of general education in which the individual enterprise can see no direct value could be reduced in step with learning taking place directly in working life. Here also the attitude would in principle be dual, but would very largely tend to welcome more learning in working life, especially if it were linked to some type of financial compensation.

The workers and their organisations would also be largely positive. It would be necessary to a lesser degree for the workers to 'go back to school': on the individual level, the great majority believe they learn better in informal contexts and at work than in institutionalised education (for example CEDEFOP 2003). And the trade unions would also find it easier to influence the way in which learning takes place. On the other hand, it is obvious that formalised education is in general better at ensuring the workforce has a good, well-documented level of education, and the unions can perhaps exert more influence when the representatives of the state play a part in decision-making than they can achieve in direct interaction with the employers.

Finally, it should not be forgotten that institutions and teachers have a strong self-interest in maintaining formalised study programmes. Even though there are at present some experiments in which teachers visit enterprises and take part in organising interactively oriented courses, these can hardly make up for the safe income ensured by permanent courses at the schools.

There are thus many different interests at play when it comes to learning in working life, and it is also an aspect of modern market society that one should not believe all one hears. Today goods, ideas and attitudes are marketed professionally on the basis of interests that are not always immediately visible.

But there are also some quite fundamental problems in connection with learning in working life that are not very much in focus right now. First and foremost, the overall aim of the workplace is to produce goods and services and not to produce learning. And even though in many cases it would make good economic sense to invest in upgrading employees' qualifications, there is an unmistakable tendency to downgrade the priority of learning measures in relation to current short-term needs when under pressure, as frequently happens in modern markets.

This is why there is so much focus on the learning that can take place more or less by chance in direct connection with the performance of work and which thus in principle neither costs anything nor needs to be prioritised – the learning that, in a manner of speaking, comes 'by itself' (Marsick & Watkins 1990, Garrick 1998). The problem is, however, that precisely this kind of learning, to a far greater extent than learning in working life that is structured and planned, tends to be narrow and lacking in theory. When it takes place in direct connection with work, one can easily focus on making improvements here and now and omitting broad lines and wider contexts. This approach reduces the possibility of the learning having a wider application in new situations and in connection with a more general understanding and an overview, which is decisive for what we call competence (Billett 2001, Beckett & Hager 2002, Illeris et al. 2004 for a broader discussion).

The great current interest in learning in working life is thus not as unambiguous as it often purports to be. But on the other hand there are clearly also current issues pulling the picture in this direction, and there is good reason to expect learning in working life to play a greater role in the educational scene in the future. I shall therefore first try to develop a more structured concept of the main features of such learning. Next, I shall discuss learning in working life in relation to different theoretical approaches, and point out some basic features that must be considered. Finally, I shall relate learning in working life to the concept of competence development, which seems to be the kind of learning that is especially intended or hoped for in this connection.

Some basic issues and concepts of learning

The most fundamental condition of human learning is that all learning includes two essentially different types of process: an external interaction process between the learner and his or her social, cultural and material environment, and an internal psychological process of elaboration and acquisition in which new impulses are connected with the results of prior learning.

The criteria of the interaction process are of a social and societal character, that is they are determined by time and place. The individual interacts with an environment that includes other people, a specific culture, technology and so on, which are characterised by their time and society. In the modern globalised world, this is all mixed up in a giant and rapidly changing hotchpotch that offers unlimited, and to a great extent also unstructured, possibilities for

learning. Hence the often-formulated need for learning to learn, i.e. creating a personal structure or a value system to sort out what is worth learning from what is not. This is also the background for understandings such as those of the social constructionists, focusing on the needs, difficulties and prevalence of this interaction process in modern times (for example, Gergen 1994).

But no matter how dominant and imperative the interaction process has become, in learning there is also always a process of individual acquisition in which the impulses from the interaction are incorporated. As discussed by such scholars as Piaget (for example 1952) and Ausubel (1968), the core of this process is that new impressions are connected with the results of prior learning in a way that influences both. Thus, the outcome of the individual acquisition process is always dependent on what has already been acquired, and ultimately the criteria of this process are of a biological nature and determined by the extensive, but not infinite, possibilities of the human brain and central nervous system to cope with, structure, retain and create meaning out of impressions perceived by our senses.

However, learning, thinking, remembering, understanding and similar functions are not just cognitive or content matters, although they have generally been conceived of as such by traditional learning psychology. Whether the frame of reference is common sense, Freudian psychology, modern management or the brand-new results of brain research, there is much imperative evidence that all such functions are also inseparably connected with emotions and motivation. The Austrian-American psychologist Hans Furth (1987), by combining the findings and theories of Piaget and Freud, has unravelled how cognition and emotions during the preschool years gradually separate into distinctive but never isolated functions. The Portuguese-American neurologist Antonio Damasio (1994) has explained how this works in the human brain and what disastrous consequences it has when the connections between the two are cut by damage to the brain, even when neither of the functions is affected in itself. Thus the acquisition process necessarily always has both a cognitive and an emotional side, or more broadly a *content* and an *incentive* side.

Consequently, all learning always includes three dimensions which must always be considered if an understanding or analysis of a learning situation is to be adequate. These are the content dimension of knowledge, understandings, skills, abilities, attitudes and the like; the incentive dimension of emotion, feelings, motivation and volition; and the social dimension of interaction, communication and cooperation – all of which are embedded in a societally situated context. The learning processes and dimensions are illustrated in Figure 1:

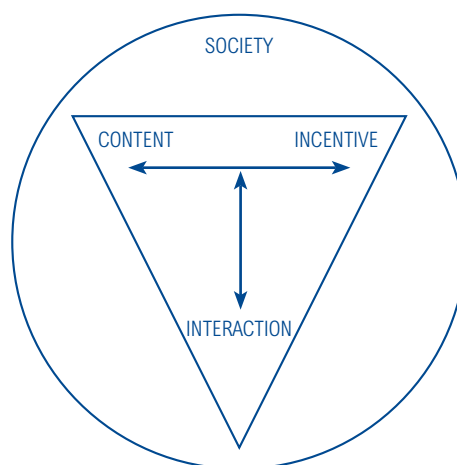


Figure 1: The basic processes and dimensions of learning

A model of learning in working life

When it comes to the issue of learning in working life, the point of departure should be what characterises workplaces and working life as spaces for learning. If this is seen in relation to the learning triangle, it is obvious that it has mainly to do with the interaction dimension. In itself learning life is a special kind of environment – but just as the model of learning must include the environment, learning life in this connection must also include the learners and their subjective positions and relations to the workplace and working life in general. From this point of view a triangle depicting working life as a learning space and matching the learning triangle can be drawn as in Figure 2 (Jørgensen & Warring 2003, Illeris et al. 2004):

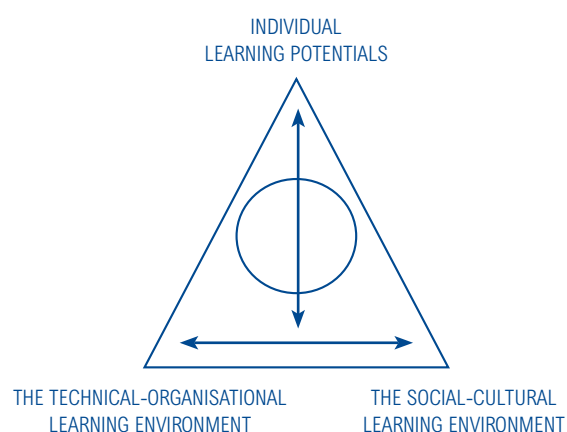


Figure 2: Working life as learning environment

Parallel to the division of the acquisition process of learning, the working life environment also contains two fundamentally different elements: the technical-organisational learning environment and the social-cultural learning environment. The technical-organisational learning environment relates to matters such as work content and division of labour, opportunities for autonomy and using qualifications, the possibilities of social interaction, and the extent to which the work is a strain on the employees. The social-cultural learning environment concerns social groupings and processes in the workplace and matters such as traditions, norms and values, and covers communities of work, cultural communities and political communities.

The third dimension of the learning environment is the interaction between the environment as a whole and the learners. It is, so to speak, the same interaction process as the one involved in the learning triangle, but seen as part of the learning life and not as part of the learners as individuals. It involves in general such elements as the workers' or employees' social and cultural backgrounds, their actual life situations, their future perspectives, and (specifically in relation to the single learner) such elements as family background and school and work experience.

In *Learning in Working Life* (Illeris et al. 2004), these dimensions are merged with the learning triangle into what is termed "a double perspective on learning in working life" and the "holistic model" (Figure 3):

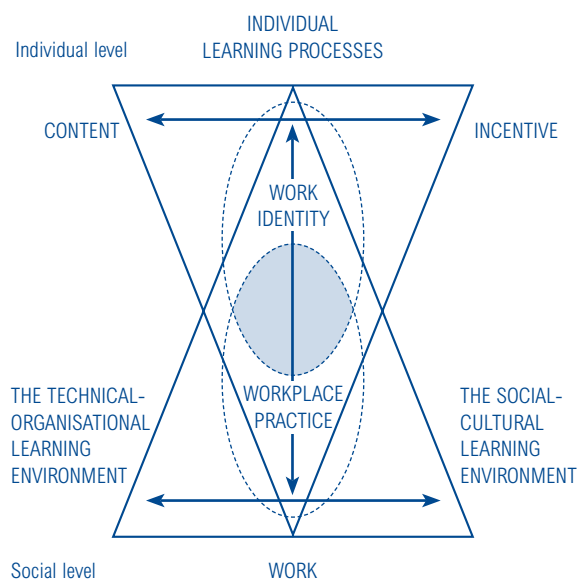


Figure 3: Learning in working life (after Illeris et al. 2004, p. 69)

It should be noted that in addition to the dimensions of the two triangles, each also includes a central focus area round the meeting point of the double arrows. In the learning triangle this focus area is the learner's personal *identity*, which psychologically is where all that is learned adds up to the individual experience of 'who I am' and 'how I experience being experienced by others' (Illeris 2003, 2007) and especially the parts of the identity, which comprises the personal relationship to working life and therefore constitute the 'work identity' (Andersen et al. 1994). In the workplace environment triangle the central focus area is *workplace practice*, which comprises work activities (including all tools and artefacts), work patterns and personal and social relations, positions, power conditions and so on.

