



Learning Through Work

Celebrating the Life and Work of Professor Michael Eraut

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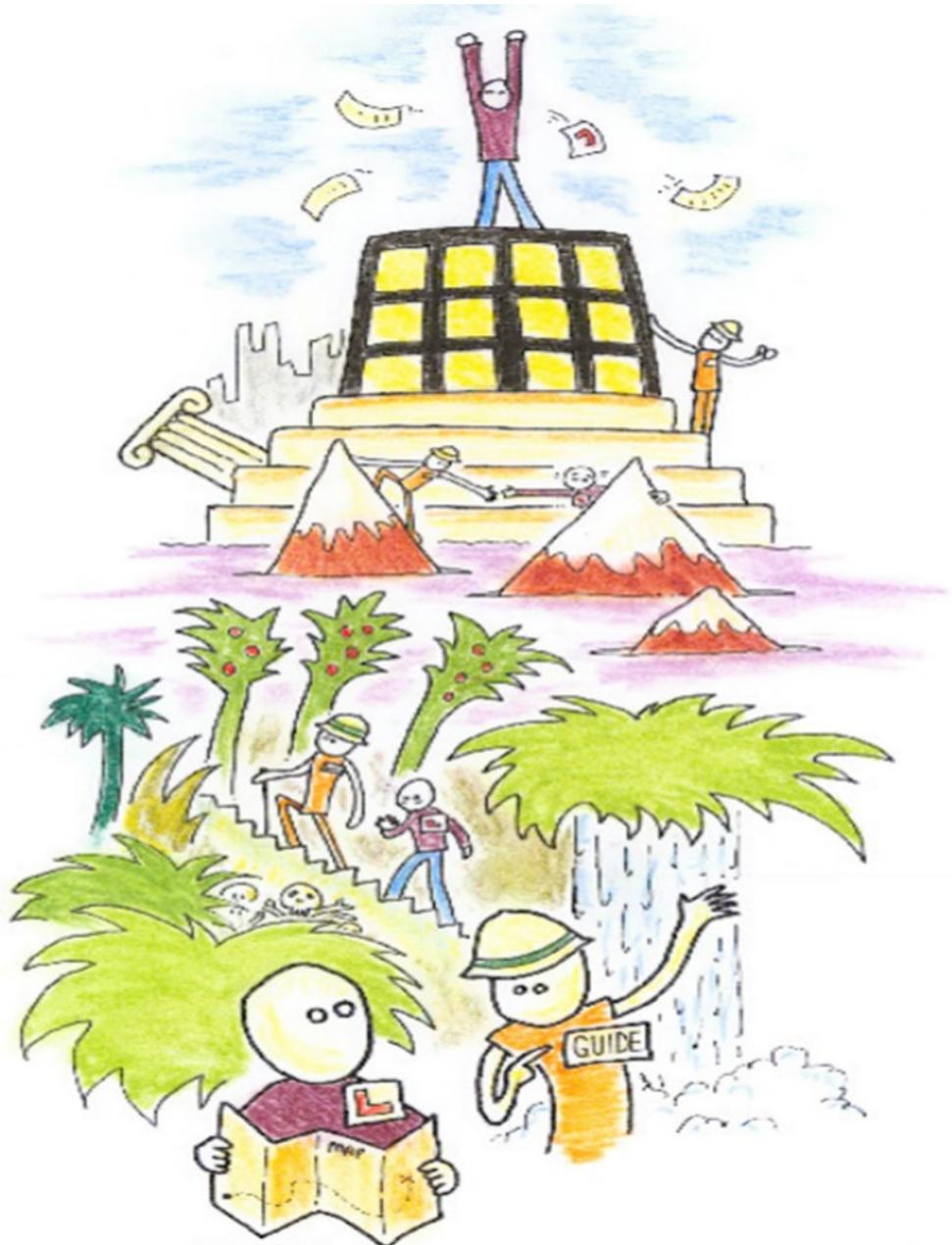
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Edited by Norman Jackson & Neda Tomlinson

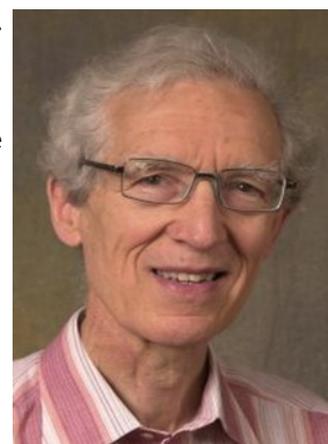
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INTRODUCTION

This issue of Lifewide Magazine is dedicated to Professor Michael Eraut who died in 2018. Through his research, Michael made an enormous contribution to our understanding of how people learn in work place settings and how they learn and develop through their work. Michael was a good friend to me when he was a valued member of our team at the Surrey Centre for Excellence in Professional Training and Education at the University of Surrey between 2008-11. In his role as Research Fellow he contributed to the development and application of the idea of lifewide learning and education in the undergraduate curriculum.



The University of Surrey was, and is, committed to the development of students as novice professionals, as they participated in their year long work placements, and their part-time jobs. Michael's research into how early career professional's learned in the work environment, provided a much needed evidence base on which to develop our educational thinking and practices. He cared a lot about making his scholarship and research available and accessible to higher education practitioners so that it might benefit students on their journey towards becoming professional. He contributed to our publications, our research, our conferences and our conversations. Through his contributions he enabled the SCEPTRe team to appreciate the particularities of learning and developing in the work environment and in this way helped us develop our concept of a lifewide learning and a lifewide curriculum.

In 2010 SCEPTRe made a 'Lifetime of Learning and Achievement' Award to Michael in recognition of his contributions to this important field of educational research and practice. In this special issue we remember some of Michael's contributions to SCEPTRe's work and our lifewide learning and education project. When our SCEPTRe project came to an end in 2011 I anticipated that I would work with Michael again. The opportunity came in 2017 when I began working on a book, with Ron Barnett, on ecologies for learning and practice. I immediately contacted Michael to see if he would join us but was saddened to learn from his wife Cynthia that Michael was now suffering from dementia. Looking back, I can see how Michael's insights influenced the development of my ideas on ecologies of practice.

Both knowledge and learning can be examined from two perspectives, the individual and the social.....An individual perspective on knowledge and learning enables us to explore both differences in what and how people learn and differences in how they interpret what they learn. A social perspective draws attention to the social construction of knowledge and of contexts for learning, and to the wide range of cultural practices and products that provide knowledge resources for learning (1 p1) An ecological perspective combines and integrates these different perspectives.

I am grateful to have known Michael and it gives me pleasure to show my appreciation of his friendship and scholarship by dedicating this issue of Lifewide Magazine to his life and work.

Reference

- 1) Eraut (2007) EARLI 2007 Theoretical and practical knowledge revisited <http://www.leeds.ac.uk/educol/>

The SCEPTRe Centre at the University of Surrey, was one of 74 publicly-funded Centres for Excellence in Teaching and Learning (CETLs) established by the Higher Education Funding Council, (England) between 2005 - 2011. SCEPTRe's pedagogical research focused on enabling learners to develop themselves through all their experiences while at university and learning through work was an important element of this programme of work. Although SCEPTRe no longer exists the ideas it brought into existence live on through the work of Lifewide Education <http://www.lifewideeducation.uk/>

MICHAEL ERAUT

By Dr Neil Monro

My friend and mentor Michael Eraut, who has died aged 77, was a renowned Professor of Education at Sussex University. His research into learning in the workplace, non-formal learning and professional development continues to have global influence across a range of professions.

Michael's early work in educational technology and curriculum development at the university's Centre for Educational Technology, which he helped develop, soon gained international acclaim and brought invitations to do consultancy work in many countries. He spent the rest of his academic career at Sussex, including six years as director of the Institute for Continuing and Professional Education (1986-91). His best-known book, *Developing Professional Knowledge and Competence* (1994), remains a seminal text in the field. He was latterly involved in the evolution of the new Sussex and Brighton Medical School.



I first met him as a mid-career medical practitioner studying for a doctorate at Sussex. Like many others I benefited from his academic prowess and intellectual incisiveness, and he will also be remembered for his insights and personal warmth.

Michael was born in Rawalpindi, then in British India, now Pakistan, while his father, Ruarc Eraut, was a lieutenant colonel serving with the British army. His mother, Frances (nee Hurst), was a Froebel-trained teacher, and significantly guided his early education.

He first came to the UK with his family in 1947 on the Empire Windrush, which started the Caribbean run the following year. He was a scholar at Winchester college, where he came to love classical music and Russian literature, and also won prizes for athletics and gymnastics. In 1959 he won a scholarship to Trinity Hall, Cambridge, to read natural sciences. Through a shared love of music he met Cynthia Wynne, who was reading classics at Girton College and who played the violin. They married in 1964.

He completed his PhD in organic chemistry at Cambridge in 1965. During this time his interest in teaching and learning emerged, when he was asked to supervise some deaf undergraduates. While this experience contributed to his lifelong studies in education, his scientific background enabled him to interact with a range of scientists in later years. After two years as a Fulbright scholar at the University of Illinois, Chicago, Michael joined Sussex in 1967. He retired in 2006, and did consultancy work for Surrey University, the Royal College of Surgeons of England and the Australian National University.

He retained an interest in music and sport all his life, and also loved walking on the Sussex Downs near his home in Lewes.

He is survived by Cynthia, their sons, Patrick and Christopher, and grandchildren, Ayane and Mishka, and by his brother, Dennis.

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MICHAEL Eraut

By Cynthia Eraut, Michael's wife

Michael was born in Rawalpindi, now in Pakistan, while his father was serving in the British Army in India and Burma during the war. Both his parents were born in Ireland, his father in Galway and his mother in Bantry. Michael's paternal grandfather had been the headmaster of Galway Grammar School, before he retired to live in Cambridge. Michael's mother was a Froebel Trained teacher, so he inherited the teaching gene from both sides of the family.

Michael first came to England in 1947, with his parents and his younger brother Dennis, on the Empire Windrush, which later began the Caribbean run in 1948. So Michael used to say that he was one of the first immigrants on Windrush! The family then settled in Cambridge, but Michael always regretted that he had not met his grandfather who had died a little earlier. Michael won a scholarship to Winchester College, where he was a keen athlete and gymnast. Although he was a good mathematician he very much enjoyed learning Russian, and was also tempted to take up history. In 1959 he won a scholarship to Trinity Hall, Cambridge, to read Natural Sciences, and stayed on to gain a PhD in Organic Chemistry in 1965. We were married in Cambridge in 1964, and lived there for a year while Michael completed his Doctorate. While doing his research he was asked to supervise two or three deaf undergraduates, and perhaps it was this challenge that prompted him to think about ways of teaching and learning, because he dropped Chemistry in mid-Atlantic when we sailed to America in 1965. Even so he always valued his scientific background which enabled him to engage and work with scientists at university level.

The move to the USA came when Michael won a Fulbright Scholarship, and he chose to work with the distinguished psychologist Susan Meyer Markle, who had done research with the legendary B F Skinner at his Harvard Laboratory from 1956–60. In 1965 she had just been appointed as the Professor of Psychology and Director of Instructional Resources at the Chicago Circle Campus of the University of Illinois. We went to live in Chicago, where we had many adventures and made many friends. We enjoyed many travels in the US, from East to West, visiting Washington DC and New York, Minnesota, Colorado and Arizona, up to Vancouver and down the West Coast to Los Angeles. During those two years in Chicago Michael devised special "Programmed Learning" courses in Maths, to enable students from Inner City and Ghetto schools to cover, step by step, the ground that they needed to cope with university level work, as too many of these students were failing – or "flunking out" - in their first year at university. These programmes were published and fortunately earned Michael enough money to pay a deposit for a house when we returned to the UK. We had planned to stay for one year, but in fact we stayed for two; Michael was not willing to be seduced into staying longer in the USA, although I might have been tempted to do so!

In 1966, Norman MacKenzie came over to the US from the still fairly new University of Sussex, but when he visited Chicago, Michael was away teaching a summer school in Boulder, Colorado. Sue Markle must have given Michael a glowing reference however, because Norman offered him a temporary Research Fellowship to come to Sussex to join the newly created Centre for Educational Technology. Norman later said that this was the only appointment he had ever made without meeting and interviewing a person first! Fortunately Michael gave him no cause to regret it. Michael came to Sussex University in 1967 and stayed there for the rest of his academic career.

Although Michael was undoubtedly a "workaholic" he was also a loyal and devoted husband and father, always ready to take his two sons to athletics and football training sessions and matches, and always ready to encourage and support his wife's musical activities, both performing and teaching. He loved to follow sport, especially football, rugby, athletics and gymnastics, either live or on television, and also loved to go to concerts and to the opera at nearby Glyndebourne. He also enjoyed visiting Museums and Art Galleries. These were his main diversions in an eventful and very hard-working academic life. Over the years we also enjoyed some wonderful travels together in many different countries, often based on Michael's work assignments or academic conferences.

