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The Characterisation of Work-Based Learning by Consideration of the Theories of Experiential Learning

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Introduction

Over the past decade, the analysis of what occurs when learners are involved in 'work'-based learning (WBL) has, at best, been superficial and simplistic, i.e. it has been accepted that individuals learn by being in a knowledge-based work-based environment. It does not follow, however, that they will acquire the knowledge they are seeking simply by being in a 'real world' workplace environment. What needs to be considered is how the learning processes take place in 'work'-related environments and how, by understanding the mechanisms of learning, the work-based environment can be formalised as an authentic learning environment and thus accepted as comparable but nevertheless different from the traditional on-campus one. Academics in the work-based learning field recently explored its theoretical basis with a view to establishing the workplace environment by educators, policy-makers, government, industry and commerce as a formalised and accepted educational environment. It would appear that most practitioners have assumed that the experience of working in such an environment drives learning and, hence, the terminology 'experiential or work-based learning' has increasingly been used over past years to describe the learning mechanisms and processes in this environment. But the development of a conceptual theoretical base is inhibited by the ambiguous nature of what has, over the last decade, been described and considered as the practice of work-based learning. In this article, we examine how experiential learning theories can contribute to the development of a common theoretical framework which draws together lifelong learning practice to support the conceptualisation of work-based learning. We believe this approach is an important step which needs to be taken, as a common theoretical framework will underpin policy-making at institutional and systemic levels and encourage a common European strategy regarding the role of WBL in tertiary education. WBL supports the personalisation of learning, which is highly desirable, but for this to be effectively established will need a common theoretical framework taken forward as future policy by the higher and further education sectors. The establishment of such a framework would, of course, have major implications for tertiary education, as it would mean achieving a common approach across Europe. The authors have been involved over the past 20 years as researchers and in the development and teaching of WBL from diploma to professional doctorate levels. The characterisation of WBL by consideration of experiential theories is based on both practice over the past 10 years and consideration of relevant theories. While much of the practice

was concerned with higher education, we have also been involved with developments at further education and non-formal education levels. We also believe from our studies to date that the conceptualisation of WBL should be applicable at all levels and this has been our experience from informal to professional doctorate levels.

The Development of Work-based Learning in Europe

The development of work-based learning in Europe has primarily been driven in recent years as part of the wider social, economic and political changes associated with the growth of a mass tertiary education system. But many educators are concerned by what they see as the subversion of academic practices on-campus and have opposed the realisation of knowledge, understanding and skills through work-based learning environments. This has led to the development of WBL by individual institutions without any common conceptualisation or approach to the process across Europe. On this basis, WBL is still not fully recognised within the overall academic framework for tertiary education. The situation is further confused by the fact that some educators argue that it is predicated as being purely based on transdisciplinarity (Costley & Portwood, 2000; Gibbs & Costley, 2006; Garrick & Rhodes, 2000), whilst others see it as providing an alternative to the traditional on-campus environment to support the delivery of single discipline-based awards. Garnett (1997) defines work-based learning as learning at higher education level derived either from paid or unpaid work. This term could be construed as relating only to paid or unpaid work in the workplace, whilst we would consider 'work' to be associated with work wherever or whyever it is done. We believe that there are significant issues to be considered in discussing and understanding what is meant by the terms 'work' and 'learning' and in this regard we are much in sympathy with the concerns raised by Davis and Chisholm (2004) and Cairns, Malloch and Burns (2006) about the need to understand the theories and issues around learning, work and workplaces if we are to properly define and understand what we truly mean by 'work-based learning'. We are much concerned with the need to consider what is meant by paid or unpaid work and believe that the learning to be achieved in a paid work situation may well be significantly different from that which can be achieved in an unpaid environment and the process of learning may or may not be similar. Individuals 'work' in a huge range of life-based and lifeplace environments, typical of which are the home, the community and leisure environments (Davis & Chisholm, 2004). All 'work' environments need to be considered in terms of which learning mechanisms and processes are operative and then see if a common theoretical framework is possible.

Experiential learning is now of considerable interest to European countries where its importance is clearly recognised in the European Qualifications Framework (Corradi *et al.*, 2006). This shows support for the widening participation agenda across Europe where experiential learning in the workplace can help each country to move more successfully towards a mass education system at all levels of tertiary education. It is evident from the E.C. Memorandum of Understanding on Lifelong Learning (European Commission, 2000) and the 2007 European Inventory that there have been progressive in-depth developments across Europe to date in relation to experiential-based informal and non-formal learning, including work-based learning. This is supported by the Bologna Agreement (2007) (http://

www.hefce.ac,uk/partners/world/bol/). What is now clear is that Europe intends to be highly active in the development of a progressive knowledge–based economy. To do this, novel methods of learning such as WBL need to be underpinned by a common theoretical framework, particularly if academics are to be won over. Anecdotal evidence suggests that a similar approach is now emerging in Canada and Australia.