In this way the model shows that the essential general learning in working life takes place in the interaction between workplace practice and the learner's work identity – and it is also this learning which takes on the character of competence development (to which I shall return later). But there is also space in the model for less essential learning processes that more or less circumvent these core fields. An example is the acquisition of certain technical skills, which can take place in a more limited interaction anchored between the workplace's technical-organisational learning environment and mainly the content dimension of the learner's acquisition, but naturally can also be related to the model's other elements to a greater or lesser extent.

Different approaches to learning in working life

On the more concrete level, there are a number of approaches to what is central to understanding the learning that takes place in working life. In line with a classic learning understanding, most of these approaches place the main emphasis on the individual acquisition process, corresponding to the horizontal double arrow at the top of the model in Figure 4. This applies, in the first place, to the so-called industrial sociological approach, which in particular has interested itself in the qualification requirements the work has of the employees and how the qualifications are developed. These include, to a high degree, what have been termed 'process independent' or later 'general' qualifications (for example Braverman 1974, Andersen et al. 1994, 1996).

Next, it applies as a point of reference to the management-anchored approach, which is termed 'organisational learning'. Americans Chris Argyris and Donald Schön have been key figures here for a generation, and they have emphasised, *inter alia*, that employees'

learning is crucial to the development of enterprises and that a distinction must be made between single-loop learning, which remains within, and double-loop learning, which exceeds the existing frames of understanding (Argyris & Schön 1978, 1996, Argyris 1992).

Finally, it also refers to the approach that has its roots in general adult education, mostly individual learning when, typically on a humanistic basis, it interests itself in the employees' experience and interest in learning (for example Weil & McGill 1889, Marsick & Watkins 1990, Boud & Garrick 1999, Billett 2001, Ellström 2001, Evans et al. 2002, Rainbird et al. 2004).

In contrast are the approaches that focus largely on the workplace as learning environment and the development or 'learning' of the workplace, i.e. the bottom horizontal double arrow in Figure 3. This primarily concerns the approach known as 'the learning organisation'. This is really a branching out of the organisational understanding of learning, but with the decisive difference that here the focus is on what is understood as the organisation's 'learning' that is made independent as something different to and greater than the sum of the employees' learning. A key work here is Peter Senge's *The fifth discipline* (Senge 1990). It must be clear, however, that with the learning concept that has been introduced here one cannot say that the organisation can learn – and in my opinion much of what is marketed under the term 'the learning organisation' has more to do with management and sometimes smart formulations than with learning.

The approach that was launched with Jean Lave and Etienne Wenger's *Situated learning* (Lave & Wenger 1991) and later continued by Wenger in *Communities of practice* (Wenger 1998), must also be said to be oriented mainly towards the workplace as the focal point of learning. This is despite the fact that to a large extent it has its roots in the Russian cultural-historical tradition and Vygotsky's understanding of learning, which is quite classically oriented towards the individual acquisition process. In Lave & Wenger it almost seems that when the individual first enters the community of practice, by means of a learning process he or she will automatically move from 'legitimate peripheral participation' towards a more central and competent position. A more individual-oriented formulation of Vygotsky's approach can, however, be found in the work of the Fin Yrjö Engeström, who, though he works with learning in organisations, does so with a high degree of focus on individuals (for example Engeström 2009).

I now come to the third major approach to learning in working life, which focuses primarily on the interaction between the social and

the individual level, i.e. on the vertical double arrow in the middle of the model in Figure 3. Here there is reason to note the approach that has its roots in the 'critical theory' of the German-American Frankfurt School. The best-known representative of this school is the German sociologist and philosopher Jürgen Habermas (1984–87), but in relation to workplace learning other names are more important (although they have generally published only in German). They have focused mainly on social conditions and their significance in the individual's consciousness formation, in particular Oskar Negt's work on sociological imagination and exemplary learning (Negt 1968, cf. Illeris 2007). But an important contribution is also to be found in the work of Ute Volmery on the significance of employees' opportunities to organise their own work, to communicate with others at work and to apply the qualifications they have acquired as the three decisive focal points for their learning possibilities in working life (Volmery 1976). Finally, mention should be made of Birgit Volmery et al.'s study *The life world of private enterprises*, which looks at how employees seek out and utilise the possibilities of the workplace as a free space to set their own agenda (Volmery et al. 1986, Leithäuser 2000).

This is basically the type of approach I have followed in my own work, although I simultaneously include the individual acquisition process to a high degree (Andersen et al. 1994, 1996, Illeris et al. 2004, Illeris 2005, 2007, 2009).

General features of workplace learning

Looking across all these approaches, it is possible to extract a number of possibilities and problems that characterise the learning that takes place in working life. Fundamentally, a huge amount of learning takes place in actually carrying out work, and as mentioned earlier employees typically find this learning is more important to them than learning in institutionalised education (CEDEFOP 2003). Viewed from the outside it must, however, be maintained that fundamentally this learning is accidental in nature and that it is usually narrow and without theoretical foundation.

However, by systematically building up a learning-oriented environment this learning can be strengthened considerably. (This is the main idea behind the two approaches called 'organisational learning' and 'the learning organisation', although they do not agree on the relationship between the individual and the organisation.) Nonetheless, the risk still remains that the learning is to a certain extent accidental and has an inadequate structure and systematics. Moreover, there is a tendency for the employees who are already best

qualified to profit more from this procedure. But it is also possible to try to counteract this by introducing activities such as self-directed groups, projects or action learning programmes for all employees (Illeris et al. 2004, chapter 8).

Another possibility, which can very well be combined with organisational learning, is to aim at targeted learning measures in close connection with the work. This can be done by providing personal back-up for individual employees in the form of instruction, pedagogic mentoring, partner guidance, mentor schemes or coaching, broad-based support from ‘ambassadors’, ‘super users’ or ‘gardeners’, who are used especially in the ICT field, or through access to consultant assistance. Support can also be provided by teaching activities in close connection with the work. All of this can be backed up by means of regular staff development interviews or the like (Illeris et al. 2004, chapters 6 and 7).

Finally, there can be emphasis on more general measures such as internal or external networks and experience groups, or job exchange and job rotation schemes, where there is also the possibility of involving all staff organisationally (Illeris et al. 2004, chapters 6 and 8).

Under all circumstances, three important issues exist to one extent or another. The first is that learning in working life, to an even higher degree than learning by means of institutionalised education, has a tendency to favour those who already have the best education (the so-called ‘Matthew effect’: “For whoever has, to him shall be given, and he shall be caused to be in abundance” (Matthew 13:12)). The second is that necessary work will always receive higher priority than learning-oriented measures. The third is that learning measures can have a disturbing effect on the targeted work which is the purpose of the workplace.

These issues can be dealt with to a certain degree by combining learning in working life with courses and education programmes, for example those in so-called alternating education programmes in the apprentice and professional fields, where school and work experience periods alternate.

Learning as competence development

In relation to learning in working life, it is important to discuss how such learning in theory and practice can attain the qualities of ‘competence development’, as to a great extent this seems to be a main advantage of learning in more or less direct connection to the workplace. I shall start this discussion by examining, in slightly

more detail, some general matters to do with each of the three learning dimensions, namely what we generally – consciously or unconsciously – aim at achieving within each of the three dimensions when we learn something, and what the overall result could be.

As already mentioned, the content dimension is about what we learn. In this dimension the learner’s *knowledge, understanding, skills* and generally his or her ways of dealing with life are developed. Through this we attempt to generate *meaning*, i.e. a coherent understanding of the different aspects of existence (for example Bruner 1990, Mezirow 1990, 1991, Wenger 1998), and also to develop *abilities* that enable us to tackle the practical challenges of life. To the extent that we succeed, we develop our *functionality* as a whole, i.e. our capacity to function appropriately in the various contexts in which we are involved. This appropriateness is directly linked to our position and interests in the current situation regarding our qualifications and future perspectives, but quite generally, just as learning as a whole is related to the survival possibilities of the individual and the species.

As mentioned before, learning research has traditionally concerned itself very largely with the dimension of content, and it is also this dimension that is in direct focus when one speaks about learning in everyday language. But the learning triangle points to other matters being at stake in connection with learning.

Acquisition also has an incentive dimension covering the motivational, the emotional and the volitional – or, in summary, the motive forces or engagement of learning. This dimension is concerned with mobilising the mental energy required by learning, and we fundamentally engage ourselves in this mobilisation in order to constantly maintain our *mental and bodily balance*. In so doing, through this dimension we simultaneously develop our *sensitivity* in relation to ourselves and our environment.