It was a great sadness that Michael's latter years were clouded by dementia, otherwise he could well have continued his thinking and writing, but it is good to know, from friends and colleagues and from Research Gate emails, that his work is still being read and appreciated all over the world. He has left a valuable legacy in the field of education.

He will be greatly missed by all his family and friends.

How Professionals Learn Through Their Work

Michael Eraut

My proposition

Until we understand how professionals actually learn as they go about their everyday work we cannot fully comprehend what we need to do to help higher education students prepare for the professional environments they will work in. This is a question that has underlain the work I have undertaken while I have been working with the Surrey Centre for Excellence in Professional Training and Education (SCEPTRE). In this Chapter I will try to draw together insights I have gained through two decades of research into how professionals learn through work as a precursor to addressing the challenge of how we might improve the way in which we support students on their professional work placements.

Introduction

Work placements provide contexts for learning of a very different kind from those provided within universities. Not only do people learn in different ways, but they also learn different things. This Chapter introduces a framework developed from research into workplace learning for describing (1) how people at work might usefully map the working knowledge they have acquired and now want to acquire, and (2) what modes of learning they might find most useful in achieving those learning goals. It also highlights features of work contexts that have been shown to enhance or limit the pursuit of those goals. However, before proceeding further, I should warn you the reader that, unlike teaching organisations, learning is not the main aim of most workplaces. Most workplace learning is informal and occurs as a by-product of engaging in work processes and activities. Newcomers often have to learn “How we do things here” without being given any specific objectives or advice. Thus a learning goal might be described by a vague phrase like “being able to do what X does”. Even when more detailed advice is given, your learning will still be evaluated by the extent to which you can do what X does, rather than by some indirect and less authentic type of assessment. You may be given sets of objectives or competencies, but the ‘real’ assessment will be whether your performance meets the expectations of significant others in your workplace.

Although the workplace appears to be primarily concerned with your capability (what you do and how you perform), it is equally important to be able to do the right thing at the right time. In practice this means that you have (1) to understand both the general context and the specific situation you are expected to deal with, (2) to decide what needs to be done by yourself and possibly also by others, and (3) to implement what you have decided, individually or as a group, through performing a series of actions. All three of these processes contribute to your perceived competence. Even if other people are making the decisions, you may still have to interpret their meaning in order to know precisely what is required.

Finally, I will draw attention to the tendency of the competence literature to assume that competence and/or its attributes or components are generalisable skills, when there is little evidence to support this claim. Hence it is important to give prime attention to clarifying the domain within which individuals or teams are deemed to be competent, i.e. where their practice meets the expectations of significant others in their workplace and/or among their clients. Key variables in characterizing the domain for any particular type or aspect of performance are likely to be:

The contexts in which the performer can currently operate, including likely locations and their salient feature.

The conditions under which the performer is able to work competently, e.g., degree of supervision, pressure of time, crowdedness, conflicting priorities, availability of resources. The situations which the performer has handled capably, covering such actors as client types and demands, tasks to be tackled, interpersonal events, emergencies.

Progression

There are many possible types of progress in the early stages of a new job, only some of which would be relevant during any short period of time:

There are many possible types of progress in the early stages of a new job, only some of which would be relevant during any short period of time:

- Doing things faster
- Improving the quality of the process
- Improving communications around the task
- Becoming more independent and needing less supervision
- Combining tasks more effectively
- Quicker recognition of possible problems
- Expanding the range of situations in which one can perform competently
- Helping others learn to do the task or part of the task
- Increases in task difficulty/ taking on tasks of greater complexity
- Dealing with more difficult or more important cases, clients, customers, suppliers or colleagues.

Some of these types of progress could be described as *doing things better*, some as *doing things differently* and some as *doing different things*. Sometimes all three may be happening at once. Progression often involves doing the same thing, or not quite the same thing, in more difficult conditions or across a wider range of cases. Although these types of progress seem fairly obvious, they are not necessarily conscious. People recognise that they have learned things through experience, but do not necessarily remember how or when. My research projects on workplace learning often found that newcomers first recognised that they had learned something when they realised that they were doing things that they could not have done a few weeks earlier.

A key feature of being a newcomer is that of not knowing what is going on around you or what precisely is expected of you. In education contexts, new students are members of large cohorts in a similar state of ignorance; but in workplace settings, you are more likely to be the only newcomer. Even if others were recruited at the same time, you may not see them very often. The long process of getting to know your work and your workplace is well captured by the progression model developed by the Dreyfus brothers (a philosopher and a computer scientist) as an antidote to the hyper-cognitive perspective on learning developed by cognitive scientists in the late 1970s and early 1980s. Their model (Dreyfus & Dreyfus, 1986) was one of the first to emphasise informal learning from experience and the acquisition of tacit knowledge (Table 1).

The early and middle stages of the model show the development of situational recognition and understanding, and of standard routines that enable one to cope with crowded busy contexts. Over time the explicit rules and guidelines so essential at the beginning gradually become superfluous, until they are eventually abandoned when simple activities become more automatic. More complex activities are subjected to deliberation at the competence stage, but may not be treated very analytically unless analysis is specifically required. Progression beyond competence is then associated with the concept of proficiency, which the Dreyfus model treats as the gradual replacement of deliberation by more tacit forms of cognition.

Level 1	Novice Rigid adherence to taught rules or plans Little situational perception No discretionary judgement
Level 2	Advanced Beginner Guidelines for action based on attributes or aspects characteristics of situations recognisable only after some prior experience) Situational perception still limited All attributes and aspects are treated separately and given equal importance
Level 3	Competent Coping with crowdedness Now sees actions at least partially in terms of longer-term goals Conscious deliberate planning Standardised and routinised procedures
Level 4	Proficient See situations holistically rather than in terms of aspects See what is most important in a situation Perceives deviations from the normal pattern Decision-making less laboured Uses maxims for guidance, whose meaning varies according to the situation
Level 5	Expert No longer relies on rules, guidelines or maxims Intuitive grasp of situations based on deep tacit understanding Analytic approaches used only in novel situations, when problems occur or when justifying conclusions Vision of what is possible

Table 1 Summary of Dreyfus Model of Progression (Dreyfus and Dreyfus, 1986)

Tacit knowledge appears in three quite different forms:

- *Situational understanding* is developed through all five stages, based largely on experience and remaining mainly tacit during its use.
- Increasingly *intuitive decision-making* involves pattern recognition and rapid responses to developing situations, based on the tacit application of tacit rules.
- *Routine procedures* are developed through to the competence stage for coping with the demands of work without suffering from information overload. Some of them are likely to have begun as explicit procedural knowledge and then become automatized and increasingly tacit through repetition, with concomitant increases in speed and productivity.

My main criticism of the Dreyfus analysis is that it is both individualistic and conservative. Regulations, accountability, value issues and the growth of teamwork have increased the need to share one's knowledge with others; and the Dreyfus Model acknowledges but gives scant attention to the increasing occurrence of novel and complex situations that require a problem solving approach involving an explicit search for relevant knowledge, the collection of further evidence and critical reasoning.

However, I support the Dreyfus progression to proficiency for two reasons:

1 The difference between being competent and being proficient is neatly captured by the old training distinction between a trained worker and an experienced worker. The experienced worker will normally be more productive, need less supervision, be more aware of contextual variations and be competent in a wider range of situations.

2 It helps to explain the benefits and constraints of tacit knowledge. In particular it enables us to better understand the difficulty of changing long established approaches to situational understanding, rapid decision making and routine practices. Such changes involve unlearning as well as relearning, a problem to which I will return a little later. Like riding a bicycle you don't have to think how you do it, but you still remember those early crashes. Other kinds of knowledge will be more explicitly used in problem solving, together with reasoning, assessing evidence and working with colleagues. Much of the work we do involves both cognitive and interpersonal skills.

My research into early career professional learning in the business, engineering and healthcare sectors forced us to consider precisely what was being learned; and this led us to describe a wide range of types of knowledge with a language that covered all three of these diverse occupational sectors. Others might have labelled the entries in our typology (see Table 2) as competences; but we felt this was wrong, because competences are typically defined in binary terms and often become dated. Moreover, most of us

were primarily concerned both with continuing progression and with having to adapt or replace practices as improvements became available. So we chose to call each type of knowledge a learning trajectory and to adopt a lifelong learning perspective. Not only does the concept of learning trajectories fit our data much more closely than a set of competences, but it also takes into account discontinuities of learning so that at any one time:

- Explicit progress is being made on several of the trajectories that constitute lifelong learning
- Implicit progress can be inferred and later acknowledged on some other trajectories
- Progress on other trajectories is stalling or even regressing through lack of use.

Table 2 Typology of Learning Trajectories

<p>Task Performance Speed and fluency Complexity of tasks and problems Range of skills required Communication with a wide range of people Collaborative work</p> <p>Awareness and Understanding Other people: colleagues, customers, managers, etc. Contexts and situations One's own organization Problems and risks Priorities and strategic issues Value issues</p> <p>Personal Development Self evaluation Self management Handling emotions Building and sustaining relationships Disposition to attend to other perspectives Disposition to consult and work with others Disposition to learn and improve one's practice Accessing relevant knowledge and expertise Ability to learn from experience</p> <p>Teamwork Collaborative work Facilitating social relations Joint planning and problem solving Ability to engage in and promote mutual learning</p>	<p>Role Performance Prioritisation Range of responsibility Supporting <u>other</u> people's learning Leadership Accountability Supervisory role Delegation Handling ethical issues Coping with unexpected problems Crisis management Keeping <u>up-to-date</u></p> <p>Academic Knowledge and Skills Use of evidence and argument Accessing formal knowledge Research-based practice Theoretical thinking Knowing what you might need to know Using knowledge resources (human, paper-based, electronic) Learning how to use relevant theory (in a range of practical situations)</p> <p>Decision Making and Problem Solving When to seek expert help Dealing with complexity Group decision making Problem analysis Formulating and evaluating options Managing the process within an appropriate timescale Decision making under pressure</p> <p>Judgement Quality of performance, output and outcomes Priorities Value issues Levels of risk</p>
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The most significant change in career terms is the award of a *qualification*, because this very public rite of passage symbolises generic competence in a profession and is backed by the use of apparently clear and specific criteria for assessment. However, we also know that newly qualified professionals have remarkably varied profiles across most relevant learning trajectories, as a result of both their individual agency and the different opportunities offered by the learning contexts through which they pass. Thus, using learning trajectories both encourages continuity of learning and counteracts the widespread delusion that a professional qualification represents competence in some all-encompassing generic form.

I envisage the 'points' on these trajectories as cross-referenced to cases or 'situated performances' in a manner that indicates the context in which that knowledge/skill was tacitly embedded or overtly expressed. The complexity arises not only from the variable factors noted in our definition of the performance domain (see above), but also from the integrated nature of a fluent performance, in which knowledge from several trajectories will almost certainly have been involved. I will return to this holistic aspect of performance later when I revisit the problem of complexity.

Nature of professional practice

My introduction referred to three aspects of performance: situational understanding, decision making and action. I have now expanded them to include working with other people and given them formal definitions, and added a fourth aspect, meta-cognition. The concept of *meta-cognition* is based on a person's ability to be aware of what they are doing or have just done. It includes an intuitive awareness of how things are going, spotting a need to change something in mid-stream, rapid moments of reflection and a more explicit attempt to remember and reflect on what happened through a personal diary or a group debriefing.

- *Assessing clients, and situations* (sometimes briefly, sometimes involving a long process of investigation), on your own or as part of group.
- *Deciding* what, if any, action to take, both immediately and over a longer period (either individually or as a member of a team)
- *Pursuing an agreed course of action*, individually or collectively; and modifying, consulting and reassessing as and when necessary
- *Meta-cognitive monitoring* of the people involved, (colleagues or clients, individually or collectively) and following the general progress of the problem, project or situation.

Each of these components of performance can take many different forms according to the context, the time available and the types of technical and personal expertise being deployed. Although analytically distinct, they may be combined into an integrated performance that does not follow the simple sequence of assessment, decision and action advocated in many textbooks. Klein et al's (1993) research into decision-making in practice showed that 'real life' settings include many of the following characteristics:

- Problems are ill-structured
- Information is incomplete, ambiguous, or changing
- Goals are shifting, ill-defined or competing
- Decisions occur in multiple event-feedback loops
- Time constraints exist
- Stakes are high
- Many participants contribute to the decisions
- The decision-maker must balance personal choice with organisational norms and goals (Orasanu & Connelly 1993, pp19-20).

The findings of this research provide a much more complex different picture of the decision-making process and the nature of good performance in action:

- Experts frequently generate and evaluate a single option rather than analyse multiple options concurrently
- Experts are distinguished from novices mainly by their situational assessment abilities, not their general reasoning skills
- Because most naturalistic decision problems are ill-structured, decision makers choose an option that is good enough, though not necessarily the best (ibid p20).
- Reasoning and acting are interleaved, rather than segregated (Weick 1983).
- Instead of analysing all facets of a situation, making a decision, and then acting, it appears that in complex realistic situations people think a little, act a little, and then evaluate the outcomes and think and act some more (Connelly & Wagner 1988).