There is an obvious need for the concepts of work-based learning and related relevant assessment methods to be understood on a common basis across Europe if experiential learning is to be a successful way forward for greater participation of individuals and mobility across Europe. Typical of developments addressing these issues is the Echocast Project, an EU Leonardo project which involved educational and public organisations concerned with cultural heritage and partners in Austria, Germany, Italy, Poland, and the UK. The project involved creating a work-based learning framework across the partners and having the learning accredited (Cowham & Percy, 2007). The authors in their conclusions indicate that the ideas of work-based learning and assessment methods are significantly less well understood or implemented in the rest of Europe than in the UK and comment: 'The need for an organisational strategy for WBL to be developed and implemented cannot be over-stated'. Bassiel *et al*. (2007) report that much work is still needed to break down barriers and a way forward would be to promote examples of good practice which could be used by European countries to demonstrate what can be achieved through an experiential learning approach using work-based learning. Both publications provide evidence of the need for educational policy-makers to work together to achieve a common approach to accreditation and assessment for WBL. Before this can be achieved, a common theoretical underpinning has to be agreed and put in place.

Increasing interest to reach a common practice through experiential learning developments is strongly supported by the European Commission through the Socrates Programme (Grundtvig Projects and the Leonardo Da Vinci Programmes). Typical is an ongoing Lifelearn project (Grundtvig 2006) involving some of the UK authors with European higher education institutions in Estonia, Finland, Germany, and Spain where the lifelearn concept involves experiential learning being explored across a range of life-place learning environments such as workplaces, community-based environments and the home. Through the systemisation of informal learning, this project seeks to develop a framework for experiential learning for adult learners to gain knowledge through learning in the widest possible variety of professional leisure and community environments. It has clearly demonstrated that experiential learning in environments such as the workplace, the home and the community can be successfully taken forward, and quality assured, validated and given credit through appropriate assessment. Of particular interest is the outcome which shows that credited experiential learning can be achieved through unintentional learning in leisure-based environments. Experiential learning theories seem to successfully underpin and provide a theoretical understanding for the learning measured within this project. At the end of the project, the outcomes will be disseminated across Europe to support the conceptualisation of learning in work-based environments.

A Leonardo Da Vinci project (2003–2005) involved tertiary and higher education institutions in Hungary, Wales, Spain, Denmark, Finland, Austria, Scotland and Portugal which worked together to establish a common theoretical reference

frame for WBL based on learning through the interrelationships between tacit and explicit knowledge. The desired outcomes were post-experience CPD processes for WBL in small to medium enterprises. A number of small to medium enterprises in Denmark and Wales were involved and facilitated the testing of the models. The partners reviewed experiential learning in the European context by using work-based methods across a range of workplaces within organisations and found the experiential work-based approach to be effective for post-experience learners. The main outcome of this project was the establishment of mechanisms for learning through work-based experiential studies in small to medium enterprises where the recipients were essentially in paid jobs. The learning was taken forward in the companies through a partnership with staff from the educational establishment who acted as mentors and facilitators in the WBL process. The main results were published, showing the key research outcomes relating to the delivery of continuous professional development (Fink *et al.*, 2005). One of the major methods deriving from this European project was the establishment of a continuous professional development Toolkit based entirely on experiential learning (Chisholm & Holifield, 2003; Clarke *et al.*, 2005). The experiential tools were successfully tested in a range of small to medium enterprises where post-experience learners used them to effect their learning in the company workplaces and gave feedback on the effectiveness of the Toolkit. It was also concluded that the Toolkit could be transferred to larger organisations and used for a range of learning, from informal company-based learning to postgraduate and post-experience learning in the workplace.

There is much evidence of a strong European political momentum to support the development of informal and non-formal learning in the European Inventory (2007) where hard evidence can be found of the objective to put in place a set of common European principles relating to the validation and accreditation of informal and non-formal learning. In 2008, there was a strong European political momentum and a strategy and policy in place to deliver in this area of learning. What is not in evidence is a common policy and strategy to achieve a common theoretical framework relating to this area of learning which could support the achievement of both comparability and compatibility for European practice relating to work-related learning, both formal and informal.

An examination of the Lifelong Learning Programme (2007–2013) shows European thinking regards education and training in the workplace and community across all stages of lifelong learning. This programme could be usefully modified to focus on looking at the development of a common theoretical framework which would support the overall conceptualisation of work-based learning, leading to common policies and strategies across the tertiary education sector. Support for the future development and understanding of work-based learning can be found in the new Lifelong Learning Memorandum (2006) signed by the presidents of the European Parliament. This now underpins the establishment of a progressive advanced knowledge society. Fundamental to this, we believe, is to establish a theoretical framework which will underpin all these novel forms of learning in life-place environments such as the workplace, thus underpinning the needed conceptualisation of WBL. Within this development, the Bologna Agreement is now effectively driving the convergence of European higher education systems which can support non-formal and informal adult learning (SCADplus, 2007.) However, this support will be much more effective if tertiary education moves forward using a common framework for WBL which conceptualises current

practice relating to off-campus learning through work-related environments. An examination of recent research findings on workplace learning by ECER (2006) and VETNET (2007), a European Research Network for vocational education and training, again gave little information about the development of common theoretical frameworks. Brown and Brown (2006) reviewed research findings relating to workplace learning, considering findings from Europe and Australia. Again, while evidence was presented of significant amounts of research, there was little evidence of the examination of experiential learning theories in relation to explaining workplace learning. Learn@work (2008), a Socrates Minerva project, explored the synthesis between the theories and conceptual frameworks relating to work-based and workplace learning and provided successful case studies. It was reported that it was impossible to discuss all the different work-based learning models. All these projects contribute individually to the characterisation of WBL and are indicative if not exhaustive evidence of the ongoing excellent research and development in Europe. Each study contributes to the ongoing conceptualisation of WBL practice in the workplace. However, future policy for educators in Europe will be the need to draw together all the results of such project work to contribute to the delivery of a common framework for work-based learning to provide continuity and mobility of work-based learners across Europe. As few of the projects try to characterise work-based learning through the consideration of experiential theories, we believe that this could be a useful way forward and in the article we draw together our views based on a review of the theories and relevant practice.