These two dimensions are activated simultaneously and in an integrated fashion by impulses from the interactive process between the individual and the environment. The content that is learned is therefore, as previously mentioned, always marked or ‘obsessed’ by the nature of the mental engagement that has mobilised the mental energy necessary for the learning process to take place. On the other hand, the incentive basis is also always influenced by the content with which the learning is concerned. For instance, a new understanding or an improved skill alters our emotional, motivational and also perhaps our volitional patterns.

Learning psychology has traditionally studied the acquisition of content independent of the incentive dimension, although there have

also been learning researchers who have strongly emphasised the connection, for example Lev Vygotsky (1986 [1934]) and Hans Furth (1987). This was later conclusively supported by brain research, for example by Antonio Damasio (1994).

Finally, there is the interaction dimension of learning, which is concerned with the individual's interaction with his or her social and material environment on two levels: the close, social level in which the interactive situation is placed, for example in a classroom or a working group, and the general societal level that establishes the premises for the interaction.

This dimension promotes the individual's *integration* in relevant social contexts and communities and by this contributes to the development of the learner's *sociality*, i.e. ability to become engaged and function appropriately in various forms of social interaction between people. The development itself of sociality, however, takes place through the two dimensions of the acquisition process and is thereby marked by what concerns the interactive process and the nature of our relationship to it.

It is now possible to elaborate the learning triangle in Figure 1 a bit further by adding the signal words that qualify the nature of each of the three dimensions, and adding key words outside each angle for what we aim at (roman font) and what we generate (italic font). What then emerges is that in our learning as a whole we attempt to develop meaning, skills, mental and bodily balance and social and societal integration, and in this way we simultaneously develop our functionality, sensitivity and sociality.

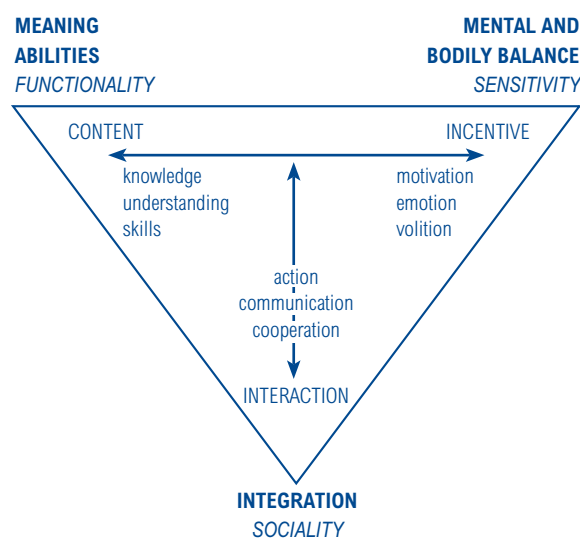


Figure 4: Learning as competence development

Such a general characterisation means that learning as a whole can promote the development of what in modern parlance is called the learner's *competence*, or vice versa: if learning is to be in the nature of competence development, it must contribute to the generation of relevant functionality, sensitivity and sociality which are the main general characteristics of competences. The widespread popularity of this concept is precisely because it embraces the total scope of the learning dimensions – in contrast to the more limited focus on the content dimension of traditional educational thinking.

Workplace learning and competence development

Not so very many years ago 'competence' was mainly a formal and legal matter, something that gave a person a legal right to make decisions in a certain area, especially in public administration. However, over the last two decades the use of the word has permeated the educational area, working life, management and politics as a modern expression for what a person is actually able to do or achieve.

Thus, in recent years the concept of competence has taken a central position and more or less displaced the concept of qualifications – and this is not merely a chance linguistic innovation. On the contrary, it could be said that this linguistic change has pointed to some features which are significant for contemporary learning demand. A very useful definition of the concept, which draws attention precisely to how it surpasses terms such as 'abilities', 'skills' and 'qualifications' is given by a Danish social psychologist and member of the former Danish Competence Council:

The concept of competence refers [...] to a person's being qualified in a broader sense. It is not merely that a person masters a professional area, but also that the person can apply this professional knowledge – and more than that, apply it in relation to the requirements inherent in a situation which perhaps in addition is uncertain and unpredictable. Thus competence also includes the person's assessments and attitudes, and ability to draw on a considerable part of his/her more personal qualifications (Jørgensen 1999, p. 4).

Competence is thus a unifying concept that integrates everything required to perform in a given situation or context. Concrete qualifications are incorporated in the competence rooted in the personality (or more accurately, in my view, the work identity); one may generally also talk of the competence of organisations and nations, including the pattern of personal competences and how they work together.

The concept of 'qualifications' historically has its point of departure in the requirements for specific knowledge and skills, and to an increasing degree has been used to point out that this knowledge and these skills have underlying links and roots in personality. On the other hand, the perception of 'competence' has, so to speak, been turned upside down. In this concept, the point of departure is the personal level in relation to certain contexts, and the more specific qualifications are something that can be drawn in and contribute to realising competence. So the concept of qualifications began with individual qualifications, and gradually developed towards a more unified perception; in contrast the concept of competence starts with a unity, for example the type of person or organisation it takes to solve a task or fulfil a job, and on this basis points to the different qualifications necessary.

It is characteristic that the concept of competence does not, like the concept of qualifications, have its roots in industrial sociology (Braverman 1974), but in organisational psychology and modern management thinking. This has made it more adequate in relation to modern working life, but it has also given it a dimension of 'smartness' which makes it easier to 'sell' politically and a tendency to superficiality, which in this context seems to characterise large parts of management orientation (Argyris 2000). Some problems have also developed because a number of national and supranational bodies have taken over the concept and sought to implement it as a tool to govern educational institutions. Wide-ranging work has been initiated to define a number of competences that education programmes should aim at, and to make these competences measurable so it is possible to judge whether the efforts succeed (Illeris 2004).

However, at the same time it is difficult to deny that the concept of competence captures something central in the current situation of learning and qualification. It is ultimately concerned with how a person, an organisation or a nation is able to handle a relevant, but often unforeseen and unpredictable, problematic situation. We know with certainty that modern development constantly generates new and unknown problems, and the ability to respond to them openly and appropriately is crucial in determining who will manage in the globalised market society. So I find it very important to maintain a broad and holistic understanding of competence, both on the general level and vis-à-vis a technocratic understanding. The latter is rapidly becoming a horse dragging a carriage of narrow economically oriented control interests which negate the concept of the liberating potential arising from the position of competences as relevant contemporary mediators between societal challenges and individual ways of managing them.

Thus the concept of competence can be a point of departure for a more nuanced understanding of what learning efforts today are about. This should help us formulate a theoretically based and practically tested proposal on how up-to-date competence development can be realised for different people in accordance with their potential and needs, both within and outside institutionalised education programmes. Such an approach has, in my opinion, far better and more well-founded possibilities for contributing to real competence development, at the individual level as well as the societal level, than the measuring and comparing approach mentioned above. However, it will be oriented to a much higher degree towards experiments and initiatives at practice level than the top-down control approach inherent in the measuring models.

Quite concretely, this approach is about the fact that competence development may be promoted in environments where learning takes place in connection with a (retrospective) actualisation of relevant experience and contexts. At the same time, there is interplay between relevant activities and the interpretation of these activities in a theoretical conceptual framework, and a (prospective) reflection and perspective. This means a pervasive perspective in relation to the participants' life or biography, linked with a meaning and conception-oriented reflection and a steady alternation between the individual and the social levels within the framework of a community (Illeris 2004).

It is precisely these qualities that make competences so important and attractive in the modern ever-changing world, and at the same time constitute an immense challenge to education and training of any kind. How can people be educated or trained to function appropriately in situations that are unknown at the time the learning is acquired?

This question undermines much traditional educational thinking which starts by formulating precise objectives and then tries to deduce educational measures from them. Fundamentally, it must be realised that competences are not things that can be produced like commodities, but things that must be *developed* in and by the person, hence the concept of 'competence development'.

It is generally obvious that the concept of competences captures something essential in relation to education and training today, precisely because it relates to how a person, an organisation or a nation is able to manage in the constantly changing globalised market society. Thus, the societal changes that fostered this concept (and other linked concepts such as 'the learning society', 'the learning organisation' and 'lifelong learning') imply a new conception of the

relation between learning and education/training, with increased focus on informal learning possibilities outside the educational institutions, especially in daily life and in working life.

But to capture the impact of this change of perspective, it is not enough just to refer to 'practice learning' or 'learning in working life' as has often been the case. It is obvious that the school and education system will still be the state apparatus which is constructed to be the fundamental public means of providing the competences demanded. Moreover, it will inevitably be in the practical and economic interests of both the private and the public sector that as many competences as possible are developed outside working life and without placing a strain on the economy and daily work conditions of companies and organisations.

Therefore competence development cannot be a means of ensuring savings on public education budgets, which some politicians seem to imagine it will do. On the contrary, it is a challenge demanding increased cooperation between education and training institutions and private as well as public workplaces. In all likelihood this will lead to increased costs for both parties if the promises of adequate and up-to-date competence development are to be met – which is regarded as a key factor in future competitiveness.

Finally, it must also be stressed that a decisive factor will be that competence development programmes are set up in cooperation with the persons and groupings that are to implement the competences. Whereas to some extent qualifications can be understood and dealt with as 'objective' qualities, it is inherent in competences that they include personal and collective motivations, emotions and engagement, and their practical value to a great extent depends on a positive interest and attitude. From this point of view, competence development could be an important democratising factor in working life and society in general. But this is by no means always the case.

So the question persists: will the great commitment to the idea of competence development be able to meet the positive prospects that it most certainly implies? Like other keywords from the same vocabulary, the concept of competence development seems to have a double impact: it demonstrates the tension between a very promising and useful interpretation of the significant demands of modern societies and also acts as a buzzword which, behind the tempting surface, hides new smart means of human and economic exploitation of labour (Illeris 2009).