The research also demonstrates that reasoning is *schema-driven* rather than algorithmic; it uses processes to which the decision maker(s) have become accustomed:

“Even for problems with many novel elements, decision makers use their knowledge to organise the problem, to interpret the situation, and to define what information is valuable for solution. Some information may be selected or distorted to fit the existing schema, a potential source of error. But it also enables speedy assessment, search, selection, and interpretation of relevant information, a definite advantage when faced with information overload and time pressure. A critical feature of the schema-driven approach is that people create causal models of the situation. They try to understand the significance of events and information by inferring causal relations” (Orasanu & Connelly 1993, p18).

The implications for decision-making practice are that (1) the relationship between knowledge and decision-making is rarely simple, (2) good decision-making is critically dependent on how the decision is framed by the decision-makers in the light of their situational understanding and therefore (3) the balance is tilted more towards the personal knowledge of the decision-maker(s) and less towards any codified knowledge management system that might be available. If there is very little time, access to a knowledge management system would only be undertaken when there was a high expectation of getting a valuable pay-off very quickly.

This analysis of decision making draws our attention to the interaction between the four elements of practice listed above and the *time allocated* to them, whether by choice or under constraint. Table 3 below focuses on how this time variable affects the *mode of cognition* and/or *mode of consultation* of those concerned.

Table 3 Interactions between Time, Mode of Cognition and Type of Process

Type of Process	Mode of Cognition		
	Instant/Reflex	Rapid/Intuitive	Deliberative/Analytic
Assessment of the situation	Pattern recognition	Discrimination Rapid interpretation	Prolonged diagnosis Consultation, discussion and analysis
Decision Making	Reflex response	Recognition primed or intuitive response	Deliberative analysis or discussion
Overt actions	Routinised actions	Routines punctuated by rapid decisions	Planned actions with periodic progress reviews
Meta-cognitive Engagement	Situational awareness	Implicit monitoring Short, reactive Reflections	Monitoring of thought and activity, reflective learning Group evaluation

The model divides the time-continuum into three columns, whose headings seek to describe the *mode of cognition* used by the performers. Hence their timescales may differ according to the way the performers work. For example, in one context *rapid/intuitive* might refer to a minute, while in another context it might include periods of up to ten minutes or even half an hour. The critical feature is that the performers have limited time to deliberate or think in any depth. The *instant/reflex* column describes routinised behaviour that, at most, is semi-conscious. The *rapid/intuitive* column indicates greater awareness of what is going on, and is often characterised by rapid decision-making within a period of continuous, semi-routinised action. Typically it involves recognition of situations by comparison with similar situations previously encountered; then responding to them with already learned procedures (Klein 1989, Eraut et al. 1995). The time available affects the degree of mismatch that is tolerated, because rejection of familiar actions based on prior experience leads to deliberative, problem-solving and hence to a more time-consuming approach. As workers become more experienced, they acquire a wider range of *precedents* and recognize them more quickly and more accurately.

The *deliberative / analytic* column is characterised by explicit thinking by individuals or groups, possibly accompanied by consultation with others. It often involves the conscious use of different types of prior knowledge, and their application to new situations. These areas of knowledge may either be used in accustomed ways, sometimes with adaptation, or combined in novel ways that require a significant period of problem solving.

The key to understanding the relationship between time and mode of cognition is that of which is given priority. The intuitive routines developed by experience enable people to do things more quickly and thus save time; but shortage of time may force people to prematurely adopt a more intuitive approach, and thus reduce quality or even make serious mistakes.

information more rapidly than they would like. Even when a group has some time for discussion, individual members may feel that their contributions have to be short and rapid. Hence meta-processes are limited to implicit monitoring and short, reactive reflections. But as more time becomes available, the role of meta-processes becomes more complex, expanding beyond self-awareness and monitoring to include the framing of problems, thinking about the deliberative process itself and how it is being handled, searching for relevant knowledge, introducing value considerations, etc.

When there is no emergency, experienced people typically prefer to do many things quickly and smoothly, provided they are confident in their own proficiency. However, there are also situations where speed beyond what even proficient workers consider to be appropriate is forced by genuine urgency in a *crisis* situation or by ongoing pressure for greater *productivity*. Then quality falls, the level of risk is higher and job satisfaction plummets. Both the development of proficiency and learning to cope with pressures for rapid action involve *routinisation* and further work; but whereas the routines associated with proficiency lead to improvement in both quality and productivity, *coping routines* increase productivity at the expense of quality. In either case, routinisation leads to knowledge becoming less explicit and less easily shared with others, i.e. more tacit. Tacit knowledge of this kind is also likely to lose value over time, because circumstances change, new practices develop and people start to abbreviate routines without being aware that they are reducing their effectiveness.

The greatest benefit of routinisation is that it reduces workers' *cognitive loads*, and thus enables them to give more attention to monitoring the situation or communicating with clients and colleagues, hence becoming both more productive and more effective. We would not survive for long if we could not take for granted many aspects of what we see and do. Not everyone, however, takes the opportunity to bring a more evaluative perspective on their practice; and in many cases it is difficult to sufficiently disentangle routines from the practice in which they are embedded, either to try to describe them or to evaluate them. Indeed both description and evaluation threaten to diminish the utility of routines, which depends on putting your trust in them and not having to think about them.

The corresponding disadvantage is *inflexibility*. Routines are very difficult to change, not only because this would imply a negative evaluation of the previous practice but also because such change involves a period of *disorientation*, while old routines are gradually unlearned and new routines are gradually developed. During this period practitioners feel like novices without having the excuses or discounts on performance normally accorded to novices. The pain of change lies in the loss of control over one's own practice, when one's tacit knowledge ceases to provide the necessary support and the emotional turmoil is reducing one's motivation. Hence the need for time and support is an order of magnitude greater than that normally provided (Eraut 2004c). Although newcomers may not have to change the practices they are just beginning to learn, they are likely to encounter others in the process of change; and they may need to become more aware of the problems it creates and why some practitioners fight against it.

Role of tacit knowledge in acquiring situational understanding

Situational understanding is a critical aspect of professional work, and probably the most difficult. Our natural tendency when something goes wrong is to blame either our decision-making or our consequent actions; because situational understanding tends to be taken for granted by all but newcomers. While newcomers may be well aware of their lack of situational understanding, they may not get much helpful feedback on it. This is because most people get so familiar with many situations that they cannot imagine anyone else "not being aware of the obvious". Thus newcomers' ignorance of the local culture may not be understood; and there may not be much information to help them learn about the situations and contexts that are so familiar to those around them.

One of the most important features of any workplace or community context is the people with whom one interacts - colleagues, friends, customers, clients, acquaintances. Yet much knowledge of other people is tacit: although one might gossip about them, one does not often have to put knowledge of people into words unless it is a specific part of one's job, and one might find it difficult to do so. Yet such knowledge provides the basis of unhesitating daily interactions with others. Getting to know other people typically involves the absorption of a great deal of incidental information, acquired by being a participant observer on occasions when both were present. Much of this information will take the form either of Impressions of their character and behaviour or of memories of episodes in which they participated. Secondary data may include short comments or even stories about a person. While stories would normally be regarded as an explicit form of communication, they may also carry implicit cultural and personal knowledge. Typically you learn more about the people you meet than you are able to explain, and some of that knowledge may be so provisional that you are reluctant to make it explicit. Yet you still take that knowledge into account when you interact with that person, because you are unlikely to stop and think unless there is something problematic about the occasion. What influences your behaviour is your aggregated knowledge of that person and that aggregation is usually a largely tacit process to which memories of incidents, encounters and episodes contribute in ways you cannot tell. Such knowledge is unlikely, therefore, to be under one's critical control.

This knowledge, however, is part of one's taken-for-granted understanding of that person and is liable to be both biased and self-confirming. The reasons for this bias include:

- 1) A series of encounters with another person is unlikely to provide a typical sample of his or her behaviour, because the reasons and circumstances for the meetings will largely determine the nature of those encounters, and our own presence is also likely to affect what happens. For example, if you only meet another person in a class, you are very unlikely to acquire much valid information about how they might behave in other contexts.
- 2) Within those encounters, we are most likely to remember events that demand our attention, i.e. those that are most "memorable" rather than those which are most common; and these may be abnormal rather than typical.
- 3) Preconceptions, created by earlier encounters, affect both parties' behaviour on later occasions, so the sample is not constructed from genuinely independent events. You start where you think you left off, and that may lead to your own position being misunderstood.
- 4) People develop personal constructs (Kelly 1955), or ways of construing their environment, as a result of their life experiences; for example they may have favourite adjectives for describing various 'types' of people, and these affect their understanding of those whom they meet, and hence behaviour towards them.

Thus people are predisposed to interpret other people's actions in particular ways, creating preconceptions at early encounters which determine their own behaviour; and thus affect how others respond to them in ways which will often tend to confirm those preconceptions. Moreover, other people may have preconceptions about you, which may lead you to develop misconceptions about them. It is quite common for people to draw premature conclusions about each other, based on their early interactions. This often leads to unnecessary misunderstandings and the reinforcement of each other's prejudices; so it is important to find ways of opening discussions that create some space for different perspectives to develop. While tacit knowledge of other people will continue to play an important part in our lives, because it is available for almost instant use whenever we need it, it will rarely be as valid and unbiased as we like to assume.

Engagement with other people is very important in this context. Some people may not understand your questions because they cannot imagine not knowing the answers. So how can newcomers elicit their knowledge of the situations in which they work? In addition to having a supervisor or a mentor, it might be helpful to track down someone who has not been in that location for very long, especially if s/he is also a newcomer and can still remember their own starting experiences. Because then you can safely ask them the 'silly' questions you want to ask, without seeming too ignorant. They may also be able to put you in touch with those whom they found helpful themselves.

Similarly, if you move around your organisation, deal with clients or visit other people outside your workplace, then it is wise to find people in your own workplace who can brief you about what to expect and/or give you introductions to people who might help you when you get there. Who might give you some guidance about which people to ask about which sorts of things before or during your visit? Being prepared is always a good idea. It gives those you meet a better view of you and makes them more prepared to help you; so having done your homework gives you a better start.

Additional factors contribute to the mixture of tacit and explicit knowledge which constitutes one's knowledge of an organisation, context or situation (Eraut, 2000b). Many situations, for example, are dominated by the differing perspectives of the participants and even those of "significant others" off-stage; and knowledge of these perspectives depends not only on what people do and say but also on how it is interpreted by others in the context of what they already "know" about the people concerned. We use terms like "acculturation" or "socialisation" to describe the often unconscious absorption of norms, values and other kinds of culturally embedded knowledge. Thus norms, local discourse and other aspects of an organisational or occupational culture are acquired over a significant period of time by processes which implicitly add meaning to what are explicitly interpreted as routine activities.

However, your interpretations may also be unknowingly influenced by a process of tacit generalisation, during which interpretations of unfamiliar people, situations and contexts are affected by your prior knowledge of more familiar, but not necessarily similar, people, situations and contexts. All these processes are well documented in the psychological literature. Indeed tacit understanding not only contributes to relationships and situational understandings within an organisation but also to important transactions with external clients, customers, suppliers and stakeholders. Hence, it is important to keep asking yourself questions about your colleagues and how and why they behave as they do? What is the prevailing culture of your environment? How does your group engage with and behave towards other groups in the same organisation?

You may also have to consider the natural variation between individuals. While there may be a taken-for-granted workplace culture, people may still interpret it in rather different ways, even when they use the same vocabulary. Awareness of some of these differences and of local power relations, both formal and informal, will give you a better idea of what is likely to happen when new issues arise or old issues are revisited. As you get to know people better, you may also learn who might help you to check your hunches.

It should also be noted that tacit knowledge does not arise only from the implicit acquisition of knowledge but also from the implicit processing of knowledge. Doctors remember large numbers of individual cases and a few occasions when they deliberately stopped to think about a particular kind of case; but they cannot explain how that accumulated experience enables them to instantly address a new case by recognising a pattern and activating a readily available script, which they never consciously attempted to compile. Indeed, the research literature on expertise consistently finds that the distinguishing feature of experts is not how much they know, but their ability to use their knowledge, because that knowledge has been implicitly organised for rapid, efficient and effective use (Schmidt and Boshuizen, 1993).

This process is very similar to the informal aggregation of encounters with a friend or colleague, described above as an important contributor to situational understanding. In medicine, however, there is also considerable scientific evidence to support or confute the doctor's first hypothesis, except in complex cases which require considerable problem-solving, trying things out and often consultation with colleagues. Nevertheless, the tacit recognition of diagnoses based on familiar scripts saves a great deal of a doctor's time.