The growth of interest in work-related learning is provided by CEDEFOP (2007) and Bassiel *et al*. (2007). A study visit by CEDEFOP (http://studyvisits.cedefop.europa.eu.) took place at the National Centre for Work Based Learning Partnerships (Middlesex University, UK) to take forward a mutual understanding of this form of vocational education. It involved delegates representing all sectors of the European Union and further and higher education. It was interesting to note that it was felt that the greatest barrier in 2007 to emerge from the European countries taking part in the study visit was to overcome the resistance to work-based learning in traditional higher educational establishments and to get academics to overcome their closed attitude to learning in work-related environments. We believe that if we have a common theoretical framework to explain work-related learning this would go a long way to encouraging academics to accept these new off-campus forms of learning. With these forms of learning, underpinned by sound theory, a much faster growth rate may be possible in Europe.

The Way Forward

In this article, we examine the main reported theories of experiential learning and how these relate to WBL, based on our own research and reported practice over the past decade. We analyse the contributions which each makes to the conceptualisation and characterisation of WBL and note how this approach has implications for policy-making and institutional organisation in tertiary education. We look at the theories and mechanisms associated with the experiential mind and learning with a view to showing the need for the conceptualisation of WBL and for a common framework to underpin this form of learning. We reach conclusions as to how experiential learning theories relate to the range of 'work'-related environments being used to establish lifelong learning in Europe. We show that, while

many experiential studies are reported and a range of projects relating to WBL has been carried out, there is little evidence of a common approach. This has important implications for the development of a common approach through an accepted theoretical framework and for future policy-making in the tertiary educational sector. The conceptualisation of current practice will support a common approach to WBL and help institutions to establish a clear strategy to have work-based learning alongside traditional on-campus subject-based learning.

An Historical Perspective of Learning Processes

The concept of learning in work-related environments is far from new. Some philosophers such as Locke maintain that, at birth, the human mind is a blank slate and that all knowledge, understanding and ideas emerge from experiential actions and the associations which these produce. Some behaviourists (Watson, 1998, Skinner, 1965) have built on this view, putting forward their idea of learning as drawing from behavioural change. Others (Durkheim, 1915; Levy-Bruhl, 1910/1966) have sought to describe learning as a form of socialisation where learners are introduced to a body of culturally-defined knowledge leading to their acquiring a range of functional forms of knowledge and skills. Again, the process is passive where social mechanisms and individuals teach the learners socially appropriate knowledge on the basis that an idea learned in one context can be translated into other contexts. Belenky *et al*. (1997), Kohlberg (1981) and Piaget (1967) attempt to define knowledge as differently structured capacities to perform various cognitive, moral and affective operations. Here, knowledge and learning refer to the learners' progression through successive stages of growth. Whilst these theories may in the past have been applied to traditional learning, there is little doubt that experiential learning in an appropriate work-based environment does involve learners reacting to a continuum of stimuli where behavioural changes will take place through aversive and non-aversive responses, thus leading to the accumulation of knowledge and learning. Most work-based environments will effectively provide learning through a socialisation process where, for each particular environment, learners will be introduced to a body of defined knowledge that is relevant to that environment. Although this approach was also described as passive, there is no reason why learners cannot challenge the validity of the socially appropriate knowledge deriving from that environment through continuous analysis of the experiential knowledge being gained.

Scribner (1996) reported on studies of what she described as working intelligence which involved the establishment of and capacity for thinking and problem solving in the workplace environment. While many accept the value of learning by 'doing,' it is of interest to note that, more recently, the HRD group (2007) considered the meaning of experiential learning as learning by 'doing', thus making the link to 'work'-based learning which is taken forward by 'doing'. Conner (1997/2004) also provides support for the fact that we ultimately learn by 'doing' but brings in the socio-cultural concept of interacting with and listening to others as part of the learning process. He also raises the importance of motivation being a prime driver as individuals move forward in experiential learning, which he describes as a voyage of self discovery. Smith (2001) emphasises that experiential learning entails direct involvement with what is being studied rather than merely contemplating on the situation. This again shows the direct relevance of experiential involvement to

'work'-related learning. Houle (1980) defines experiential learning associated with direct involvement in everyday life and this interpretation is much in line with the author's views that 'work'-related learning should be considered as work done in all our life place environments and not simply the paid work environment. Smith (2001) also makes the key point that learning through everyday experience is not enough and that it is the ongoing reflective process which facilitates an individual's learning. Whilst the authors may not all agree with this, this usefully characterises 'work'-based learning where many individuals may go through the experiential process in a given environment without achieving any measurable learning if the reflective process is not involved. Thus, 'work'-based learning is best characterised as an experiential-reflective learning approach.