References

- Andersen, V, Illeris, K, Kjærsgaard, C, Larsen, K, Olesen, H S & Ulriksen, L. 1994. *Qualifications and living people*. Roskilde: The Adult Education Research Group, Roskilde University.
- Andersen, V, Illeris, K, Kjærsgaard, C, Larsen, K, Olesen, HS & Ulriksen, L. 1996. *General qualification*. Roskilde: The Adult Education Research Group, Roskilde University.
- Argyris, C. 1992. *On organizational learning*. Cambridge MA: Blackwell.
- Argyris, C. 2000. *The next challenge in organizational learning: leadership and change*. Paper presented at the Learning Lab Denmark Opening Conference, Copenhagen, November 6.
- Argyris, C & Schön, D. 1978. *Organizational learning: a theory of action perspective*. Reading, MA: Addison-Wesley.
- Argyris, C & Schön, D. 1996. *Organizational learning II – theory, method, practice*. Reading, MA: Addison-Wesley.
- Ausubel, DP. 1968. *Educational psychology: a cognitive view*. New York: Holt, Rinehart and Winston.
- Bauman, Z. 1998. *Globalization: the human consequences*. Cambridge, UK: Polity Press.
- Beck, U. 1992 [1986]. *Risk society: towards a new modernity*. London: Sage.
- Beckett, D & Hager, P. 2002. *Life, work and learning: practice in postmodernity*. London: Routledge.
- Billett, S. 2001. *Learning in the workplace: strategies for effective practice*. Crows Nest, NSW: Allen & Unwin.
- Boud, D & Garrick, J. (Eds.) 1999. *Understanding learning at work*. London: Routledge.
- Braverman, H. 1974. *Labor and monopoly capital*. New York: Monthly Review Press.
- Bruner, J. 1990. *Acts of meaning*. Cambridge, MA: Harvard University Press.
- CEDEFOP (European Centre for the Development of Vocational Training). 2003. *Lifelong Learning: citizens' views*. Luxembourg: Office for Official Publications of the EU.
- Damasio, AR. 1994. *Descartes' error: emotion, reason and the human brain*. New York: Grosset/Putnam.
- Ellström, PE. 2001. *Integrating learning and work: conceptual issues and critical conditions*. *Human Resource Development Quarterly* 4, 421–436.
- Engeström, Y. 2009. Expansive learning: toward an activity-theoretical reconceptualization. In: Illeris, K. (Ed.) *Contemporary theories of learning*. London: Routledge.
- EU Commission. 2000. *Memorandum on Lifelong Learning*. Brussels: EU.
- Evans, K, Hodkinson, P & Unwin, L. (Eds) 2002. *Working to learn – transforming learning in the workplace*. London: Kogan Page.
- Furth, HG. 1987. *Knowledge as desire*. New York: Columbia University Press.
- Garrick, J. 1998. *Informal learning in the workplace: unmasking human resource development*. London: Routledge.
- Gergen, KJ. 1994. *Realities and relationships*. Cambridge, MA: Harvard University Press.
- Giddens, A. 1990. *The consequences of modernity*. Stanford, CA: Stanford University Press.
- Habermas, J. 1984–87 [1981]. *The Theory of Communicative Action*. Cambridge, UK: Polity Press.
- Huisken, F. 1972. *Zur Kritik bürgerlicher Didaktik und Bildungsökonomie*. [Critique of bourgeois didactics and economy of education]. München: Paul List Verlag.
- Illeris, K. 2003. Learning, identity and self-orientation in youth. *Young: Nordic Journal of Youth Research*, 4:11, 357–376.
- Illeris, K. 2004. *Adult education and adult learning*. Copenhagen: Roskilde University Press/Malabar, FL: Krieger Publishing.
- Illeris, K. 2005. A model for learning in working life. *Journal of Workplace Learning*, 8: 16, 431–441.

Illeris, K. 2007. *How we learn: learning and non-learning in school and beyond*. London: Routledge.

Illeris, K. (Ed.) 2009. *International perspectives on competence development*. London: Routledge.

Illeris, K & Associates. 2004. *Learning in working life*. Copenhagen: Roskilde University Press.

Jørgensen, CH & Warring, N. 2003. Learning in the workplace: the interplay between learning environments and biographical learning trajectories. In: Jørgensen, CH & Warring, N. (Eds) *Adult education and the labour market VII B*. Copenhagen: Roskilde University Press.

Jørgensen, PS. 1999. Hvad er Kompetence? [What is competence?]. *Uddannelse* 9, 4–13.

Leithäuser, T. 2000. Subjectivity, life world and work organization. In: Illeris, K. (Ed). *Adult education in the perspective of the learners*. Copenhagen: Roskilde University Press.

Marsick, VJ & Watkins, KE. 1990. *Informal and incidental learning in the workplace*. London: Routledge.

Masuch, M. 1972. *Politische Ökonomie der Ausbildung*. [The political economy of education]. Reinbek: Rowohlt.

Mezirow, J.1990. How critical reflection triggers transformative learning. In: Mezirow, J & Associates (Eds). *Fostering critical reflection in adulthood*. San Francisco, CA: Jossey-Bass.

Mezirow, J.1991. *Transformative dimensions of adult learning*. San Francisco, CA: Jossey-Bass.

Negt, O.1968. *Soziologisches Phantasie und exemplarisches Lernen*. [Sociological imagination and exemplary learning]. Frankfurt a.M.: Europäische Verlagsanstalt.

OECD. 2000. *Knowledge management in the learning society*. Paris: OECD. Centre for Educational Research and Innovation.

OECD. 2001. *Cities and regions in the new learning economy*. Paris: OECD. Centre for Educational Research and Innovation.

Piaget, J. 1952 [1936]. *The origin of intelligence in children*. New York: International Universities Press.

Rainbird, H, Fuller, A & Munro, A (Eds). 2004. *Workplace learning in context*. London: Routledge.

Senge, P. 1990. *The fifth discipline: the art and practice of the learning organization*. New York: Doubleday.

Volmerg, B, Senghaas-Knobloch, E & Leithäuser, T. 1986. *Betriebliche Lebenswelt: Einer Sozialpsychologie industrieller Arbeitsverhältnisse*. [Life world at work: a social psychology of work conditions in industry]. Opladen: Westdeutscher Verlag.

Volmerg, U. 1976. *Zur Verhältnis von Produktion und Sozialisation am Beispiel industrieller Lohnarbeit*. [Conditions of production and socialisation in industrial wage labour]. In: T Leithäuser & W Heinz (Eds). *Produktion, Arbeit, Sozialisation*. Frankfurt a.M.: Suhrkamp.

Vygotsky, L.1986 [1934]. *Thought and language*. Cambridge, MA: MIT Press.

Weil, SW & McGill, I (Eds). 1989. *Making sense of experiential learning: diversity in theory and practice*. Buckingham: Open University Press.

Wenger, E. 1998. *Communities of practice: learning, meaning and identity*. Cambridge MA: Cambridge University Press.

Plenary discussion



Joe Samuels, Deputy Executive Officer of SAQA, chairs the discussions

Questions raised by delegates:

- The model itself is symmetrical. What are the levels of energy in the model – are they the same in each direction?
- Does learning only happen in the triangular overlapping area of the two circles in the model, or can learning move more like a graph?
- Can the model be used as an analytical tool to determine what stage employees are at?
- Are there any strategies to move an institution from one state to another?
- Do the processes of learning identified in the model apply to Generation X?
- How does one develop motivation when workers are instructed to attend training programmes but have no incentive to be there?
- Is there a way to make the model less narrow? For example on-the-job learning is narrower than institutional learning and the two have different motivations.
- Concerning the distinction between competence and performance in the workplace, to what extent is knowledge dependent on skills?

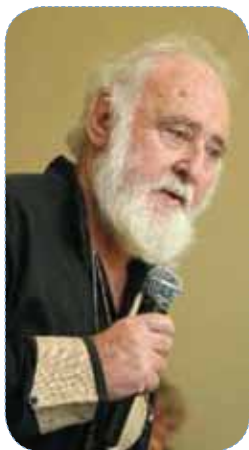
Professor Illeris' response:

- The model functions as a 'map'; important features are placed relative to one another so users can ensure they deal with all the important features and take into account a broader field that may be indicated in a specific problem. The model is a tool that can be used by all involved in learning situations.
- The model can be used to spot situations and assess where people are, but one should realise that the model does not give the whole reality; it is based on my background. There are other possible models, and users should decide which one is appropriate or useful to their own situation.
- Generation X does display different behaviour in relation to learning, to an extent that is significant in much of Europe. Generation X is strongly engaged in developing a personal identity, which is also a learning process. This focus makes their learning interests very selective: they ask what 'subjects' mean to them in their search for identity. Many school subjects are not good sources of input for them – resources such as TV offer them more, and they simply drop topics they consider irrelevant. The challenge is to organise learning (at school and in the workplace) so that Generation X can clearly see how it is relevant to them and their identity quest. This requires psychological insight and experience!
- It is very difficult to motivate young people when learning is imposed by the workplace; they tend to disagree or resist, and therefore learn very little (older people are more accepting of learning that is less 'engaging'). It is therefore important to explain to younger people why the learning is important, to respond to their arguments against it and to try and draw them in to the process.
- Competence (potential) and performance (actual behaviour) are of course two different things; one doesn't guarantee the other, as there are many factors that influence both. A person does depend on specific knowledge in order to deal with learning. However, it is important to note that achieving competence doesn't mean that knowledge is unnecessary – it is, but it is not the whole of competence.