In business, however, the call for constant action is so strong that people often jump to premature conclusions.

Given these uncertainties, it is useful for newcomers to have research skills in areas like interviewing; because it enables them to frame more effective questions at both cognitive and emotional levels. However, it would normally be inappropriate to sound like an interviewer, so you have to slip questions into ongoing conversations. The skill comes through preparing the ground so that your questions seem natural, asking the right kinds of question, i.e. those that open up a conversation from which you learn useful things, and expressing your interest in a manner that helps to extend the conversation. In general, it is best to ask about current situations first and find out how people are dealing with them in some detail if the occasion allows it, then to ask about how typical they are, what other situations you might encounter and what might be more different about them. Concrete questions are easier for people to answer, as well as providing an important basis for your future learning.

Role of tacit knowledge in decision making and action

Skills are defined in terms of knowing how to do things; and nobody will accept a purely textual account as evidence of a skill. For that reason, many skills are regarded as archetypal examples of tacit knowledge. For example, riding a bicycle or swimming are easily recognised skills which can be explicitly demonstrated; but nobody can explain to you how they do it, at least not in a way that would enable you to do it yourself. Skills of this kind cannot be disseminated by formal teaching alone. However, many important work processes involve a combination of formal, codified knowledge and skills of many kinds; in which these components are highly integrated and interdependent (1994). Thus a person's negotiating skill will affect the way in which they use their formal knowledge and even the choice of that knowledge. However, a technician trouble-shooting a piece of electronic equipment will carry their formal knowledge in a personal form which has already been adjusted to suit that kind of work, and only familiar to those doing similar work (see the section below on knowledge transfer).

To learn to trouble-shoot a piece of equipment within a short period of time is probably best accomplished by going out with an expert with a varied caseload but enough time to talk, show what they are doing and try to explain it on-the-spot. Even this, however, may not always be successful because trouble-shooting is often an intuitive skill by which people recognise patterns without being fully aware of the cues which prompted that recognition. Another example would be interpreting what is going on beneath the surface of a business meeting. Simple well-defined situations might be analysed explicitly, but complex situations would be immensely difficult to portray or interpret.

The research into naturalistic decision-making in less time-pressured situations, which allow at least some deliberation, suggests a quite different role for the intuitive use of tacit knowledge when situations become more complex and uncertain. These are often described as involving judgement. One common kind of situation concerns deciding what to say and how, for which simple examples might be (1) when asked for advice, (2) when giving feedback and (3) when being cross-examined in a meeting. Your awareness of the interests and priorities of those being addressed, of the emotional dimension, and of the appropriate length of your response may guide any preparation time you can find; and you will hope to reach a point where you feel that you have got it right. However, when you are about to start some new information or reflection may cause you to adjust your plan to something you think will be more appropriate. Then if it does not seem to be having the desired effect, you may wish to seek advice, find out more or just change your approach next time.

Transfer of knowledge between contexts

My definition of knowledge transfer is "the learning process involved when a person learns to use previously acquired knowledge / skills / competence / expertise in a new situation". This process may be quite simple if the new situation is very similar to some of those previously encountered; but it is likely to be long and very challenging if the new situation is complex and unfamiliar. In more complex situations the transfer process typically involves five inter-related stages:

1. The extraction of potentially relevant knowledge from the context(s) of its acquisition and previous use;
2. Understanding the new situation, a process that often depends on informal social learning;
3. Recognising what knowledge and skills are relevant;
4. Transforming them to fit the new situation;
5. Integrating them with other knowledge and skills in order to think / act / communicate in the new situation (Eraut, 2004).

Such judgments are essentially holistic. Hence, while the discussions about candidates meeting the criteria prepare the way, the final judgment in the absence of strong micro-politics will be based on tacit judgment and at least some mutual trust.

This is but one example of decisions in situations where there is no 'right answer', even after a considerable period of deliberation and analysis. The problem is rarely confined to analysing probable consequences, because there will often be conflicting interests and different timescales to be taken into account. The group of decision-makers explore and discuss the options, then eventually decide on one which seems to them to be "the best fit". This final decision will often be largely intuitive, drawing on the tacit aggregation of knowledge which could only be analysed piecemeal. When there is less time or motivation to collect evidence and to construct and clarify arguments, such decisions will have an even greater tacit component. When there is less time still, they will be described as 'backing a hunch'.

A great deal of monitoring also involves tacit knowledge. The first issue concerns finding space for monitoring: how do you give any attention to self-monitoring, when there are many apparently more urgent things demanding your attention; and how do you set up, or take advantage of, informal meetings to pursue your monitoring agenda with others. The second relates to what you notice during conversations or observations. Whether you rely on spotting problems or more systematically scanning your environment, you still have to notice any relevant evidence; and this is particularly difficult if it is not very salient and rarely appears. Then thirdly, you may also have to decide, often very quickly, whether or not to ignore, make a note for later consideration or make a rapid intervention. More explicit monitoring is only likely when based on previous mistakes, and even then it may have a short half-life.

None of these stages are simple and, although they are in a logical order there is usually a lot of interaction between them.

Salomon and Perkins (1998) made a distinction between forward-reaching and backward-reaching kinds of transfer. The forward-reaching approach anticipates that certain kinds of knowledge will be useful in the future, and is most likely to occur in education and training contexts. Nearly all the taught components of professional and vocational education are intended for future use at work; but the evidence that this happens as intended is often disappointing. Backward-reaching transfer is required when one faces a new situation and deliberately searches for relevant knowledge already acquired. This is very likely to occur with knowledge previously used in fairly similar contexts, when its relevance is quickly recognized; but committing time to searching for previously taught knowledge is rare unless someone has a memory trace that they can follow up quickly. The discourse and culture of the workplace are so different from most education and training environments that persistent searching for what is perceived as 'past knowledge' is very unusual. A major reason for this lack of commitment to exploring knowledge from one's past is a general failure to understand that transfer is a learning process, which often requires a lot more time than most people expect.

When transfer is from initial qualification programmes in Higher or Further Education, the learning problem is exacerbated by the difference between the forward transfer discourse of higher education and the backward transfer approach expected in the workplace. Formal education tends to assume that simple recognition of what it teaches is all that is needed; so it attends mainly to stage 1, even though perhaps half of its students fail to transfer knowledge from one HE course to another. It may give some attention to stage 3 if students are asking for it, but not in any systematic way. Employers may give some attention to stage (3), but take stage (2) for granted, when they argue that knowledge from higher education should be "ready to use". Thus both cultures not only ignore the very considerable challenges of stages (4) and (5) but deny their very existence! This failure to recognise the nature of the further learning required to make education more useful can only be described as disastrous. The previous sections of this chapter were designed to address this major problem, and were based on a mixture of the good and bad examples encountered in our research.

The problem that remains is that of how best to help those who have learned knowledge appropriate for their field of work to use that knowledge in a range of potentially relevant situations. Before they start they need first to establish which areas of knowledge are relevant to a particular case or situation, second to focus more precisely on what knowledge is needed for a particular investigation, decision or action, then finally to ascertain how that knowledge is interpreted in a manner appropriate to each particular situation and context.

Establishing which areas of knowledge are relevant is not as simple as it seems. When teachers in education settings spend time discussing how the knowledge they teach relates to practice, a large collection of potentially relevant knowledge can be quickly assembled. But who uses which parts of it, why and when? There is a marked contrast between the very large number of knowledge areas deemed relevant by those who teach them and the very limited number of knowledge areas that can be taken into account at any one time. The workers concerned have to assess the priority to be accorded to each

particular area of knowledge in each particular situation; but in practice patterns of attention will soon be developed and only some knowledge areas will even be considered.

The greatest difficulty at this stage is for experienced workers to recognize knowledge which is embedded in their practice but no longer explicitly discussed. Recognising what knowledge one needs in any particular situation is mainly learned through participation in practice and getting feedback on your actions; and many aspects of one's knowledge repertoire remain dormant until triggered by a very specific aspect of the situation.

Occupational qualifications are no longer considered as qualifications for a lifetime, nor are they regarded as preparation for only one or two years of work. The knowledge resources that qualifiers take with them into the workplace have to last longer than that; so they must relate to a reasonable range of jobs, roles and workplaces. However, most of these knowledge resources will not become useful until they have been further transferred and resituated in one or more working contexts. Hence knowledge perceived as irrelevant in the workplace may not necessarily be irrelevant; those who still possess it may not yet have learned how to use it in a new context. With these considerations in mind, the selection of content and modes of learning for programmes intended to provide knowledge resources for a particular occupation should be conducted with great care, and the reasons for the selection should be public and subject to review.

Learning in education or training settings cannot be substituted for learning in workplace settings. Practice components of programmes have to be authentic. However, learning to practice and learning to use knowledge acquired in education settings do not happen automatically. The conclusions we can draw from the above discussion are that:

Learning to use field knowledge in practical situations is a major learning challenge in its own right – it is not a natural consequence of learning knowledge on its own and practice independently of any critical questioning of its appropriateness and effectiveness.

Such learning requires both time and support. Learning programmes rarely allocate any time to this form of learning, but just assume (wrongly) that it will occur spontaneously.

Not only has little thought been given to the kind of support needed for this kind of learning, but there is rarely any clarity about who is responsible for providing it.

Transfer of knowledge between people

Workplaces are rarely homogenous. Even within a single occupation, there is likely to be a considerable diversity of background, experience and opinion. Workers' past experiences of family, community, education and other work contexts will influence their current practice, discourse and identity; but their current expression of these attributes will also depend on their current participation and positioning in workplace relationships and working practices. Moreover, individual capabilities within more complex or varied areas of work will have different profiles as workers with different aptitudes, personalities and opportunities become more proficient in some areas than others and relate better with some colleagues and clients than others. Some are more gregarious than others, some are more confident, some are more ambitious.

Discourse about work covers not only individual or co-operative practices and the allocation of tasks and duties but also discussions with colleagues and possibly also with customers, clients or suppliers. Such discourse serves several different functions: seeking or communicating information, seeking or providing practical or emotional support, developing relationships with colleagues and clients, preserving one's autonomy, restraining or expressing one's feelings, etc. It also varies greatly with the setting: one-to-one, small group or semi-public; whether or not one is doing other things at the same time; the time available; and the level of mutual trust between the participants.

Useful exchanges of knowledge and information are sometimes the main purpose of the discourse, but sometimes only a by-product. They are never free from the wider context of inter-personal relationships, close or distant, positive or negative; and are unlikely to be interpreted only at face value. Two very practical problems are the time it takes to establish the relationships of trust that are so important for mutual learning, and the setbacks caused by changes in the membership of working groups. In the absence of any existing workplace relationships, newcomers seeking help or information are most likely to approach people of similar status or people with limited power.

It is important to recognise that, when one takes into account practitioners' possibly negative perceptions of their workplace climate, its micro-politics and its readiness to engage in mutual criticism, there may be good reasons why they do not want to communicate more information about their practice than is essential. The art of discourse about practice then becomes one of establishing affinity with colleagues through work-related discourse and giving the appearance of being generally cooperative, without giving anything away that might increase one's vulnerability.

“Learning to talk to clients or colleagues or managers may be at best a semi-conscious process, during which the latent functions of the discourse are not revealed and may even remain hidden from the participants. For example, the manifest function of discourse could be to consult and inform clients, to keep colleagues aware of your actions and to render account of your actions to managers. The latent function may be to keep clients happy while asserting the professional role, to maintain good relations with colleagues while preserving freedom from their influence, and to tell managers what they want to hear while keeping them off your back. To serve the manifest function will often require congruence between what is said and what is done; but this may constrain the latent function” (Eraut 2000).

Although presented in individual terms, such discourse is primarily a social characteristic of many workplaces, into which newcomers are rapidly socialised. In many settings discourse helps workers:

- To provide a defensible account rather than a description of their actions
- To create an impression of control over situations which inspires confidence in themselves and other people
- To preserve personal autonomy of action.

Two undesirable consequences of this discourse are that:

- Uncertainty and risk-taking are disguised rather than shared
- Overt sharing of information serves to sustain a power-sharing equilibrium rather than communicate useful knowledge.

This discourse is often taken for granted rather than consciously developed and sustained; and, unlike explicit training discourse, it is strong on collective protection but vague on substantive content.

For all the above reasons, one should expect to find variations in the practices of individual practitioners in the same workplace, which are not always reflected in their discourse about those practices. Moreover, because that discourse serves many purposes other than the exchange of information about practice, we should not assume that practices and the discourse about those practices are well aligned. What is said and not said about practice may tell us more about relationships at work than about practice.

Another important factor affecting such discourse is the role of tacit knowledge in many areas of professional practice. This limits what people are able to say, as well as what they choose to say, though the two are not unconnected. While pattern recognition and routinised actions are features of tacit knowledge often associated with individual experiences, the possibilities for deeper conceptualisation of practice that might lead to the ability to discuss them more explicitly are constrained by the absence of any discourse that might trigger reflection or enable any productive discussion. Thus tacit knowledge and deceptive discourse are two, mutually reinforcing, aspects of workplace culture.