Rogers and Freiberg (1994) also make useful contributions to the interpretation of experiential learning where two types of learning are detailed. The first is cognitive, described as 'meaningless' and relating to knowledge such as learning of vocabulary and arithmetical multiplication tables. The second is experiential and is described as 'significant' and is about experience-related knowledge. Although the authors do not consider cognitive learning as meaningless, we are convinced that the emphasis placed on experiential learning is the most meaningful and is intimately associated with learning from everyday experiences.

Analysis and Discussion of the Theories of Experiential Learning

We shall now consider relevant theories of experiential learning in relation to work-based learning to determine if its characterisation by such theories is a useful way forward to achieving its conceptualisation.

Raelin and Schon

Raelin (2000) claims that work-based learning is much more than experiential learning, which he views as the addition of simulated experience to conventional conceptual knowledge. Simulated experiential learning is not based on real world environments but rather on training games and classroom case studies which are usually tidy and logical and do not reflect the problems of real 'work'-based environments. He does acknowledge, however, that theory alongside practice is an essential ingredient of work-based learning. He further explains that work-based learning theories produced by practice-based analysis are liable to be of a more practical nature than those deriving from purely philosophical consideration. Experiential learning theories generally relate to much more than simulated experience and most support the need for reflection, conceptualisation and evolution of applicable theories. Raelin (2000) supports the move away from learning in the conventional on-campus environment on the basis that knowledge and learning take place in all life's environments. He acknowledges that if knowledge is indeed accepted as deriving from active practice in everyday situations, including that of work, then the expansion of learning environments to include the home and workplace would be essential. This supports the author's views with regard to the need to extend the present interpretation of workplace to include learning and knowledge production in environments such as the home, the community and outdoor activities and to describe this form of knowledge production and learning as life-based (Chisholm & Burns, 2003; Davis & Chisholm, 2004; Blair, 2005).

Schön (1988) provides strong support for the experiential approach where he recorded the case for practitioners creating theory as a result of reflection on the challenges and problems arising in their practice. Here, we are not discussing simulated experience but the experiential learning derived from the person 'working' to solve challenges and problems in 'real world multidisciplinary environments' such as paid and unpaid workplaces, the community and the home.

Dewey and Itin

Dewey (1938) regards experience as an essential component of the educational process. His model of experiential learning consists of a logical sequence which involves perceiving a problem followed by its articulation, the formation of a hypothesis for finding a solution, experimentation to test the hypothesis and finally giving reflective consideration to the consequences for society. His view was that the meaning of a given experience is the result of the interaction between what the learner brings to the given situation and what happens there. His argument was that learners work on a new experience to understand it based on knowledge and understanding derived from earlier experiences. Dewey's model of experiential learning is described in Figure 1, where:

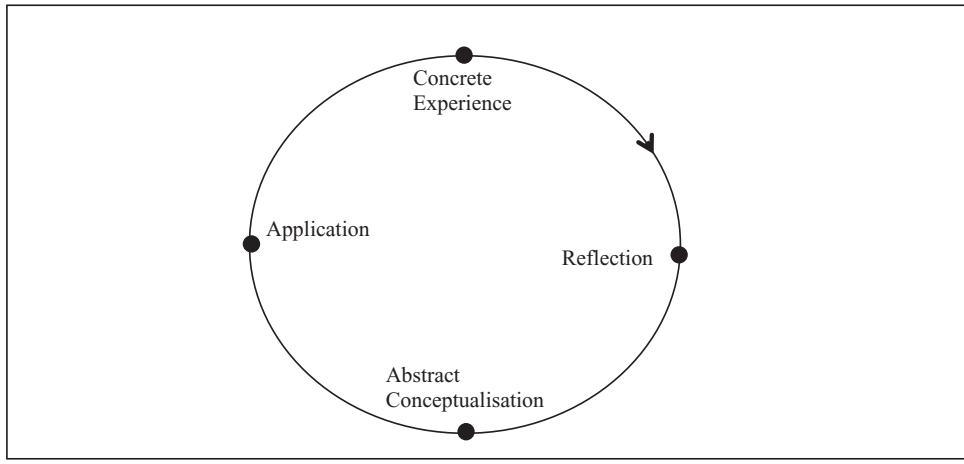

FIGURE 1. Dewey's Model of Experiential Learning

Concrete Experience = Interaction between the student and either the environment, subject or teacher.

Reflection = The action is considered either through observation, reflection, discussion or some combination of these.

Abstract Conceptualisation = Deriving some meaning of knowing from the experience. Integrating previously generated knowledge (wisdom) with this new experience.

Application = Testing the deductions made or applying what has been learned from the experience to new experiences.

Much of what is encapsulated in this model underpins intended learning in a work-based environment. First, the environment needs to be defined and carefully chosen to provide the experiences through which experiential learning can be achieved. Thereafter, this requires to be backed up by reflection, critical analysis and synthesis. Most important for the work-related environment is that these aspects are learner-initiated and led, inciting learners to make informed decisions and be accountable for the results. In this process, learners will drive key questions, investigate and experiment, solve problems which arise, take responsibility for their actions, develop and construct meaning and ensure that previously developed knowledge is included in the process.