Comments from delegates:

- We need to revisit our understanding of assessment.
- What is the role of the Standards Generating Bodies (SGBs) in the new system? Are we implementing default standards at the moment?
- Cycling can be described explicitly – a physics professor will describe the muscle power, weight distribution, etc.

- Tacit knowledge has not been taken up in SGBs, and workplaces were not that involved; hopefully the Quality Council for Trades and Occupations (QCTO) process will be different.
- This conference gives a sense of *déjà vu*: the original discussion about the NQF also included this, but a decision was taken to follow the Outcomes-Based Education (OBE) model. Instead of throwing out all the work done to date, we need to build on the positive things we have.
- CCFOs cannot be measured and can therefore not be included in qualifications.



David Adler



Gail Sturgess



Samuel Isaacs, Executive Officer of SAQA

Responses to comments:

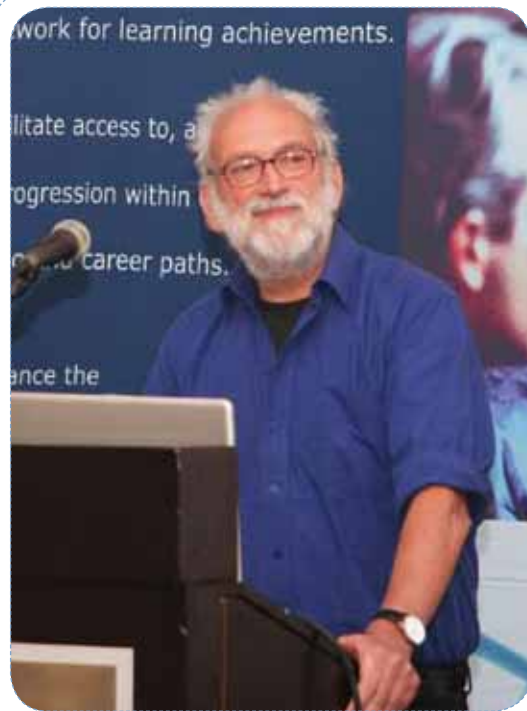
- Measurement can be done in two ways: by using indicators (this has become a disease) focusing on observable performance, or by measurement of implication, i.e. structure that makes performance possible (this can be used for tacit knowledge, also cognitive).
- The implications for SGBs: to some extent the SGBs have become communities of experts who generate criteria and statements about the kinds of knowledge required (assessors have to be experts in the field).
- Professional judgements are made by experts – we have to recognise this at the centre of what we do – the NQF has undermined professional expertise.
- Riding the bicycle – the argument put forward actually supports the contrary – a young child cannot be taught about weight distribution or given scientific explanations.
- Cognitive development cannot be taught – this idea (from Feuerstein) is incorrect. Development takes place randomly and willy-nilly, seldom motivated by technocratic approaches; we can train cognitive skills but not cognitive development.
- The NQF has been associated with an ideological battle that has been raging since the NQF started (an example is the notion of stakeholder involvement).
- An ideological shift does not mean we throw out what we have – we need to build on the work of the SGBs and recognise the ‘communities of interest’ that have formed as a result.
- The severe critics of the NQF have not recognised its strengths.
- CCFOs were left at a general level, sitting ‘outside of’ rather than recognised ‘inside of’ – hopefully this mistake will not be repeated in the QCTO model.



Mike Abel, CEO of INSETA

Professor Illeris' response:

- Tacit knowledge provides a useful way of looking at how to teach competences – if we approach this problem from a teaching perspective, it is clear that competence cannot be taught, but approaching this from a different angle, i.e. from activities, it is apparent that some activities are more likely to cultivate certain types of competences.
- There are two highways:
 - Exchange and cooperation between workplaces and schools: for economical reasons this is often very limited – it becomes a political issue about funding
 - Project studies: projects don't need to cover the full curriculum. They are chosen by students and still include assessment
- Fair assessment is not always possible, though biased and less objective assessment can often assess deeper competence as well. It is time to give up some of our traditional ideas about assessment and find a balance between more and less exact.
- CCFOs, or 'general competences', are worth exploring.



Professor Knud Illeris responds to comments

Workplace learning on the NQF: the forgotten dimension

Chris Vorwerk

Consultant to the QCTO



Chris Vorwerk

We welcome this discussion for several reasons. It is a vindication of what many of us have been striving to do since 1993 – provide support and recognition for workplace learning. Prof Illeris' model makes an important contribution, and provides the basis for discussing the dynamics, codification, recognition and quality assurance of workplace learning.

By focusing our attention on the quality assurance of education and training we marginalised informal learning. Donald Schön differentiates between formal and informal learning in this way:

In the varied topography of professional practice, there is a high, hard ground overlooking a swamp. On the *high ground*, manageable problems lend themselves to solution through the application of research based theory and technique. In the *swampy lowland*, messy, confusing problems defy technical solution (Schön 1987).

In 1968-69, after completing my first year at university, I spent an extended summer working in the blacksmith's workshop of the South African Railways. I experienced two pedagogies in swift succession: university – a face-to-face, one-to-many model with an ex-cathedra, 'His master's voice' approach; and practical training in a side-by-side mode with a blacksmith (Organising Framework for Occupations code 322101, Skill level 3). The assistant foreman introduced me to the blacksmith, who took no further notice of me but continued to disassemble sets of carriage springs. It took me some time to realise that he was teaching me. I took the spanners from him and continued the work. He moved onto another task. I watched out of the corner of my eye and when I had finished the disassembly work I continued with the next task of sorting and grading the sheaves. It was the classic master-apprenticeship mode of working: *model, support, fade*. Jeanne Gamble, who researched the transfer of tacit knowledge in the context of craft apprenticeships, refers to it as a 'pedagogy of silence' (personal communication).

The challenge

Implementation difficulties in NQF 1.0 were, in part, caused by a lack of clarity about what learning is. Learning is not the same as education and training: learning is what people do, and much of what they learn is incidental to any programme of learning to which they are subjected. So how do we get to emphasise REAL learning?

Theories of workplace learning

Concepts and theories that could be applied to workplace learning abound:

- *sofia* versus *phronesis*
- informal learning
- epistemology of practice
- dynamic skills theory
- situated learning, communities of practice, cognitive apprenticeships
- knowledge-creating companies
- action-oriented learning
- Dreyfus – five stages of skills development

Such concepts and theories are useful, but it's not about theory as much as it is about practices. What we don't have is an overall framework for the implementation of practices.

The 'Vorwerk hypothesis'

Discussions related to skills development often founder because there are three distinct skills development discourses:

- education and training (training here is not workplace learning, it's generally off-the-job courses)
- labour market
- praxis (that which emerges out of an engagement with the real-time, real-life situations with which we are confronted)

1. The education hypothesis

This hypothesis is driven by what is taught. It focuses on formal learning processes and is strongly linked to text, 'the truth'. Its outcomes are described in terms of courses, certificates, diplomas, degrees and credits.

In terms of the discourses that follow, education is regarded as *input*, either as entry requirement or as further development. It has the status of priesthood: have you been 'sanctified' by the right knowledge? Think of the academic hoods, caps and gowns, and the view of knowledge as a catechism. Education is Schön's 'high, hard ground'.

2. The labour market discourse

'Skills' in this discourse is a metaphor for people who can perform particular types of work. The vocabulary of work uses posts, titles or designations to represent activities and authority. In labour market analysis and labour market economics, skills are represented in the form of occupations, trades or professions, that is groups of jobs which are characterised by similar sets of tasks. In its narrowest sense, the labour market is where skills are exchanged for salaries or wages; in a broader sense, it is a range of 'working' contexts, including self-employment, community or social development activities. It also encompasses discourses inherent in talent management, human capital, performance management, organisational development and so on. But note that there is also a personal dimension: you are what you can do.

3. The discourse of praxis

This is the most enigmatic discourse. It is embedded in the *conversations* and the *practices* of people at work (*communities of practice* – see Lave & Wenger (1998) and Brown & Dugard (1991). This discourse is partly tacit, partly jargon, but mostly it

is action. It consists of exchanges between people who are active in a particular sphere, and learning is based on co-participation, co-construction and even competition. It shapes both the cultural dimension, including values and ethical behaviour, and the personal dimension of identity and self-actualisation. In formal terms it is expressed in terms of professions and designations; in less formal terms it is simply being known as competent, proficient or expert, in other words a judgement by peers or clients.

Skills development discourses and qualifications

The education discourse speaks of being qualified in something, as being situated in some sort of knowledge domain. The labour market discourse speaks of being qualified to *do* something useful for the economy and society, and the praxis discourse speaks of being qualified as something, as belonging to the guild of practitioners.

But, in passing, note that your ultimate qualification is your curriculum vitae. It is the measure of what you have achieved, what you are capable of and which communities of practice you have belonged to. It is a measure of your lifelong learning.

Skills crisis

Lack of skills translates in a number of different ways. For example, lack of people in specific occupations can be absolute, such as a lack of artisans, or relative, such as a lack of previously disadvantaged people. But a lack of skills can also translate into poor-quality products and services, *even if there are qualified people*. Some workplaces distinguish between 'qualified' and 'competent', where 'qualified' represents a sufficient level of knowledge or skill to start practising an occupation. 'Competence' comes later as the practitioner gains experience.