Given the many challenges described above, let us now explore the possibilities for sharing practice, whilst recognising that these will depend on relationships, local discourse and culture, and the aspects of practice accorded prime attention. One immediate problem is that positive relationships and useful discourse take time to develop. Possible starting points include coaching each other on areas of skill where their experience is unequal, and sharing opinions on difficult cases. In the latter option there is the possibility of consulting further people if they disagree, or if both practitioners feel uncertain about the best course of action. Indeed, developing the habit of discussing issues with a “buddy” before consulting a manager or supervisor is an excellent way of fostering good relations, learning to frame problems for consultation and constructing a more communicative common discourse. This should gradually develop the ability to consult more widely, enhance the disposition to consult and expand the circle of workers with strong mutual relationships.

Another strength of working as a pair is that mutual observations of each other’s interactions with colleagues, customers or clients will communicate much more about their practices than could be revealed in any discussion. As mutual communication becomes more effective, exchanges about clients may become more informative; and it becomes possible to pass on less clearly substantiated concerns and hunches without being misunderstood.

A different approach is to convene group discussions about cases, aspects of practice or even processes and systems. These are more difficult to arrange than meetings between pairs, but they are important for developing teamwork and ownership of the policies and collective practices of working groups. Many group leaders and managers lack the skills for organising such events, and genuine participation by all those present is difficult to achieve. The initial disposition towards constructive participation can be enhanced by earlier events of a purely social nature and also, we would argue, prior experience of discussing the issues with one or two close colleagues.

While it is possible for pairs of experienced colleagues to understand and learn from each other’s practice by a combination of discussions and working together, without even attempting to make their tacit knowledge more explicit, the same assumption cannot plausibly be extended to a group of practitioners with few opportunities for mutual observation. So we have to consider ways of communicating at least some tacit knowledge if important aspects of practice are to be shared. Approaches to sharing tacit knowledge that we have used or encountered in the literature include:

Demonstrating skills with a voice-over commentary – this may not be an authentic account of normal thinking in action but can still communicate much useful tacit knowledge

- Discussing common episodes at which the participants were co-present
- Recordings of episodes, with the possible addition of a voice-over commentary (Holmstrom & Rosenqvist, 2004)
- Describing incidents or telling stories, followed by discussion (Fairbairn, 2002)
- Discussing cases and/or problems, real or fictional
- Using mediating artefacts (see next section).

Over time, it also becomes possible to develop new vocabulary and practices for discussing expertise, and gradually to introduce concepts and theories that may help people to make more sense of their experience.

Modes of learning

This section is based on our recent research into early career professional learning. After following cohorts of accountants, engineers and nurses through their first three years of employment, we accumulated a very large number of learning events in context. It took us some time to classify this data into a typology of learning modes, but eventually we found a very simple pattern. First we decided to classify learning processes according to whether their principal object was working or learning (Eraut et al. 2005a; Eraut, 2007b). Thus processes in the left column of Table 4 below were judged to be *working processes*, from which *learning* was a *by-product*, while those in the right column are clearly recognizable as *learning processes*.

Then we decided to distinguish between processes, which were clearly bounded and relatively time consuming, and comparatively *short activities*, such as asking questions, observing or reflecting. These activities could occur many times in a single process, and were found within almost every type of process, often several at a time. When we moved these ‘activities’ into a different category in the central column of Table 4, we obtained the much tidier typology that we finally used.

Work processes with learning as a by-product account for a very high proportion of the reported learning of people we interviewed during our mid-career and early career projects, over 90% for the engineers and nurses and over 80% for the chartered accountants, who were also receiving formal training for their professional qualification. Their success depended both on the available opportunities and on the quality of relationships in the workplace. Hence the amount of learning reported varied significantly with person and context.

The majority of this learning through working involves learning from other people. Four of the entries in the left column (in italics) require the presence of other people; and the other four may also involve other people. The main reason for this is the use of tacit knowledge, which we have already discussed at some length; another is that on-the-spot communication is simpler, shorter and more natural. What is seen and heard does not need to be explained in full.

Participation in group processes covers both *team-working* towards a common outcome, and groups set up for a special purpose such as discussing a client, problem solving, reviewing some practices, planning ahead, or responding to external changes.

Table 4 A Typology of Early Career Learning

<i>Work Processes with learning as a by-product</i>	<i>Learning Activities located within work or learning processes</i>	<i>Learning Processes at or near the workplace</i>
<i>Participation in group processes</i> <i>Working alongside others</i> <i>Consultation</i> Tackling challenging tasks and roles Problem solving Trying things out Consolidating, extending and refining skills <i>Working with clients</i>	Asking questions Getting information Locating resource people Listening and observing Reflecting Learning from mistakes Giving and receiving feedback Use of mediating artefacts	Being supervised Being coached Being mentored Shadowing Visiting other sites Conferences Short courses Working for a qualification Independent study

Working alongside others allows people to observe and listen to others at work and to participate in activities; and hence to learn some new practices and new perspectives, to become aware of different kinds of knowledge and expertise, and to gain some sense of other people's tacit knowledge. This mode of learning, which includes a lot of observation as well as discussion, is extremely important for learning the tacit knowledge that underpins routines and intuitive decisions and is difficult to explain. When people see what is being said and done, explanations can be much shorter and the fine detail of incidents is still in people's minds. Clues to situational recognition may not be remembered, unless they are picked up on-the-spot by questions or comments. Moreover, multi-sensory engagement over some time enables the gradual development of tacit as well as explicit situational understanding.

Consultations within or outside the working group or even outside the organisation, are used to co-ordinate activities or to get advice. The act of initiating a consultation, however, depends on the relationships between the parties, the extent of a worker's network and the culture of the workplace. For *newcomers* the distinction between a consultation and being mentored or supervised is not always clear, as part of a mentor's or supervisor's role is making oneself available for consultation.

Tackling challenging tasks and roles requires on-the-job learning and, if successful, leads to increased motivation and confidence. However, people are less inclined to take on challenges unless they feel confident both in their ability to succeed as a result of previous experience and in the support of their manager and/or colleagues. Without such previous experience and support, challenges pose too high a risk.

Problem solving, individually or in groups, necessarily entails learning; otherwise there would be no problem. Such problems are not just technical, they may involve acquiring new knowledge before one can start, searching for relevant information and informants, imagination, persistence and interpersonal negotiation.

Trying things out is distinguished from less purposeful behaviour by the intention to learn from the experience. It requires some prior assessment of risk, especially where other people might be affected, and may require special arrangements for getting feedback, as well as time for subsequent reflection and evaluation.

Consolidating, extending and refining skills are particularly important when entering new jobs or taking on new roles, when it is sometimes supported by episodes of supervision, coaching or feedback. It is greatly helped by informal personal support and some sense of an onward learning trajectory (see above).

Working with clients also entails learning (1) about the client, (2) from any novel aspects of each client's problem or request and (3) from any new ideas that arise from the encounter. Some workers have daily experiences of working with clients, which may or may not be recognized as learning opportunities. Some progress from less to more important clients, or from those with simple needs to those with more complex needs. There can also be a strong *emotional dimension*, when a client arrives in a distressed state or is about to receive bad news. This is a context where sharing experiences can be helpful. Another factor is the extent to which client contact gives the work meaning and value, and thus enhances workers' sense of collective purpose.

Learning processes at or near the workplace

The right column of Table 4 lists nine processes whose *prime object is learning*. These are listed in terms of their *proximity to the workplace*. Thus supervision, coaching and mentoring are at or very near the learner's normal workplace; shadowing and visiting other sites are usually in other people's workplaces; conferences, short courses and working for qualifications are usually not in workplace settings; and independent study can be followed almost anywhere that is quiet.

For most workers the main influences of their *line manager* on their learning were through the allocation of work, appraisal, and support for any formal; learning requiring fees or time away from the job. New young employees were usually supervised by the person 'in charge' of the relevant work group. The manager's role in enhancing or constraining learning is discussed in Section 2.3 below.

Coaching and mentoring are provided mainly for newcomers, and occasionally for newly appointed managers and training in new technology. Coaching is often limited by managers not being prepared to release potential coaches from their normal work, and mentoring by lack of informal opportunities to develop an appropriate relationship. In many situations mentoring is provided by helpful others, who are not designated mentors, and this is usually best for mutual on-the-spot support and feedback.

Shadowing and visits to other sites are used for inducting some newcomers, for workers taking on new responsibilities and for improving cooperation between different sites. They could be very helpful for developing a *wider understanding* of projects, other work groups, suppliers and customers; but this need is often underestimated.

Conferences are probably more important for updating and networking than for direct learning, and *short courses* were the main kind of formal Continuing Professional Development. Attending short training courses was important for some people at particular stages in their career. But even then, work-based learning was important in developing the ability to use what has been learned off-the-job. This was especially true for short courses, which have very little impact unless they are appropriately timed and properly followed up at work.

Independent study may be supported by the provision of *knowledge resources* and/or agreed plans, such as lists of competences, learning projects or personal development plans. Formal training and knowledge resources such as manuals, reference books, documentation, protocols and an intranet were generally available to all workers, the engineers in particular using the intranet as their prime source of current information. Apart from essential textbooks, manuals and guides received limited use. Learners generally found it quicker and more effective to get information directly from more knowledgeable colleagues or the minority that did conquer the manuals.

Learning activities located within the processes described above

The nine learning activities in the central column of Table 4 were embedded within most of the work processes and learning processes, but were also found in short opportunistic episodes. The key issues for learning are the frequency and quality of their use.

Asking questions and getting information are important, proactive activities; and good questions and knowledge searches are appreciated in positive learning contexts. However, many novices feel diffident about asking questions of senior colleagues unless they are working together and the question is spontaneous. They feel that asking a “silly” question would reflect badly on their reputation and are afraid of being prematurely labelled as a “weak” practitioner. This constraint, however, does not apply to talking to peers or novices a year or less ahead of them who still remember what it was like at their stage; and this should be considered when allocating and supporting newcomers.

Locating resource people is also a proactive activity that requires confidence and social understanding. Some early career professionals were very proactive in seeking out and developing relationships with a wider network of knowledge resource people, while others gave it little attention, often because they did not appreciate its potential value. Resource people may be gatekeepers and/or guides to who knows what and who is prepared to support newcomers. Progression routes to more ambitious tasks may depend on whom you get to know; and willingness to engage in routine work may earn you the right to get access to more challenging work.

Listening and observing activities are very dependent on what the observer/listener is able to grasp and comprehend; and comprehension depends on awareness of the significance of what has been said and/or done. Such awareness and understanding is developed through discussion and reflection. Much is learned through watching other people communicating with colleagues, clients or subordinates. However, it should be noted that our research encountered as much learning from bad examples as from good examples! Sometimes the best role models are among the support staff.

Learning from mistakes is possible in most working contexts, both from one’s own mistakes and those of others; but opportunities for this activity are frequently missed. Another important issue concerns when it is better to be taught the right way and when it is better to allow people to learn from their mistakes.

Reflection is included here, because it occurs both on and off the job and often plays an important role in recognizing and learning from mistakes. Authors such as Schon (1983, 1987) have argued that reflection lies at the centre of nearly all significant learning, but have not fully explored the range of reflective learning agents (individual or group), foci (current, past or future), contexts (busy or relaxed) and purposes (monitoring, decision making or learning) and their influence on the reflective process.

Giving and receiving feedback are both important, often vital, for most learning processes. We found four main settings for feedback:

Immediate comment on aspects of a task or role given **on-the-spot** or soon after the event by a co-participant or witness.

Informal conversations away from the job often convey indirect and/or unintended messages as well as intended advice; but don’t pay attention to second hand feedback out of context, because these second hand messages often misinterpret what was said.

Formal roles such as mentor or supervisor involve some responsibility for a learner’s short to medium term progress and an obligation to provide formative feedback on a regular basis; but this may not happen in practice.

Appraisal is a process where designated appraisers are expected, but rarely succeed in, giving normative feedback on personal strengths and weaknesses and ascertaining views on learning opportunities and meeting expectations

Although most learners need short-term, task-specific, feedback as well as longer-term, more strategic, feedback on general progress, the two are not necessarily found together. Good short term feedback on performance was often accompanied by an almost total absence of strategic feedback, giving even the most confident workers an unnecessary sense of uncertainty and lowering their commitment to their current employers (Eraut 2007).

Most people at work get too little feedback; so being proactive can be very important. In the early stages it is best for newcomers to try and get some feedback from people just ahead of them. You can get a lot of feedback by asking about your performance in particular situations; and it is more useful to you and easier for those asked if you seek advice on how you could improve. Later on you can ask whether they know of any alternative approaches and what are their merits and/or disadvantages. Don't be reluctant to ask for an informal appraisal from someone who knows you better than your formal appraiser.