Drawing on the Dewey model, Itin (1999) proposes the Diamond Model where the experiential learning process involves the educator and the learner in a transactive process. The model is shown in Figure 2, where:

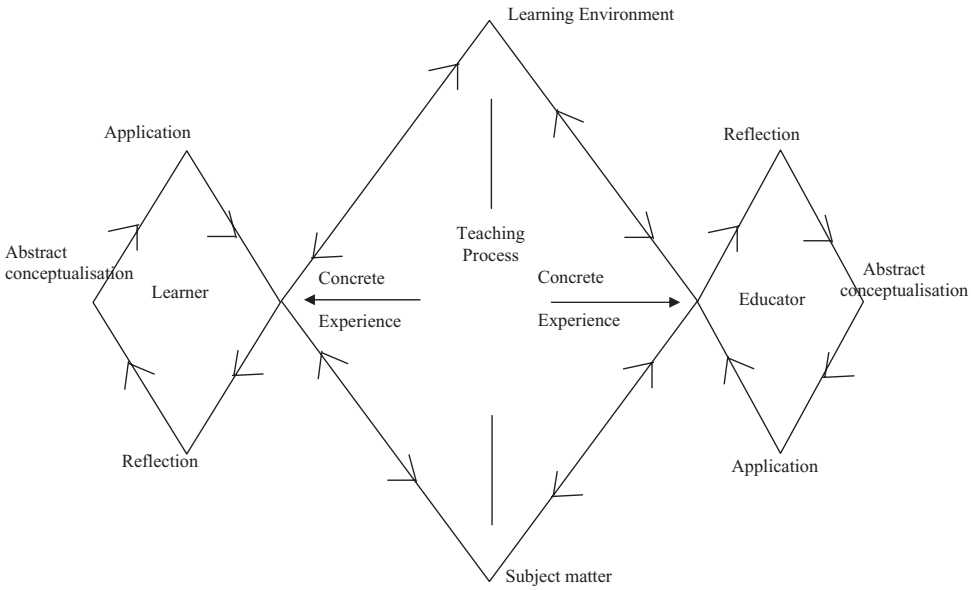

FIGURE 2. Itin's Diamond Model for Experiential Learning

> The Teaching Process = establishing teaching/learning goals, tailoring material for students, delivering the material in a manner appropriate to content, and understanding how students interpreted the content and process.

This model underpins much of what happens in work-based learning processes and environments and can be considered useful to explain work-based learning. It takes into account the transactive concepts between educator, learner, learning environment and subject matter. The directional arrows show that information is flowing both ways. The model supports the underlying theoretical approach to interpreting work-based learning as an educational process which drives learners to engage intellectually, socially, emotionally and physically in an unpredictable work-related environment where they will go through the experiential process of

potential failure, taking measured risks, experiencing adventure through creativity and innovation, and, of course, achieving successful outcomes. The importance of the educators can be seen in the model and the generally accepted view that work-based learning is a process which involves them in facilitating the selection of suitable learning environments, helping to encourage effective reflection, ensuring that a depth of learning comparable to the level of award being sought can be achieved, and providing support for the learning process.

Single, Double and Triple Loop Learning

Another concept which is of considerable importance in the characterisation of work-based learning is single-loop (first order), double-loop (second order) and triple-loop (third order) learning (Raelin, 2000). Single-loop learning reflects much of what is regarded as the traditional approach to on-campus classroom learning which often does not involve much thought or reflection. However, the experiential learning derived from action in the workplace needs at least the double-loop learning processes if innovation and creative thinking are to be taken forward. Essentially, the double-loop learning process facilitates the continuous reflection and challenge relating to fundamental assumptions which have been made previously, leading to a much more receptive mind development in terms of finding new ways of solving problems. Triple-loop learning takes us one step further into an in-depth reflective analysis where, for a given experience, basic premises are now questioned. For the individual or group of learners involved this means a significant shift in either the individual's or the group's standpoint about deeply held views. Thus, triple-loop learning in an experiential environment such as the workplace leads to a shift in a learner's understanding of context or point of view and thus produces new knowledge in the person. The complexity of learning in multi-disciplinary work-related environments can thus be characterised by double-loop/triple-loop experiential approaches where more in-depth reflection leads to understanding how problems and potential solutions are related although significantly separated by both time and space.

Another of Raelin's concepts (2000, p.89) is that of Action Science, which he describes as a 'work-based intervention strategy for helping learners increase their effectiveness in social situations through heightened awareness of their action and interaction assumptions'. Thus, this approach involves in-depth consideration and questioning of existing ideas and interpretations of situations and can be described as double-loop or second order learning (Argyris & Schön, 1978). Reflection and the level of reflection are at the core of this form of experiential learning and Schön (1983) classified the rethinking process relating to the action science as 'reflection-in-action'. Raelin (2000) draws attention to the basic objective of action science which is to reveal theories which describe actual behaviour and to be able to differentiate between ones which inhibit learning and ones which promote learning. The criticality and depth of self reflection are obviously at the core of whether double-loop or triple-loop learning is achieved. For the latter to be achieved the level of reflection must challenge whether the premises for an individual's interpretation or understanding are indeed valid. This concept of third-order learning was originally described by Bateson (1972). Work-related learning and environments provide experiential processes and situations where learners can realistically examine and challenge the fundamental assumptions which underpin the

processes and situations being considered. Therefore, work-based learning is essentially a double-loop/triple-loop experiential learning process which is about individuals achieving transformational changes to their thinking and understanding, thus providing for continuous professional development independent of any specific academic discipline. However, one concern which the authors have in considering this approach is the concept of the paid and unpaid work-based learning environment. Real questions arise as to whether double-loop/triple-loop experiential learning can be achieved in a work-based environment where individuals are paid to deliver to a specific job profile.