The skills crisis has two main causes: an education and training system which has the wrong emphasis and wrong focus, and the lack of a social environment for the development of skills. As Herbert Spencer noted: "The established systems of education, whatever their matter be, are fundamentally vicious in their nature. They encourage *submissive receptivity* instead of *independent activity*" (1959, cited by Hoggart 1997).

To promote an appropriate social environment for the development of skills requires us to shift the focus of learning to independent activity.

From apprenticeship to 'communities of practice'

Peter Henschel of the Institute of Research on Learning, in an examination of learning in a variety of contexts, concluded that learning was fundamentally social. This research spawned the concept of 'communities of practice' which formed the theme of the 2007 NQF Colloquium. Henschel identified the following seven principles of learning:

1. Learning is fundamentally social.
2. Knowledge is integrated in the life of communities.
3. Learning is an act of membership.
4. Knowing depends on engagement in practice.
5. Engagement is inseparable from empowerment.
6. 'Failure' to learn is the result of exclusion from participation.
7. We already have a society of lifelong learners (Henschel 1999).

Etienne Wenger, at a workshop after the 2007 NQF Colloquium, responding to the validity of these principles, added an eighth:

8. We forge our identities and connections around our work, our knowledge and our contributions to the communities we choose to practice in.

Most learning is acquired at work! Most of what we learn is not based on courses or programmes. Instead, as Jay Cross concludes, "Work = Learning; Learning = Work" and learning is lifelong (Cross, 2007).

Defining outcomes for workplace learning

The QCTO has developed a curriculum model that incorporates three distinct forms of learning, namely knowledge and theory, practical skills and work experience.

- Knowledge and theory: the emphasis is not just on learning in the workplace, but also links to relevant theory and knowledge. This is important because transition through glass ceilings at work depends on passing through 'theory thresholds'.
- Practical skills: critical outcomes emerge naturally out of an analysis of the requirements to perform occupation tasks.
- Work experience: learning in the workplace needs to be focused on *settings and circumstances, interfaces and the full range of occupational variables*, which are expressed not as verbs but as nouns (and adverbs).

Having these three forms of learning simplifies implementation in some respects, but it does not provide a framework for the integration of the three forms of learning into occupational competence.

Professor Illeris' model

The model presented by Professor Illeris gives us an important tool with which to measure the efficacy of our curriculum model, but we should note that it forms the highest level of a hierarchy of possible models and theories. It can be applied and linked to learning theories. We need to work with it and, perhaps, Africanise it, but it provides a valuable starting point in navigating the swamp, in thinking more systemically and systematically about workplace learning.

References

Brown, JS & Dugard, P. 1991. Organisational learning and communities of practice: towards a unified view of working learning and innovation. *Journal of Organisation Science* 2:1, February.

Cross, J. 2007. *Informal learning – rediscovering the natural pathways that inspire innovation and performance*. San Francisco: Pfeiffer, p. 226.

Henschel, P. 1999. *The manager's core work in the new economy*. Available at: <http://www.newmango.com/01iftf/henschel.html> (accessed 2 July 2004).

Lave, J & Wenger, E. 1998. *Communities of practice: learning, meaning, and identity*. Cambridge: Cambridge University Press.

Spencer, H. cited in Hoggart, R. 1997. *The uses of literacy*. Piscataway, NJ: Transaction, p. 22.

Schön, D. 1987. *Education the reflective practitioner*. San Francisco: Jossey Bass, p. 3.

Umalusi's response to Professor Knud Illeris' paper

Elizabeth Burroughs

Senior Manager: Qualification, Curriculum and Certification, Umalusi



Liz Burroughs of Umalusi

I should like to thank Professor Illeris for the opportunity of hearing how he has come to understand and model the connections between the workplace, learning in the workplace and the development of competence. It is a model that speaks of a world that seems worth aspiring to, but one which is nevertheless quite distant from the lived realities of most South Africans. Still, it is worth taking a moment to recognise what is possible, given different circumstances.

My commentary, however, will serve as a reminder of the more severe realities in which we must extend learning into the workplace, and even more significantly, to those not fortunate enough to have the opportunity to work. The perspective presented comes from the work Umalusi undertakes in the system, and the organisation's understanding of the challenges facing South Africa as a country and South Africans as individuals.

Learning in working life

Professor Illeris begins by pointing out that learning, which originated as a natural part of induction into work, was then displaced to institutions outside of the workplace, and that there are now growing arguments for the need to return it (at least in part) to the workplace once more.

He argues that, although schooling was designed to create a pool of people prepared to sell their labour and to perform in certain ways and under certain conditions – he did not mention the childcare role it was made to take on as well – it also took over 'increasingly larger parts of qualification' for life in the workplace.

The arguments for returning at least some portion of learning to the workplace are varied – not the least being that formal education is increasingly expensive and is a burden the state would want business to help defray. There is an argument that the political construction of adulthood as a site of learning, in addition to childhood and adolescence, is a necessity with the increasingly complex nature of work. According to this argument, people currently employed will undertake three different forms of work in a working lifetime, and such changes effectively require new learning each time.

Professor Illeris' paper alludes to arguments for and against learning in the workplace, some of which talk directly to Umalusi's role in the system: formalised education is generally better at ensuring a consistent, well-documented level of education, even in situations like our own, where the standard is in need of a slow but sure upward revision. With this understanding in mind, Umalusi is consciously engaging with the extent to which the current qualifications acquired by young people in schools and colleges can be more widely and generously conceived to cater to a wider variety of young people's interests.

The need to be relevant to the demands of the workplace was taken into account with the formation of the NQF, particularly through the incorporation of the CCFOs into the description of all qualifications. The potential of CCFOs has, as yet, been poorly understood, and they

have not yet been harnessed in a way that would properly transform school-based learning and so better prepare school leavers to enter the workplace. It is worth bearing in mind that the CCFOs emerged from a history of research aimed at making schooling more directly relevant to the workplace: the skills were intended to be sufficiently generic to enable school leavers to deal with the fact that change is now *the* constant in the workplace. The role of the CCFOs in formulating qualifications should not be lost when the NQF becomes the responsibility of the three Qualifications Councils, for they have a transformative role to play in the *how* of education.

Having a working life

One of the assumptions in Professor Illeris' paper is that a majority of adults will be in a workplace where the new forms of learning are to take place. Although he did not indicate what the level of unemployment is in Denmark, he did say that only 25% of Danes would be in the 'low skills category', a complete inversion of the South African situation. Indeed, it is wonderful to think of a model in which workplaces are a source of continued growth and development once school is over.

In South Africa unemployment rates are estimated to be between 23.1 per cent (official figure, second quarter 2008) and 42 per cent. This means that at least one in three adults will not have access to any form of learning beyond what they achieved at school. In addition, as our economy remains a low-skills economy, the places where people do work will not give them opportunities that readily allow for significant additional learning.

Furthermore, even though the education department may be matriculating half a million learners annually (an unbelievably exponential growth from about 10 000 in the early 1970s), there are another half a million who leave in the last two years of school; these learners do not even write matric, or else fail it. Even young people with matric struggle to access work or further study, so there is a pool of young people for whom work, let alone workplace learning, remains a dream.

The challenge for the South African education system is to provide these young adults with second-chance opportunities to become productive citizens.

The responsibility of learning for adults

In South Africa, the responsibility for adults' learning has been contested terrain. In the destabilised years leading up to the first

democratic elections in 1994, schooling for the majority of South Africans was of a very poor quality, and many left school precisely because the political situation was so fraught. As a result the notion of Adult Basic Education and Training (ABET) was enshrined as a right in the Constitution and reflected in the form of the NQF. While the Department of Labour has used the Skills Development Strategy to set targets for ABET in industry, there has been limited uptake despite the availability of funds because a) it is not central to the business of business; b) providing workers with a general education is both costly and time-consuming; c) general education is correctly seen as a function of the state, and d) industry does not have the necessary expertise to provide a general education.

Indeed, research Rosemary Lugg and I did for the National Union of Mineworkers in 1996 showed that achieving an ABET qualification has often been a stumbling block to workplace progression rather than a push in the right direction. The inclusion of 'fundamental learning' in all qualifications has meant that people who are otherwise highly skilled and knowledgeable are prevented from achieving recognition for occupational expertise. Research done by Umalusi in 2007 has indicated how poor the quality of uptake has been regarding the so-called fundamentals in SETA-based qualifications. This observation is not a matter of pointing fingers: Umalusi and the Department of Labour have begun to talk informally about how Umalusi and the QCTO might work together to support learners in their drive to be qualified.

The Department of Education has also had responsibility for ABET, but it has been very unevenly organised in the provinces, and the numbers of adults successfully completing the General Education and Training Certificate (GETC) has remained low in the seven or so years that Umalusi has certificated it.

There are difficulties in ABET which relate to the qualification itself, its lack of progression to other forms of learning, uneven curriculum development, poor quality provision, the lack of a stable teaching cadre and so on. Anyone in the field knows the extent of the difficulties. Some of these issues are currently receiving urgent attention, and a proposal is being discussed at ministerial level to create an alternative matric for adults. This alternative matric will be different to the National Senior Certificate (NSC) in terms of how it is assessed, for one of the stumbling blocks for adults is that it is a three-year qualification, with very specific internal assessment requirements. Nevertheless this alternative matric is intended to be in every way a comparable qualification. Umalusi is among a number of organisations working together to formulate the new matric, and will be instrumental, once it is a Quality Council (QC), in aligning it and other related qualifications such as the adult GETC to create articulated pathways for adult learning.