Mediating artefacts need more explanation in spite of their considerable value, so we provide some examples from our recent research into the learning of early career, accountants, engineers and nurses. They play a very important role in structuring work and sharing information by mediating group learning about clients or projects in progress. Some artefacts in daily use carry information in a standard way that novices soon learn to understand. In both nursing and engineering, these include measurements, diagrams and photographs. For example, patient records cover temperature, fluid intake and output, drugs administration, biochemical data and various types of image. These refer both to the immediate past and to plans for the immediate future, and salient features considered important are prioritised for the incoming shift at every handover. Understanding the thinking behind the handover rituals is essential learning for newly qualified nurses.

A mechanical engineer was observed discussing virtual design 'drawings' on the screen over the telephone with colleagues, contractors and clients on an almost daily basis; and she also sent digital photographs and measurements to initiate a discussion about a sagging bar. A water mains planning engineer and her colleagues all used her meterage progress reports to decide whether to clean out a mains pipe, re-line it with plastic piping, or replace it, all with different associated costs and time implications.

Accountants learned how to interpret audit files and the 'tests' they were given for sampling their clients' data. They learned to give some priority to significant changes in accounts over time; and they needed considerable tact to find out how their clients' business processes were represented in their accounts when their clients' accountants regarded them as self-evident.

Then at a higher level of complexity, engineers used design specifications and software packages; and nurses used the MEWS protocol for deciding when a patient needed urgent attention and patient pathway protocols for patients with particular conditions. Accountants used software packages for organizing their auditing processes. The really expensive ones were used as a guide for the auditors through their tasks, as a framework for assigning sub tasks, as a repository of accumulated judgements, as an archive of explanatory material, and as a record for the following year. The distinctiveness of these higher level artefacts was their incorporation of a considerable amount of professional knowledge, and they could be used, albeit under supervision, before all that knowledge had been acquired.

Finally, I should add that textbooks, technical manuals and sets of data can also be seen as mediating artefacts; and that it is usually best not to consider any artefact as containing all the knowledge you need. Much of the practical knowledge does not reside in the artefact itself, but in the conversations that take place around the artefact. However, these conversations would be very difficult to develop without the artefact, which therefore plays a very important role in sharing knowledge.

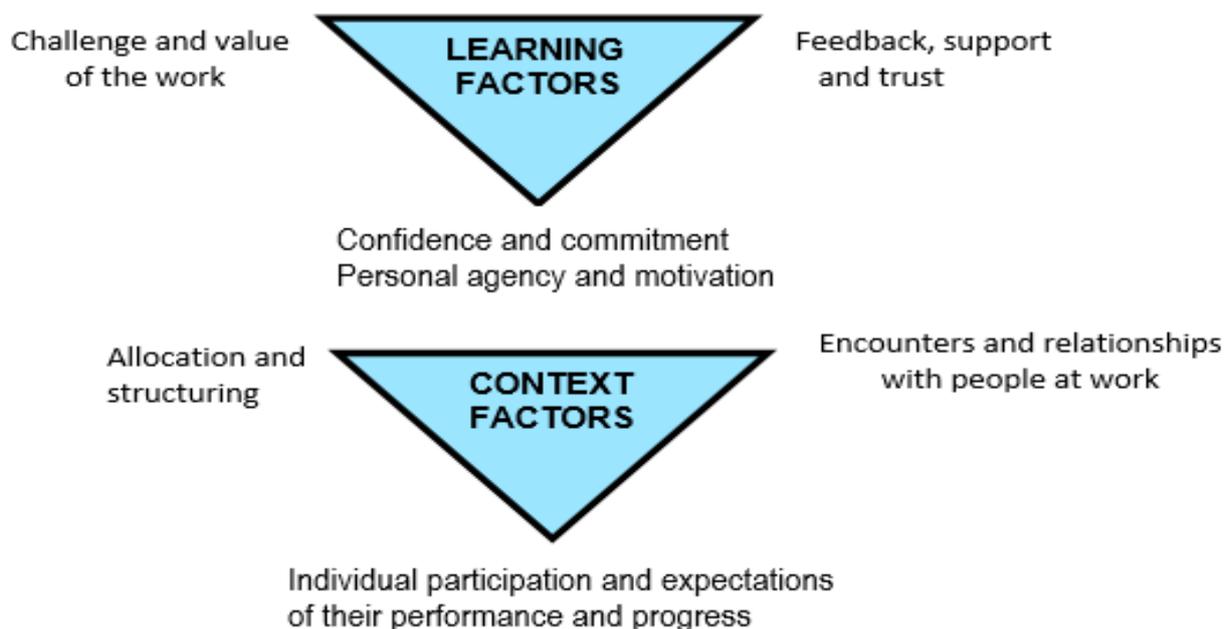
Factors affecting learning at work

One prominent finding of our earlier research on mid-career learning was the overwhelming importance of *confidence*. Much learning at work occurs through doing things and being proactive in seeking learning opportunities; and this requires confidence. Moreover, we noted that confidence arose from successfully meeting *challenges* in one's work, while the confidence to take on such challenges depended on the extent to which learners felt *supported* in that endeavour by colleagues, either while doing the job or as back up when working independently. Thus there is a triangular relationship between challenge, support and confidence (Eraut et al. 2000). The contextual significance of the word "confidence", which was used by our respondents without further elaboration, depended on which aspects of this triangular relationship were most significant for particular people at particular points in their careers. The dominant meaning for most mid-career respondents usually came close to Bandura's (1995) concept of *self-efficacy*, a context-specific concept, relating to ability to execute a particular task or successfully perform a role. For some mid-career respondents, however, confidence related more to *relationships* than to the work itself. Did they feel confident about the *support* and *trust* of their working colleagues, in more senior, more junior or parallel jobs? This depended on whether they perceived their more significant working relationships as mutually supportive, generally critical, faction-ridden or even overtly hostile. For early career professionals, this latter aspect of confidence was more prominent.

Figure 1 below shows how our early career project, where observations over a three year period added greatly to our understanding of contexts, was able to expand this triangular relationship to include new features. We added *feedback* and

trust to support and the *value of the work* to the challenge, because both had a major influence on *motivation* and *commitment*. Feedback was especially important during the first few months of a new job, when it was often best provided by the person on the spot. This happened within the ‘distributed apprenticeship’ approach we found in accountancy, and in other organisations where local workplaces had developed a positive learning culture of mutual support. In the longer term, more normative feedback on progress and meeting organisational expectations also became important.

Figure 1 Factors affecting learning at work: the Two Triangle Model



Equally important for developing confidence after the first few months was the *right level of challenge*. Newly qualified nurses were over-challenged physically, mentally and emotionally by their sudden *increase in responsibility* and the unceasing *pressure of work* in most ward environments. While some engineers progressed through a series of challenging assignments with remarkable rapidity, most of them were under-challenged and many of them were seriously under-challenged. The value of their work carried many nurses through their unnecessarily pressured start, and this was strengthened in some contexts by their *social inclusion* in supportive teams. We also noted the importance of *personal agency* in sustaining their motivation after their early period of settling into their new environment, and that this was not necessarily always aligned with their employer’s priorities. Personal agency is particularly significant in placements, when many employers have no long term stake in students’ learning and are therefore more likely to leave such matters to local managers. Hence it has been given some priority in this document.

The role of *extrinsic motivation* is frequently discussed in the workplace, and we feel there is no need for us to discuss it here. However, Thomas’ (2000) framework provides a useful basis for exploring intrinsic motivation, which is less well understood. Under *opportunities* he puts *sense of choice* over work activities and *sense of the meaningfulness* of their purpose; and under *accomplishment* he puts *sense of competence* in their work activities and a *sense of progress* in their purpose. This gives four kinds of intrinsic motivation, which were all prominent in the research reported above.

The inclusion of observation in this study enabled us to give more attention to the allocation and structuring of people’s work, their relationships at work and their level of participation in workplace activities; and this led us to the extension of our model to include a second triangle. This mirrors the first triangle, but focuses on the contextual factors that influence its learning factors.

The allocation and structuring of work was central to our participants’ progress, because it affected (1) the difficulty or challenge of the work, (2) the extent to which it was individual or collaborative, and (3) the opportunities for meeting, observing and working alongside people who had more or different expertise, and for forming *relationships of mutual trust* that might provide *feedback and support*. Our analysis of modes of learning in the workplace confirmed the importance of relationships by showing how many of the prominent modes of learning on the left side of Table 4 were dependent on good relationships with other people. These were not necessarily very close relationships but they required some mutual respect and a disposition to collaborate.

For novice professionals to make good progress a significant proportion of their work needed to be sufficiently new to challenge them without being so daunting as to reduce their confidence. Their workload needed to be at

a level that allowed them to respond to new challenges reflectively, rather than develop coping mechanisms that might later prove ineffective. This usually worked well in our two accountancy organisations; but in engineering the appropriateness of the allocated work differed hugely according to the company and the specialty. Very few graduate engineers in electronics or computer science had sufficiently challenging work and nobody appeared to take any responsibility for addressing this problem. In nursing the quality of learning was mainly influenced by the ward manager and her senior nurses, and some of the best and worst learning environments we observed were in the same departments of the same hospitals. Eraut et al (2005b) provides a more substantial account of these factors and their interactions.

We found that decisions affecting the structuring and allocation of work could be determined by any combination of the following factors:

1. The nature of the work, the way in which the organisation handled it and the discretion given to local managers in decisions of this kind. In all three of our professions local managers had significant opportunities to facilitate learning through their allocation of work and support of novice workers.
2. The quantity and urgency of the work in hand at the time. This was a major issue in hospitals where work overload almost overwhelmed novice nurses, while at the same time reducing the amount of support they could get from more experienced colleagues; and was sometimes important in engineering, if a company was undergoing a fallow period that limited the supply of challenging assignments.
3. Periodic decisions made by managers in which learning needs might or might not have been considered. This was relevant when allocating novices to audit teams, nursing shifts or medium term engineering tasks.
4. Decisions made by more experienced colleagues with delegated authority, who were currently working with the novice, and were probably best able to judge the appropriate level of challenge if they thought it was important.

Whether these decisions benefited the learning of the novice professional depended on the disposition, imagination, competence (in making these kinds of decisions) and available thinking time of those who made them.

Role of the manager in supporting learning

This section follows up the implications of the previous two sections, then moves on to consider the role of line managers in the longer term development of those they manage. These roles are complementary and the optimal balance between them will vary with the context. As organisations focus increasingly on learning which takes place on or very near to the job, so their attention has concentrated on the role of the line manager as a facilitator of learning. In many ways the responsibility placed on line managers as agents of the organisation in matters of skills and learning is the single strongest plank of their learning strategies. It is part of a much wider move to extract the HR or training function from delivering quite so much in terms of people management and placing this responsibility back onto the line. So managers are left much more to use their own initiative to identify learning needs at team or unit level.

The two triangle model of factors affecting learning presented in Figure 1 indicates how learning opportunities in the workplace depend on both the organization of work and good relationships. This is an area where managers and supervisors can play an important role in promoting and enhancing the learning of those whom they manage, both individually and collectively. One major obstacle is that knowledge of workplace learning is conspicuously absent from most workplaces, even though most of the required behaviours are within most workers' capability and simple common sense. Moreover, much of what is needed can be done by people other than managers. The manager's role is not to do most of the learning support themselves, but to set the climate, encourage their staff to take on this role as an integral part of their working responsibility, and include the facilitation of learning in their management of performance.

To fulfil this role managers need to know that:

- Being over-challenged or under-challenged is bad for learning and morale. So providing an appropriate level of challenge is important for developing confidence and making good progress. Hence this needs to be given attention when allocating and structuring the work of individuals and groups. When this is not under the control of the managers concerned, they should discuss it with their immediate peers and draw it to the attention of their own managers.
- The quantity and quality of informal learning can be enhanced by increasing opportunities for workers to consult with and work alongside others in teams or temporary groups. Hence good opportunities are needed for meeting and working with others to develop mutual trust and cooperative relationships.

- They may need skills in conflict resolution and addressing bad relationships that threaten the group climate and/or achievement, and to consult others for a second opinion or mediation if they themselves are directly involved.
- Support and feedback are critically important for learning, retention and commitment. Feedback is most effective within the context of good working relationships, and the rapid feedback essential for short term learning is best provided by people on the spot. Hence it is important for managers to develop a positive learning culture of mutual support both among individuals and within and across work groups.
- More traditional feedback on progress, strengths and weaknesses, and meeting organisational expectations, is also needed; and this is discussed at some length below.
- Upsetting feedback, anxiety about one's status or performance, client behaviour, relationships or events outside the workplace can all influence the emotional dimension of a person's working life; and this may require ongoing attention for a period. The manager needs to signal their awareness and to check that their workers are receiving appropriate support.