Cognitive Experiential Self Theory

Perhaps one of the most important theories is the cognitive-experiential self theory (CEST) proposed and developed by Epstein (1994). This provides a basic characterisation of the work-based environment where we interpret 'work' as relating to an individual learning by 'working' in one or more off-campus life-related environments. He describes this theory as integrating two interactive modes of information processing: a rational system and an emotionally driven experiential system. It is useful to consider Epstein's concluding remarks:

> Failing to understand the operation of the experiential mind and its influence on the rational mind, try as we may to be rational, our rationality will be undermined by our inherently experiential nature. Cultivating them both, we may be able to achieve greater wisdom than would seem likely from our past history.

We see this as being highly significant for the characterisation of 'work'-related learning where 'work'-related environments support learning where effective interaction of the rational and experiential systems can take place as opposed to the traditional on-campus learning where we believe it is the 'rational mind' component which is recognised, with little recognition given to the 'experiential mind' component.

Epstein reports on the evolving views of the 'cognitive unconscious' being an adaptive system that automatically, effectively and intuitively deals with experience and also guides a person's behaviour. He further reports that the information processing related to the cognitive unconscious takes place outside of awareness, thus providing a mode of operation which is more effective and efficient than conscious, deliberative thinking. Cognitive unconscious thinking in dealing with intuitive thinking and experience thus recognises the importance of tacit knowledge, which is an essential form of knowledge derived primarily from 'work'-related experiential environments. While the rational system within CEST supports explicit knowledge and understanding, we believe this effectively characterises only traditional on-campus classroom learning, but it is the truly interactive rational and experiential modes of information processing which explain knowledge development and understanding in work-related environments such as the paid/unpaid workplace, the home and the community.

Work-based learning is effectively explained where the two modes are supported by life-related environments, with the experiential mode interacting very effectively with the rational mode through the processes of reflection. The process of reflection, we believe, facilitates the interpretation of the experiential intuitive/

tacit knowledge deriving from the 'work'-related experience and the integration of this knowledge with explicit knowledge deriving from the analytical, deliberative, verbal and rational mode approach. Thus we learn from Epstein's work that the two cognitive processes are primarily differentiated where processing in the experiential mode is directly associated with emotions and with affect, whereas the rational mode is considered to be affect free. 'Work-related' learning places the balance and emphasis on the experiential and emotive aspects of the thinking process and this is very much in line with work on Emotional Intelligence reported over the last decade which directly relates to Epstein's experiential model.

Goleman (1994) for example showed in his foundation work on emotional intelligence the importance of experiential and emotive processes for thinking and knowledge development as opposed to the rational thinking approach to education which is the norm for classroom-based learning. The 'work'-related learning approach is based on recognising the CEST concept where it is now widely accepted that there is a significant difference between intellectual knowledge and insight. Sternberg (1988) demonstrated quite clearly that an individual can be highly creative and have good practical insight yet have a low IQ in intellectual matters. He further showed how experiential techniques underpin an individual's practical and creative intelligence. Thiagarayan (2006) reports on both these approaches by Epstein and Sternberg along with other evidence of why interactive experiential techniques are key to effective learning. A basic aspect of much of work-based learning is that it is transdisciplinary and is essentially characterised by interactive strategies which relate directly to the experiential mind. This is all further supported by considering how emotional intelligence is at the core of going beyond IQ. We indicated earlier that emotional intelligence which relates to self-awareness, impulse control, persistence, motivation and empathy relates well with Epstein's CEST approach. Traditional classroom training and education do little to further the development of emotional intelligence, but work-related learning has at its core the interactive experiential approach which provides valid justification for work-based learning to be regarded as a more effective approach to developing the thinking mind of the individual learner. So the 'work'-related environments are characterised by experientially-derived knowledge which is more compelling and more liable to influence behaviour than abstract knowledge drawn from textbooks and traditional lectures. Others support this view (Shiffrin & Schneider, 1977; Fazio & Zanna, 1981; Fazio, 1990; Brewin, 1989). We would agree that 'work'-related learning is thus best characterised where individual learners gain information and knowledge through personally meaningful experiential practices which are more effective in providing permanent shifts in feelings and behaviour than information deriving from explicit sources such as lectures and text books. So the argument is that 'work'-related learning is explained realistically by the intuitive-experiential system described by Epstein (1994) and further evidence described by Bruner (1986).

It is important to draw attention to the fact that 'work'-related learning and the distinction between experiential and a rational system of processing both have a long history. As far back as Aristotle in the Nicomachaean Ethics, reference was made to the difference between rational and experiential knowledge (Epstein, 1994, p. 715).

> While young men became geometricians and mathematicians and wise in matters like these, it is thought that a young man of practical wisdom cannot

> be found. The cause is that such wisdom is concerned not only with universals but with particulars, which become familiar with experience, but a young man has no experience (cited in McKeon, 1947).