Delegates at the colloquium

But returning to the workplace, the situation is this: many older African workers may have had little or no education, while younger employees may well have a matric and yet still lack sound literacy and numeracy skills. This forms a very low base on which to initiate further workplace learning.

In other words, the assumption (reasonable in a developed country) that an entrant into the workplace has a general education sufficiently sound to be the foundation for additional learning, cannot necessarily be made in a South African workplace, and this may be the case for some time yet. In summary, the need for a sound, twelve-year general education for all adolescents emerging from schools and colleges – and for adults who have chosen to improve their level of education – is currently the single most pressing intervention required if the benefits of workplace learning are to become a reality in the future.

What counts as work

At an Adult Learning Network week held in September 2008, a young British researcher spoke about working with black adolescents in Manchester. She asked them to list the work they planned to do when they left school. The 100 or so young men in the survey listed only two jobs: a rap recording artist or a soccer star. None of them had a Plan B should their first dream not materialise.

While there must be comparable research around the work aspirations of South African youth, I imagine that for most youngsters the dream is to become one of the 'black diamonds' – a term that does not have wholehearted approval in South Africa.

Artisanal work, the route of self-development and improvement for generations, is no longer regarded as worth aspiring to, as the decline in figures in artisan training so clearly indicate. Being

an electrician or a plumber or cabinet-maker is not 'cool'. Blue-collar work is seen as a regrettable necessity, not a valued route to reliable employment and a technical education. As great as the skills shortage is in these areas, with the resulting certainty of continued employment or opportunities of self-employment, there is little motivation to move into and specialise in this type of work – and attendance figures at Further Education and Training (FET) colleges bear this out.

And the perception about what counts as 'work' doesn't end there. Teaching is no longer regarded as a profession worth considering, and it shows in the critical shortage of teachers (150 000 according to the *Sunday Times* of 23 November 2008) and the struggle to recruit suitable learners for teaching bursaries.

Young matriculants want to be doctors, engineers and lawyers, even though their matric results will not gain them entry into higher education. In short, there is a profound mismatch between youngsters' aspirations, their school results and actual labour market needs in the economy. Nor is there a vibrant further education system that can open other doors if the doors of higher academia are shut.

In conclusion: the situation in South Africa in terms of work and learning requires multiple approaches if both education and employment are to be transformed for the better:

- **The quality of learning in schools and colleges needs to be greatly improved.** Umalusi contributes to this process by its long-standing and well-established quality assurance of the final matric exam, a complex and rigorous process which increasingly has included the moderation of school-based assessment.

Umalusi also contributes to the improvement of standards by evaluating the curricula which inform teaching: it is currently



Eugenie Rabe of Umalusi

completing a thorough evaluation of the curricula for the major gateway subjects in matric. This research, the 'Maintaining standards project', is intended to support the process of understanding and standardising the new National Senior Certificate which will be written for the first time at the end of 2008. This research is part of standard Umalusi research practice which has, over a number of years, explored ways to benchmark the standard of the matric exam. But the quality of schooling needs to be improved by other means as well: by restoring the status of the teaching profession through good-quality teacher training and decent salary structures, and by monitoring teaching more rigorously than it has been in decades. Hopefully much of this work will be taken up by the inspectorate proposed by the Minister of Education. This inspectorate would do well to build on work done by Umalusi in monitoring independent schools.

- As mentioned earlier, in its role as a QC **Umalusi will examine the qualifications to be placed on the Umalusi qualifications framework for general and further education and training.** These qualifications will be re-evaluated and extended if necessary, and new qualifications needed to deal with adults and post-school youth will be developed with other stakeholders in education and training.
- Umalusi believes that **career counselling and guidance to learners** in their last years at school should be prioritised so that learners have a much more realistic sense of the opportunities available, especially in relation to their levels of scholastic achievement.

- **Vocational schooling** should again be made a viable option, with a discernible route to registration as an artisan and thence to employment. This needs to be seen again as a respectable alternative, and the necessary advocacy must be put in place. Umalusi is currently monitoring the National Certificate (Vocational) (NC(V)) qualification which will hold its first Level 4 examinations in 2009, and is doing research to determine how assessment for it is being handled. The NC(V) qualification will be one of the first to be evaluated and its curricula researched as Umalusi takes on its QC responsibilities.
- **It is critical to open up the FET field** by massive investment in adult education and training, by creating proper learning progressions and matching institutional learning much more rigorously to the needs of the workplace. Work being done by Umalusi will help to transform some qualifications into national qualifications which can be properly quality assured and certified.
- **The creation of employment opportunities**, which has been the aim of various South African initiatives including the Umsobomvu Youth Fund, JIPSA and ASGISA, has been limited in moving to scale. But large-scale employment is a necessity if the workplace is to become an additional place of learning, as envisaged when learnerships were first planned. Such work creation should not be the sole responsibility of the state, and yet South Africans are not really taught how to create work for themselves. Our default assumption, despite the evidence around us, is that we will find employment, and our problems will then be solved.
- Finally, looking at the situation north of our border, it is clear that some even more basic skills are needed if **food security is to be addressed** on a household-by-household basis. Much of our food has a hefty carbon footprint, and the cost of food has become a global issue; but neither our schools (at the local level) or the state (at the largest) are factoring in this reality when deciding what is critical for children (and adults) to learn.

The South African situation, in short, requires a very special competence both in the individual and in all of us as a nation, to deal not so much with the problems of an unforeseen and unpredictable situation, but with the stark realities of creating meaningful work, no matter how modest, and of making education better every single day. Once that is done, we may begin to grapple with the ideal of real competence development in the workplace, based on individual and societal needs.

Round-table discussions

Questions discussed by delegates in groups:

1. Think of one example from your own experience of learning@work and reflect on which of the dimensions in this model were highlighted.
2. Thinking of this model, how might that experience have been improved?
3. How should we connect processes on the left side and the right side of the workplace learning model and ensure that learning involves the central area?

Responses raised in plenary:

RPL:

We had to assign Recognition of Prior Learning (RPL) to two company directors who were in danger of losing their operating licence, and we had to use what was available from SAQA. However, talking to these people was like visiting a 'living library'. But all that implicit knowledge was not available for RPL purposes, and so they were given credit for far less than they actually knew. Is this a just system? Perhaps we should do things the other way round?

Skills transfer:

South Africa has appalling service standards, a problem that boils down to training. There is no practical way of passing on skills (as opposed to theory and knowledge) and older people feel threatened



Delegates in discussion

by younger ones. We need to make it possible for experienced people to pass on their expertise instead of forcing them to retire. South Africa also needs a strategy that identifies scarce skills and focuses on developing them.

Organisational culture:

The organisational culture is important: learning programmes should cover everybody in the workplace and no area should be overlooked. Incentive to learning is the key, but is not easy to achieve. Pre- and post-training are also needed in order to reinforce learning, but these are not always provided.

The model in the South African context:

The model is very useful for all levels of public and private training and development, and could even be used in a family or community context, but it is vital to contextualise it for South Africa. We should value what we have in this country and use the good experiences; there may be challenges ahead but the future is very exciting.

Linking training to needs:

We need to develop activities that focus on head, hand and heart (knowledge, skills and values) – all three are important. It is also important to train with a specific purpose in mind – the benefits to both the employee and the employer. Get to know the organisation's needs and the learners' needs, and relate generic/theoretical knowledge to the actual workplace environment.

Supporting the whole person:

Good facilitation is vital, but it must be done by the right people. It is also imperative to select learners correctly and match them to appropriate training programmes. To do this it is necessary to find out who the learners are and what they want to do. Money is not the only incentive: we need to make people feel fulfilled, which will increase their enjoyment of their workplace. This in turn will make it more likely that all staff are used to their full potential, which is not always the case at present. It is vital to communicate effectively and address issues openly and flexibly; and employers need to think beyond the bottom line. The individual as a whole person must be in the centre, balanced against the need to make a profit. This is what makes it important to link the right and left sides of the model. Employers want loyalty but won't work to get it.

Other challenges:

The apprentice system of the past was very effective but it has now collapsed completely, and our practical skills base is being eroded. Organisations are paying large levies for training but this is still not being provided in the workplace. As a result school-leavers are clogging entry-level jobs because they can't move on.

Work-Integrated Learning: the DUT experience

Paper presented at the Researching Work & Learning Breakfast on 22 August 2008 in Durban

Shakeel Ori

Durban University of Technology



Shakeel Ori, Director: Cooperative Education, DUT

With the advent of SAQA, qualifications in South Africa were no longer developed in isolation. The qualification and standards development system ensured that all qualifications and unit standards are done in direct consultation with the relevant industries and other stakeholders and were internationally comparable.

Later, the development of the Sector Education and Training Authorities (SETAs) by the Department of Labour gave further support to the development of workplace-learning standards.

This discussion on Work-Integrated Learning (WIL) begins with the principle that learning does and must occur in the workplace. WIL is also key in addressing the skills shortage in this country.