The role of line managers in supporting learning is quite complex. It includes identifying skill and learning needs at both individual and group level in relation to their understanding of what performance should resemble or achieve. It also embraces discussions with individuals about their own work and career aspirations and the extent to which the organisation can support these through learning opportunities inside or outside the organisation. Where the individual or team needs learning support, it is up to the manager to think about whether this should be in the form of a course or through on-the-job coaching or less intensive advice and feedback. For the former, the setting of training objectives and decisions about how to procure training would also often rest with the manager, ideally in discussion with a training professional. For the latter, the manager will either have to do the on-the-job coaching themselves, or find someone else to do it. Managers are also expected to make an input into learning evaluation and to assess the impact which learning has on job performance. The deceptively simple phrase 'manager as coach' does not really unpack either the complexity or the scale of learning which is often needed in a team.

Workplaces are complex inter-personal environments, where managers need to be well informed about relationships and personal or collective concerns without being unduly intrusive. They also need to delegate and to work through other people as well as by direct action. Otherwise, they will never have enough time to realize their good intentions and those they manage will have less opportunity for self development. It is increasingly recognized that frequent informal conversations with individuals and small groups create good settings for preparing people for coming issues, listening to their problems and concerns, seeking their advice, asking them to consult others about a problem and come back with suggestions, etc. In this context their personal interests need as much attention as the collective interest, if they are not to feel exploited. This means being supportive both when they have personal problems and in developing their future careers.

The IES Report, *Managers as Developers of Others* (Hirsh et al, 2004), was based on managers' roles in developing their workers in four organisations, two in the private sector and two in the public sector. Its data was collected from interviews with *givers* and *receivers of good or bad development* support; so it was designed to investigate relationships between pairs of people rather than groups and to focus on 'development' which may be taken rather more widely than job-related 'learning'. They found that *good development* was delivered through a supportive relationship, sometimes short-lived but often over a period of months or years and was typically characterised by the following features:

Managers set a *climate* in which they are easy to approach, and where development is an important part of working life. They build *developmental relationships* with individuals in their teams and more widely. These relationships are often fostered by frequent, informal conversations about work, listening to concerns and the offer of positive support. Good development support is quite *focused* through a clear, shared analysis of development needs, frequent review and honest but constructive *feedback*.

The delivery of development is through a wide range of learning methods tailored to individual needs. They often engage in *informal coaching*, make good use of formal training offered by the organisation, and focus heavily on finding the *right kinds of experience* both within the job (often through delegating developmental tasks) and outside the job (through projects etc.). They offer *active career development* and work to help individuals have a realistic sense of their own potential and readiness for possible job moves. They see the individual in the context of their previous work experiences and their interests and obligations outside work.

These individuals reported increases in motivation and behaviour at work resulting from the increased sense of interest in work they obtained from the first two or three steps above. So it seems that attention to development can both improve the capability of individuals and improve their motivation and engagement.

Another study examined the views of employees in large UK organisations about career development discussions (Kidd, Hirsh and Jackson, 2004). Only 7% of the discussions which employees found useful in their career development took place in the formal setting of appraisal. At least half were informal, i.e. not part of any HR or management process. The key to an effective career discussion was combining a high level of mutual trust with challenge and information-giving. This gave employees a better sense of direction, increased self-awareness and more confidence; and led to concrete actions by both parties.

A survey by the Career Innovation Group (Winter and Jackson, 2004) asked over 700 high performers in a small sample of large, mostly global, organisations to comment on the conversations they had at work which had high impact on them. Not surprisingly, these high performing employees are the kinds of people who get a lot of attention, and they had a quite a lot of conversations about their work, especially with their managers. However they were not always getting the types of conversations they most needed:

They had far more high impact conversations about their performance than about their development.

The lack of development conversations was a major source of dissatisfaction which also correlated with intention to leave. The big conversation gap in relation to development was about career development (especially future career opportunities and development planning for the future) rather than skills and training for the current job.

40% of respondents had an issue about work which they had no opportunity to discuss. These were nearly three times more likely than other respondents to be planning to leave the organisation in the next twelve months.

The study concluded that conversations about performance which do not also address development for the future do not engage high performing employees. In other words, "the best leaders are those who address performance and development together."

All three of the studies above suggest that semi-formal discussions may be helpful i.e. the conversation itself is planned, but its structure and agenda are not over-prescribed. They also support the need to talk about development in a holistic way and not just through a list of skills or competencies related to the current job.

We conclude that managers have a major influence on workplace learning and culture that extends far beyond most job descriptions. Doing nothing about learning and development will have a strong negative effect. Thus managers need (1) to have greater awareness of the modes through which people may learn in the workplace, (2) to recognise and attend to the factors which enhance or hinder individual or group learning, and (3) to take the initiative in the longer term development of their staff. Preparation for this role should be given much greater priority in management development programmes, incorporated into qualifications for managers and supervisors, and included in the appraisal of all managers. The justification for giving this such high priority is that what is good for learning is also good for retention, quality improvement and developing the skills and people that will be needed in the future. An important final point is that what we are asking managers to do for those they manage differs very little from what the managers in the IES study wanted for themselves.

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MICHAEL ERAUT

KNOWLEDGE THAT PEOPLE DON'T KNOW THAT THEY KNOW!

KNOWLEDGE BUILDS IN UNOBSVIOUS WAYS

AVOID USING THE WORD **LEARNING**

- HUMAN + PHYSICAL ENVIRONMENT
- RELATIONSHIPS
- PATTERNS + CONDITIONS

PEOPLE USE VERY DIFFERENT WAYS OF TALKING ABOUT WORK

MULTIPLE DISCOURSES, LINKS + BARRIERS

PRACTITIONERS' EXPERIENCE, MAXIMS PRACTICAL PRINCIPALS

HOW PEOPLE OUGHT TO DO THINGS

- WHAT IS BELIEVED TO WORK,
- ESPOSED THEORIES.

PRACTICE

NOT ONE BIG ACTION (ASSESSMENT/DECISION) BUT SERIES

MODES OF COGNITION

RAPID REFLEX

TIMES VARY BY PROFESSION

RECOGNITION PRIMED DECISION MAKING

EXPERIENCE IS CONTEXTUALLY BOUND

COMPETENCE ISN'T UNIVERSAL

PLANNED ACTION

PERIODIC REVIEW

CYCLING IN HEAVY TRAFFIC METAPHOR FOR SCHOOL TEACHING

WELL DEFINED ILL-DEFINED ENQUIRY

MEDICAL CONSULTANT

FAMILIAR CASES | SOME THING WILL ALWAYS BE ENQUIRIES

ROUTINISATION

WHAT ARE EXPECTATIONS OF ENQUIRY?

ROUTINES HAVE A HALF LIFE

SHORT CUTS

SETTLE FOR DOING THINGS LESS WELL

TACIT DIMENSION OF EXPERIENCE

HOW YOU GET TO KNOW PEOPLE SITTING NEXT TO YOU.

WORK PROSSES

TACIT LEARNING FROM OTHER PEOPLE

LEARNING TRAJECTORIES

CAPABILITIES & QUALIFICATIONS CANNOT BE MATCHED

Transferring and integrating knowledge and know-how between different communities and work contexts: implications for students on work placement

Michael Eraut

Introduction

Most undergraduates are members of several communities: their family, their friends, the university, workplaces where they earn money, and other types of social groups. These all involve engagement with other people; and that engagement plays a central role in their informal learning, whether or not they are engaged in formal learning. Good relationships with other people are known to enhance such learning within the appropriate domain. However, transfer of learning from one context to another cannot be taken for granted. Such transfer is often more challenging than most people expect, because learners have both to recognise its relevance and to see how it might be used in a different context. This paper sets out to show how people learn different things in different ways; but further learning is needed to merge different types of knowledge into holistic performances. While most undergraduates want to get a good degree through learning formal knowledge, they are also concerned to find career jobs with prospects that require other, more interpersonal, knowledge; and many of them are also looking for a new balance between their participation in families, friends and communities. This participation involves access to communities, an ability to engage with those they meet and a growing ability to contribute to their goals.

The paper argues that, in a period of rapid change, the concept of competence-based goals as indicators of a person's workplace capability is far too restrictive. Lifelong learning requires the use of lifelong learning trajectories, which can offer more freedom to be holistic, attend to the emotional dimension of work, and appreciate the significance of complexity. Life-wide learning contributes to the holistic development of a person and offers the potential for individuals to develop along some of their learning trajectories through different parts of their lives simultaneously. Data from working contexts are discussed through both stories and questionnaires; but the overall context will be focused on the issue of transferring knowledge and know-how between different communities and contexts.

The paper has been written to support exploration of the idea of life-wide learning (Jackson 2008) 'a unifying and integrating concept because it enables us to bring together, within a single framework, learning in and from different contexts.' (Jackson 2010). Over the last three years I have been involved in trying to transfer and integrate some of the knowledge I have gained from research into how people learn when they are working in a professional environment within the frameworks provided by a university and employers who develop placements to help students learn in a professional work environment. This contribution connects and integrates evidence from a number of sources, aimed at gaining a better understanding of the process of transferring knowledge and know-how between communities in the work environment. The observations may well be relevant to other social contexts and communities in a student's life-wide learning enterprise.

What counts as knowledge?

This section seeks to address the challenging problem of how an individual's understandings and capabilities may be represented and communicated in a social context by treating representations as mediating artefacts, whose meanings are clarified and to some extent reconstructed through the conversations they elicit.

Both knowledge and learning can be examined from two perspectives, the individual and the social. These can be considered as analogous to the particle and wave theories of light. An individual perspective on knowledge and learning enables us to explore both differences in what and how people learn and differences in how they interpret what they learn. A social perspective draws attention to the social construction of knowledge and of contexts for learning, and to the wide range of cultural practices and products that provide knowledge resources for learning.

In universities knowledge is primarily associated with publication in books and journals, and subject to quality control by editors, peer review and debate. This *codified knowledge* is then given further status by incorporation into educational programmes, examinations and qualifications. The model of knowledge creation is that of an organised, socially constructed

constructed knowledge base, to which individual authors and groups of co-authors add new contributions. Each discipline has editors and referees controlling the *acceptance of publications*, using agreed criteria. Journals use the criterion of *truth* according to the norms of the community from which they draw its readership. Some people in higher education regard these criteria as problematic, but those outside higher education are more likely to be concerned about its relevance.

Practical work in science, engineering and vocational education involves *learning knowledge* that has been shown to work, but cannot be fully described in books; and *cultural knowledge* that has not been codified, but which plays a key role in most work-based practices and activities. There is considerable debate about the extent to which such knowledge can be made explicit or represented in textual form; but the evidence suggests that its amenability to codification has been greatly exaggerated (Eraut 2000). What does appear to be generally acknowledged is that much *uncodified cultural knowledge* is acquired informally through *participation in working practices*; and is often so “taken for granted” that people are unaware of its influence on their behaviour. This phenomenon is much broader in scope than the implicit learning normally associated with the concept of *socialisation*. In addition to the cultural practices and discourses of different occupations, one also has to consider the cultural knowledge that permeates the beliefs and behaviours of their workers, suppliers and clients.

Whereas codified cultural knowledge is frequently discussed in terms of its truth and validity, uncodified knowledge is discussed in terms of its ownership, location and history. Who uses this knowledge, where and when? Both types of knowledge may be investigated for their range of meanings, and this is where the interaction of social and individual perspectives is particularly enlightening. The theory of *situated learning* postulates that the personal meaning of a concept, principle or value is significantly influenced by the situations in which it was encountered and the situations in which it was used. Hence the personal meaning of a concept or theory is shaped by the series of contexts in which it has been used. Given today’s rapid mobility, the sequence of such contexts is probably unique to each individual practitioner; and this may lead to them acquiring slightly or widely different meanings. Even codified knowledge is personalised to some extent.

I chose the terms *personal knowledge* and *capability* for the individual-centred counterpart to cultural knowledge, and defined it as “what individual persons bring to situations that enables them to think, interact and perform” (Eraut 1997, 1998). This enabled me to investigate the effects of personal knowledge without necessarily having to represent that knowledge in codified form. The rationale for this definition is that *its defining feature is the use of the knowledge*, not its truth. Thus I argue that personal knowledge incorporates all of the following:

- *Codified knowledge* in the form(s) in which the person uses it
- *Know-how* in the form of *skills and practices*
- *Personal understandings of people and situations*
- *Accumulated memories of cases and episodic events* (Eraut, 2000, 2004a)
- Other aspects of personal *expertise, practical wisdom and tacit knowledge*
- *Self-knowledge, attitudes, values and emotions.*

The evidence of personal knowledge comes mainly from observations of performance, and this implies a *holistic* rather than *fragmented* approach; because, unless one stops to deliberate, the knowledge one uses is already available in an *integrated form* and ready for action.

I have already drawn attention to the fact that students in formal education are focused much more on learning and personalising for use codified knowledge. They have much less experience or practice of developing these other forms of knowledge that are particularly relevant in the work environment. The relevance of the idea of life-wide learning (Jackson 2008, 2010) is that they may, in other parts of their lives, in which they are interacting in more social problem solving situations, be developing and practising using these other forms of knowledge.