Epstein shows how individuals have constructs about both the 'self' and the world, whereas, for the rational mode, they are described as 'beliefs' and for the experiential mode as 'implicit beliefs' or schemata. We believe the latter to be of fundamental importance in characterising 'work'-based learning where the main drivers are the schemata which underpin the implicit or tacit theory of reality within the experiential mode which dominates the 'work'-based learning environments. However, as was discussed earlier, the experiential mode needs to be integrated with the rational mode to fully characterise the learning processes which are effective in all 'work'-based environments. These are very much real world environments where emotional intelligence and experience are dominant drivers. This means that, while the learning processes need the integration of both modes, the experiential system will almost certainly dominate the learning process in such 'real world environments'. With the intuitive and tacit aspects being a main focus in 'work'-based environments it is thus natural for the experiential mode to dominate over the rational mode where the experiential mode is directly associated with the experience of affect. CEST also usefully characterises the situation where prior 'work'-based learning can be taken forward through reflective-based processes to identify potential learning. Much of the 'learning' in experiential situations may well be associated with unconscious thoughts involved, inclusive of tacit aspects. Epstein details that any recalled feelings will therefore have a direct influence on the processes involved in further processing and reactions and this relates well to the need for processes of reflection to be a fundamental part of 'learning' in 'work'-related environments. However, we feel that the rational mode also needs to be involved in the reflective cycles where the interaction of the two modes results in learning from prior experience. The danger with the experiential mode in real world learning situations is that its dominance may lead to the rational mode being ignored even in situations where the individual is aware of the need for recognition of the rational mode and the reflective approach. This illustrates well where 'work'-related learning could become superficial and destructive and hence puts emphasis on the fact that 'work'-related learning depends essentially on the interactive processes of the two modes for successful learning outcomes. So ultimately we believe that the experiential mode within the cognitive-experiential self-theory provides a good interpretation of learning in the range of 'work'-related environments mentioned earlier.

It is to be expected that individual learners may approach the use of the two integrated modes in quite different ways which may be associated, for example, with their preferred learning style. Epstein indicates that, instead of a natural integration of the two modes, individuals were often driven by the experiential mode rather than the rational mode. We think that successful outcomes for 'work'-based learning must depend on finding the correct balance between the two modes in a given 'work'-related situation. As we indicated previously, the experiential system may be more effective for problem solving in 'real world' learning environments and may well underpin a greater degree of intuitive innovative and creative thinking than the rational system. For every individual and each 'work'

environment, effective work-based learning will depend on an effective equilibrium between the experiential mode and the rational mode. This we believe lies at the core of explaining effective 'work'-based learning. There is adequate evidence for this approach to be put forward. Epstein (1994, p. 719) states:

> It has also been demonstrated that people often have intuitive knowledge that they can effectively apply without being aware of the principles that are involved (Epstein, 1994; Nisbett & Ross, 1980)
>
> The experiential system also has the capacity to operate at a higher level of complexity (Fisk & Schneider, 1983; Lewicki *et al*., 1992) . . . and to contribute to intuitive wisdom (Bucci, 1985).

Epstein (Epstein, 1992; Kirkpatrick & Epstein, 1992) provides even more supportive evidence to characterise 'work'-based learning when he claims that the adaptive subconscious cognitions which effectively govern experience and behaviour in a person's everyday life are best explained by an experiential-intuitive system. He further argues that if it assumed that the experiential-initiative system continuously biases rational processing, then this system will extend the influence of the unconscious in the overall process. Again, this is fundamental to characterise the whole field of 'work'-related learning where the experiential-intuitive system dominates, thus explaining how different this type of learning is from our traditional classroom system.

Sternberg and 'Work'-Related Learning

Sternberg (1988) describes intelligence as the 'capacity for mental self management', reporting on a theory based on three domains of intelligence, as shown in Figure 3.