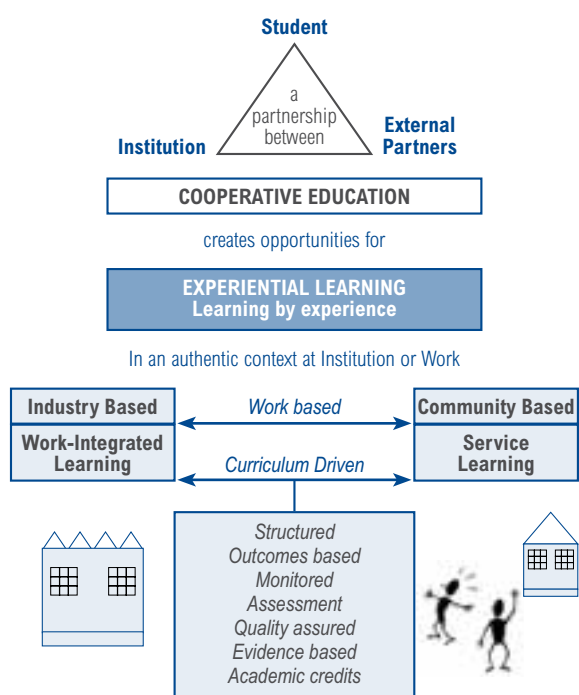
The concept of 'learning by doing' is not new – in fact it predates all universities. Consider, for example, the historical training of apprentices and the training of those in the service of the church. A *sangoma* is trained through an 'apprenticeship' with an experienced *sangoma*.

While there may not have been 'book-learning' attached to learning by doing, it must not be viewed as 'monkey see, monkey do', although the emphasis was often on skills. In some cases, there was mimicry or 'aping' with supposedly few cognitive processes (although one can argue that – even with aping – some cognitive processes are involved even if the knowledge transfer is not observable). But WIL, as practised by universities of technology and FET colleges, is not 'monkey see, monkey do'!

I will discuss WIL as practised by the Durban University of Technology (DUT) to illustrate this.

North-Eastern University in the USA describes experiential learning as "guided exposure of students to 'real world' experiences, integrated with classroom-based curricula." A hundred years ago, Herman Schneider observed that his engineering students who worked produced better results, leading him to develop 'Cooperative Education' (CE), in which university students also gained exposure to the workplace and experiential learning. Kolb (1984) further describes the "transformation of experience into knowledge".

CE is a partnership between the university, the student and an external partner such as industry and/or the community. This partnership is dynamic and ongoing and is not restricted to a once-a-year placement of students in the workplace. This is illustrated in a flow chart developed by Brian Forbes (Figure 1) that clearly illustrates the concepts of WIL and service-learning in relation to experiential learning and CE (Forbes 2007).



From: Brian Forbes, CPUT

Figure 1: Cooperative Education and WIL

Hamilton & Hamilton (1997) state that “merely placing students in the workplace does not guarantee that learning will take place.”

Therefore, work-based learning must be curriculum-driven; structured and outcomes-based; monitored, assessed and quality-assured. The specified learning must deepen the understanding of students progressively – whether the outcome is achieved in the classroom or workplace. To this end, Dar-chin (1998) argues that synergy between the workplace and the academic component is important. Reflection should be central to the entire process.

Relationship dynamics are at the heart of the entire WIL learning cycle (Forbes 2008). Placement of students and WIL is only one of the outcomes of an institution’s relationship with industry and community.

Cates and Jones (1999) argue that ‘employers’ are the most powerful ‘instructors’ – providing real-world situations, real-world challenges and real-world solutions – all of which are invaluable to students’ learning. WIL emphasises learning outcomes, therefore there must also be an academic approach with planned learning experiences.

To be able to achieve this, the university must have partnerships with community and industry, including SETAs, professions, government and the international business community and institutions. These partnerships provide for WIL, joint ventures, applied research, consultancies and the use of expertise on either side, interchange of facilities, staff exchange and short- and long-term human resource needs.

At DUT, staff exchange between the university and industry is important; we see the release of staff back into industry for periods of time as critical to their remaining updated and our curricula relevant.

Characteristics of universities of technology include a strong corporate-orientation focus, relevance of programmes and responsiveness and fulfilment of the needs of industry, community and society (Du Pré 2004). The link must be deliberately reinforced, and the DUT invests a lot into doing this and can therefore boast strong relationships with its partners, both locally and internationally.

To achieve a satisfactory WIL outcome, the DUT ensures that the workplace is approved before the student is placed. This is done by suitably qualified and experienced academic staff. The approval clearly indicates what outcomes may be achieved in that particular workplace and elicits a commitment for the industry or workplace. The process also indicates a shift from content learning to greater understanding of learning processes – including reflection and critical thinking (Schaafsma 1996).

The bonus is that students are exposed to real-world contexts and there is development of the CCFOs. “This way of learning also impacts on problem-solving capacity and innovative skills” (Deitmer 2004). Multiple examples of the achievements of alumni of DUT give testimony to this.

Once in the workplace, the students are regularly monitored by academic staff who make scheduled visits to the workplace. Multiple methods of data collection, student-constructed evaluation, portfolios, programme-based assessment and competency-based evaluation are some of the assessment tools used.

After they have completed WIL, students should be debriefed. This is an important feedback mechanism and also allows students to reflect on their placement, especially in the light of shared experiences of other students.

All WIL students of DUT are registered with the university during their WIL. The Cooperative Education Unit (CEU) is able to track students and to provide some intervention where students have not



Delegates at the breakfast event

been placed. It is emphasised that during their WIL placement period the students are the students of the DUT and not employees of the company with which they are placed.

Over the years, it has been found that students are often not placed because they were not 'work-ready'. The DUT CEU has therefore embarked on a work-preparedness programme that begins in the students' first year at DUT and continues throughout their studies. It is hoped to make this credit-bearing in the future. The programme involves so-called life-skills and includes increased exposure to the workplace by industry visits and guest lectures by industry personnel. An alumni mentoring programme has been developed together with the university's Convocation in which alumni volunteer to mentor undergraduate students.

To develop and give effect to the partnerships, industry liaison must be an ongoing feature of the CEU as well as each academic department. It is compulsory for every programme at DUT to have an Advisory Board, at least 60 per cent of whose members must be external to the university. These boards give direct input into the relevance of curricula, as well as needs analysis and delivery of curricula both in the workplace and at the university.

At DUT, there is a close working relationship between the CEU and the academic departments in the delivery of WIL. The CEU remains the custodian of cooperative education and external engagement institutionally, while a large part of the WIL processes are implemented at departmental level.

The benefits of WIL include:

- improved academic results (due to the connection between theory and practice)
- students gain permanent jobs more quickly
- better starting salaries (Weisz 2002) – Australia
- enthusiastic, motivated students add value to the workplace
- employers save on recruitment costs and can employ those they have 'screened' during WIL (without Labour Relations Act implications)
- workers see more meaning in their work, creating work satisfaction and consequently better health
- in the knowledge economy, learning organisations have shown improved worker satisfaction and greater employee commitment and staff retention.



From left to right: Professor Roy Du Pré (DUT), Professor Shirley Walters (SAQA), Ms Shirley Steenekamp (INSETA) and Mr Stephen Sadie (SAQA)

In terms of researching work and learning (especially in the South African context), CE and WIL are dynamic and therefore ongoing research in at least the following areas is needed:

- how students learn in the workplace
- teaching methodologies in academia that have a direct bearing on successful placement of students and their consequent learning in the workplace
- how knowledge is transferred
- assessment traditions and practices in WIL
- models for integrating work and learning
- defining the body of knowledge in respect of WIL's unique phenomena (Finn 1997)

The challenges facing WIL in the southern African landscape are:

1. practices; pedagogies; structure
2. policies (academia and workplace)
3. sustainability of partnerships

4. learning contexts
5. innovations in learning, e.g. e-tools
6. ideologies
7. effective training of academic CE practitioners and workplace mentors
8. assessment
9. relation of 'learning organisations' to health and societal issues
10. post-WIL career paths
11. post-WIL learning and research
12. post-WIL entrepreneurship development

Using the DUT's model, I have shown that while there are many benefits to be derived from the partnerships between the university and industry and community, there is still much to be done in terms of implementing WIL across the system and improving research and development of learning in the workplace.

References

Cates, C & Jones, P. 1999. *Learning outcomes and the educational value of co-operative education*. Columbia, MD: WACE Inc.

Dar-chin, R. 1998. Transformation and reform of vocational education and training in Taiwan, Republic of China. In: I Finaly, S Niven & S Young (Eds). 1998. *Changing Vocational Education and Training*. London: Routledge.

Deitmer, L. 2004. *The evaluation of regional workplace learning partnerships in vocational training*. Band 12NOMOS Verlag: Baden-Baden.

Du Pré, R. 2004. *Universities of Technology in South Africa: Position, role and function*. South Africa: Vaal University Press.

Finn, KL. 1997. The spaces between: towards a new paradigm for co-operative education. *Journal of Co-operative Education*, Vol. XXXII:2.

Forbes, B. 2007. Presentation at Durban University of Technology.

Forbes, B. 2008. Personal communication.

Hamilton, SF & Hamilton, MA.1997. When is work a learning experience? *Phi Delta Kappan*, Vol.78:9, pp. 682–689.

Kolb, DA. 1984. *Experiential Learning*. USA: Prentice Hall.

Schaafsma, H. 1996. Reflections of a visiting co-op practitioner. *Journal of Co-operative Education*, Vol. XXXI: 2.

Weisz, M. 2002. Interview on Doctoral Study by Margaret Cook: *The Age*.

Evaluation of Foreign Qualifications Call Centre: +27 (0) 12 431 5070
Helpdesk: +27 (0) 86 010 3188
Switchboard: +27 (0) 12 431 5000
Fax: +27 (0) 12 431 5039

SAQA House
1067 Arcadia Street
Hatfield
Pretoria

Postnet Suite 248
Private Bag X06
Waterkloof
0145



General enquiries: saqainfo@saqa.org.za
Information on the evaluation of foreign qualifications: ceeq@saqa.org.za