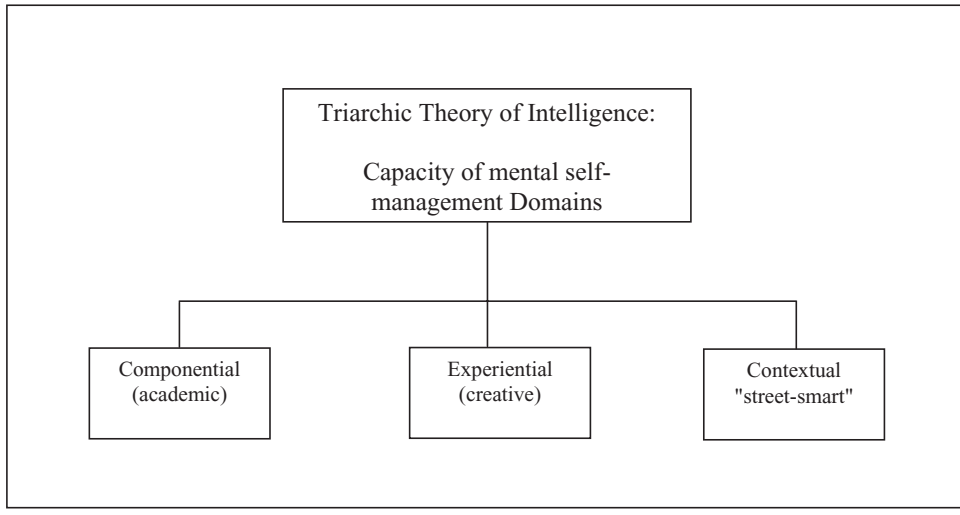

FIGURE 3. Sternberg's Triarchic Theory of Intelligence

His view is that intelligence involves the interaction of the three modes within the Triarchic Theory. This theory again involves directly an experiential mode which relates the quest for originality, novelty and innovation, which are all key aspects related to 'work'-related learning. However, the point is made that it is the three modes interacting which explains intelligent behaviour. An examination of the other two modes shows why the interaction of the three modes is important in the characterisation of 'work'-based learning. The componential mode relates to the efficiency of mental effort and correlates to the processes underlying behaviour and, of course, we have already indicated how important behaviour and behaviour change are in work-based learning where the reflective-experiential cycle underpins effective learning. The contextual mode relates to problem solving where changes are made through interpretation of the 'external world' or, in the case of 'work'-based learning, through a socio-cultural interpretation of 'real world' learning environments. We believe that the contextual mode interacting with the experiential mode to give an experiential-contextual interactive mode provides a useful characterisation of learning within 'work'-based real life environments. The experiential aspect supports the 'work'-based approach where novel thinking, creativity, innovation, and insight are at the core of this form of learning and the contextual aspect supports the development of 'work'-based learning through a socio-cultural approach which naturally and effectively develops through interaction with and change/modification to existing environments. This latter point relates well to the characterisation of 'work'-based learning, which involves learning which leads to socio-cultural changes and the reshaping of the 'real world' environments in which learning takes place.

Conclusion

The studies on experiential learning theories show that they provide adequate underpinning for work-based learning and could be used as the basis to take forward its common conceptualisation. Many of the ideas discussed are common to a number of the theories which would make the evolution of a common experiential framework for work-based learning possible. From the earlier review of ongoing developments in Europe regarding work-related learning, it can be concluded that, while much research and development is taking place, there is little work being taken forward to establish a common theoretical framework which would underpin all this work and would probably reduce or eliminate the resistance of traditional academics to these novel learning methods. However, analysis of the work reviewed in Europe shows that whether the learning is non-formal, informal, life-based or work-related, its nature in all these environments derives from stimulation of the experiential mind alongside the rational mind. In this respect, all this learning does lend itself to being underpinned by a common experiential framework which could be based on the integration of the modern theories of experiential learning being discussed.

Our analysis to date clearly shows that trying to characterise the process of work-based learning through the theories relating to experiential thinking is a valuable and positive way forward in terms of clarifying its present and future development. It clearly helps to place 'work'-based learning as a legitimate and valued alternative in the higher education field. In particular, we believe that the cognitive-experiential self theory described by Epstein and the theories offered by

Sternberg and Itin provide fundamental underpinning to characterise and justify 'work'-based learning. All the theories underpin the need for rational and reflective thinking to be at the core of learning achieved through everyday experience, regardless of the type and form of 'work'-based environment, again categorising reflection as essential to achieving 'work'-based learning as opposed to simply going through experience.

Consideration of the earlier reviewed work on non-formal, informal and work-related learning shows that the experiential learning theories clearly explain and underpin the practice being developed and therefore we are confident that, with further study, a common experiential framework can be put in place to provide a theoretical underpinning for European work-related practices. Evidence of inhibition of work-based learning developments by closed attitudes of traditional academics, we feel, could almost certainly be overcome by moving towards a common theoretical experiential understanding which underpins all the validation and accreditation work discussed earlier. The ongoing work on life-place learning environments (Grundtvig 2006) has already been shown to be effectively characterised by experiential theories and, as this is typical of the work-related practices being developed across Europe, we believe that further work will deliver an acceptable common theoretical framework.

We expect these studies to initiate an in-depth debate around the value of experiential theories in the characterisation of work-related learning across existing and developing European practice relating to non-formal and informal learning, including work-related learning systems. However, with a range of models of 'work' and 'learning' being considered by educators, further studies need to be conducted to see how far the theories relate when different work-based environments and different modes of work-based learning from transdisciplinary to subject disciplines are considered. We believe the range of factors related to effective learning in a 'paid work environment' to be considerably different from effective learning in 'unpaid, work organisational environments which, in turn, may be quite different from 'work'-based learning in learning environments such as the home, the community and leisure pursuits.

The experiential theories which we have examined certainly characterise the 'work'-related knowledge creation process, but we need to further consider and debate how different 'work'-related environments described in the ongoing projects in Europe either support experiential knowledge creation or inhibit it.

While there is much evidence of the development of work-based learning across Europe, it is generally led by individual institutions in terms of research and development and the development and operation of courses. This has policy implications for the future where the growth and establishment of work-based learning alongside traditional on-campus learning will depend on the development of a common conceptualisation of WBL and a common operational framework across Europe.

From the studies completed, it is clear that a significant number of policy issues must be considered by educational policy-makers in Europe if a common framework is to be put in place supported by a common approach to the conceptualisation of work-based learning. Clearly, a common theoretical understanding must be reached by bringing together the key aspects of experiential learning theories. Clearly, work-based learning provides through the nature of experiential learning for the personalisation of learning in a way which cannot be achieved on-campus

and this has policy and strategy implications for the tertiary education sector in Europe, as it will involve a quite different approach to traditional on-campus education. We believe that these studies on experiential theories and work-based learning make a significant contribution to policy and strategy debates at the European level by providing policy–makers and senior management in the tertiary education sector and government with evidence which can support a way forward to a common framework for work-based learning in Europe.

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