I have introduced the term *capability* in addition to that of *personal knowledge*, because it enables me to discuss the knowledge and learning of *teams* and *organisations* as well as that of *individuals*. The four factors in Figure 1 below are defined as follows:

- At the individual level I define *capability* in terms of *personal knowledge*, i.e. what persons bring to a situation that enables them to *think, interact and perform*. At team level, I define *team capability* in slightly narrower terms as enabling a group to *interact and perform*. I would also argue that the evidence for a team’s capability has to come from *performances attributed to the team* as a whole, rather than to individuals within it, and to the *shared understandings* that create a team, rather than a group. I define *organisational capability* narrower still, limiting it to those *decisions, actions and understandings* that are attributed to the organisation as a whole, rather than to individuals or groups within it. In each case I would limit such attributions to *well-informed observers*, external to the entity being observed.

- The distinction between capability and performance is that *capability is normally inferred from a series of performances* and should not be judged on only one performance, whereas every performance is *context dependent*. Hence performances in more complex and difficult contexts should not be expected to be as strong as those in easier contexts. This applies at all three levels.
- Learning at individual or team levels may be *formal or informal*, but it would be very difficult to imagine informal learning by an organisation, rather than particular members of that organisation, especially because it would be very difficult to attribute learning that was not necessarily planned or conscious.
- The *context* for an individual could include people, events and practices at the level of working group, department or the whole organisation; but their relative significance could vary greatly both between organisations and within organisations. In general the most significant aspects of the context for an individual will be determined by those with whom they have the most contact and those who may be the most likely to exert power over them. However, it will be the understandings of the context that matter most; and in times of rapid change those perceptions may be dangerously narrow.

Figure 1. Key aspects of workplace learning



The four factors are always affecting each other. Capability is obviously influenced by learning but current capability also influences the ability to learn. Capability is required by job performance but is also developed through job performance. The context in which the individual is working and learning influences how their capabilities are perceived, how they perform and how they learn. An individual can be seen as highly effective in one setting and not another. Individuals are in a dynamic relationship with their work setting being both influenced by it and being part of it themselves and through their relationship with others.

However, this dynamic relationship is often missing from competence-based assessment, and issues related to team and organisational levels get little or no attention. If we want learners to develop a social identity and contribute to society, we have to demand more than the acquisition of knowledge and achievement of individual tasks and assignments. We also want to know about how they have used their competencies in group contexts and how they tune their work to fit the specific needs of their customers, clients or colleagues. This would involve developing their capability and working relationships as well as their required competencies.

Another problem for all students concerns the transfer of knowledge between academic and employment settings. This is usually underestimated. My research in several professions suggests that in complex situations the transfer process typically involves five inter-related stages:

1. The extraction of potentially relevant knowledge from the context (s) of its acquisition and previous use;
2. Understanding the new situation, a process that often depends on informal social learning;
3. Recognising what knowledge and skills are relevant;
4. Transforming them to fit the new situation;
5. Integrating them with other knowledge and skills in order to think / act / communicate in the new situation (Eraut, 2004b).

None of these stages are simple and, although they are in a logical order there is usually a lot of interaction between them.

Salomon and Perkins (1998) made a distinction between forward-reaching and backward-reaching kinds of transfer. The *forward-reaching approach* anticipates that certain kinds of knowledge will be useful in the future, and is most likely to occur in education and training contexts. Nearly all the taught components of professional and vocational education are intended for future use at work; but the evidence that this happens as intended is often disappointing. *Backward-reaching transfer* is required when one faces a new situation and deliberately searches for relevant knowledge already acquired. This is very likely to occur with knowledge previously used in fairly similar contexts, when its relevance is quickly recognized; but committing time to searching for previously taught knowledge is rare unless someone has a memory trace that they can follow up quickly. The discourse and culture of the workplace are so different from most education and training environments that persistent searching for what is perceived as *past knowledge* is very unusual. A major reason for this lack of commitment to exploring knowledge from one's past is a general failure to understand that transfer is a learning process, which often requires a lot more time than most people expect.

In the following sections I examine evidence for the nature of learning and the transfer of knowledge in work contexts based on evidence from studies of students on, or recently returned from work placement and the research I have done on early career learning.

Evidence from stories of work placement

Over 50% of University of Surrey undergraduates complete a work placement that is relevant to their area of study. In 2008 SCEPTRe organised a competition to gain feedback from students returning to the university after their placement inviting them to explain what their process of learning to become a professional involved. 28 students participated in the competition and their stories were compiled and analysed by Riley (2010).

Student A started his degree with *Mathematics & Management* and got a placement as a statistical programmer with a small company doing drugs trials. For most of the time he worked with the same senior programmer and one statistician; but it was a small company and there was plenty of mutual consultation. What helped him at that stage was that, because the company had very rigorous Quality Control (QC) procedures, everything had to be checked twice. This enabled him to contribute as a checker well before he could participate in other ways. That helped to 'pay his way', and was a very useful way to 'learn the ropes'. He was tremendously unproductive at the beginning. For example, what took him one and a half days near the beginning of his placement took him only one hour at the end. They normally let him try something if they thought he could handle it. Then after Christmas they asked him to lead his own sub-studies (a technical term in Quality Control) in a new project.

To improve efficiency all programmers were encouraged to take other people's programmes and modify them. This ensures that you become familiar with what other people have done. If you get to see a trick that is quite neat, you recognise it as an efficient way of doing that job. In general you start many programmes by looking at what others have done for a similar task; then during the course of the project you modify it, sometimes extensively, sometimes just a little. Over time you learn your own style through observing everybody else's work. This maintainability is very important for the integrity of our work. They encouraged him to develop his own style. He was always improving his approach to programming as a result of first seeing other people's work, then seeking to improve it.

Everyone was involved in Quality Control, and end results were extensively reviewed. They all worked in the same office, they had a spreadsheet of issues for each project, and everybody was expected to contribute to it. Their system was for everyone to engage in informal chats on specific issues as and when they arose. As he became more experienced, he developed more contacts with other departments and this gave him "a whole new layer". They did different things, used different software and presented their data differently. He had to be very open minded to see where they were coming from. He had to understand what it meant to them.

"You learn by practice, I can remember a couple of occasions when I went stumbling in without being sufficiently conversant with their work. It's important to listen before you speak. It's similar to learning through observing other people's programming work."

Student B was a *Chemical Engineer*, who chose to do multiple placements with a contracting company. She started with a very busy senior consultant, who gave her nothing but filing. For her first three months she had very little interaction with other people, learned very little about the company, and “hardly grew as a person”. Her second placement was challenging and entailed a lot of responsibility. Her manager was very good, intelligent and thorough; and she learned a lot from him. However, she still felt too scared to ask for help when she needed it. She had a personal project as well as contributing to the team as a whole. This involved sizing a line using a software package, a sudden jump in responsibility. Although she was shown how to use the software, “in my head I couldn’t do it”. She should have asked more questions at the time, but was too scared to do so. So she went to her friend from Surrey, who was in the same building, and got her to take her through it.

Her third placement was in a petrochemicals project, which she was part of a Systems Team supporting a Process Team. This was more like management work, and she had to communicate a lot with the process engineers. The process team was in Reading, while the drawings were done in Chennai. This was good management experience in how to set deadlines and make sure that other people meet them. She had to work with the X department as well. For example she had to set a deadline for a metallurgist of about 45, who always left things for the very last day. So she made the deadlines earlier, in order to be sure that the “real” deadlines were reached. She felt that she grew most as a person in that group, because of what she had to deal with. For example, she had to bring metallurgists and process engineers together in order to do material selection diagrams. But this metallurgist didn’t come to meetings or, if he did come, would sit talking on the phone. She thinks that she did well in getting him to contribute.

Her manager for the final placement was very clever in getting her a Process Role. First he brought her into the project as a Systems Engineer to cover for someone on holiday. This worried her at first, because she did not want to do any more Systems Engineering. But his plan was for her to get to know the group, so she could be more easily accepted in a Process role. Thus after two weeks she was moved to a process role to do chemical engineering.

Student C was from *Tonmeister*, Surrey’s department for Music and Sound Recording; and her placement was with Chapel Recording Studios in Lincolnshire. The studio manager had been in the music and recording industry for many years before buying the Chapel and converting it into a recording facility. The other permanent staff comprised just two in-house engineers and a small group of administrative staff. Most of the work is done by incoming bands, who use the recording equipment and generally get help when they need it. She was put in charge of safety, which involved following the bands round when they were putting down cables and fastening them down before anybody could trip over them. It also helped to get to know them, and later in her placement she was often the only Chapel person there.

She “found that the two in-house engineers worked very differently: one engineer liked to do most of the technical running of the session himself after everything was rigged; and consequently most of her learning with him was through observing his techniques and asking questions. However, I slowly built up a rapport with him and he was eventually comfortable to leave me working alone tracking to Pro Tools, and later entirely in charge of a session. As the placement went on, he began to ask for my opinions on things such as how edits and microphones sounded as well as about instrumental tuning issues and recognising if microphones were in or out of phase. In contrast, the other in-house engineer allowed me to run Pro Tools on the night of my arrival and subsequently increased my creative and technical possibilities. My choices of microphone techniques and ideas for getting around technical problems were used as well as compositional suggestions during tracking. On several final mixes, I was involved as an equal partner for decisions and shared controls of the outboard, plug-ins and faders.”

She then began to expand her sound repertoire as far as possible. It wasn’t just the equipment. She saw different bands using the equipment in different ways and making different sounds, because there was a wide range of music coming in. So she picked up a lot of background knowledge about how to produce different sounds and what was appropriate for different occasions. She also learned how to relate to the bands, as they all had different personalities. This included helping some of the singers. One man had a throat problem, and she suggested an exercise she knew from her own study of singing, which cured it for him. She also introduced morning warm-ups to some visiting singers.

Josephine had recorded students at Surrey but not professionals. They’re quite different in the way they play and what they are trying to do, so she tried to adapt her recording to the cues she picked up from them. There is no common vocabulary, so you have to assess both what they are trying to achieve and what they are actually doing. Some are quite good about expressing what they want to hear, or what they feel about what they were currently doing. You have to interpret what they are saying and try to get the sound they want. She doesn’t use technical words like “more bass”, but descriptive words like “Do you want it more meaty or lighter?” They may not use the same language, but it’s something they can understand.

One of the organisational innovations Josephine introduced was a Recall Sheet. When you are recording, people often want to go back to an earlier version; and there can be a lot of versions being tried out, any one of which someone might want to recall. So recorders were asked to make notes of each sound set up in case they were needed later. She found this quite difficult using lots of scribbled notes; so she designed a sheet with appropriate headings which both reduced the amount of writing and made it easier to find the relevant parts of the set up. This made recalls quicker and more reliable.

Josephine also asked to assist the maintenance engineer on one of his fault-finding days. This enabled her to see the inside layout and how the bits fitted in together. She picked it up quite quickly, but had to ask lots of questions about what was going on. This additional know-how proved very useful. One day when she was doing a session on her own, something broke down, and she was able to fix it. Otherwise the whole session would have come to a halt. The band just took it for granted!

"I learned the importance of maintaining the correct atmosphere in the studio and it was interesting to observe how producers communicated with the musicians to earn their respect and encourage them to get their best performances. As the hours were very long, there were occasional stresses and irritations among the band members and, where I could, I found ways of diplomatically diffusing these situations, either by listening to an individual's complaint or simply by saying 'I'll stick the kettle on'! This greatly developed my confidence and interpersonal skills and helped me cope with difficult people in awkward situations."

These three examples of Surrey students in their third year demonstrate a number of key points. It takes some time for most people to adjust to new working contexts, even those with more experience than the Surrey undergraduates. As temporary employees, they rely on the good will of their organisations, who in turn try to help them learn. However, these three examples (and nearly all the others) show that two factors are crucial to the learning potential of placements: the support from those who work with them; and the challenges of the work they are asked or permitted to do.

Those organisations that seek to properly support and develop the capabilities of students on placement, enhance the reputation of their organisation and probably find some excellent potential recruits as well. Within that broad vision, many students learn in different ways and in different places, known only to those around them. However, students on placement also have to take the initiative themselves and look for suitable opportunities within their current placements. The balance between placement students joining communities of practice and showing personal aptitude and agency is also very important. Evidence relating to this aspect of placements is presented below.

Evidence from 125 third year students' - responses to a questionnaire on learning during their placement year (months 7-8)

The responses to the competition led me to investigate the experiences of the next cohort of placement students by devising an appropriate questionnaire. This began with a short survey of previous work experience, as we felt it important to recognise all forms of work experience, not only those on formal placements. This showed at least 29 full time jobs lasting at least 3 months and at least 31 more people who had experienced full time work for at least a month. The number of part-time jobs was 112 lasting at least 3 months. At least 77 of the 3+ month jobs and 43 of the 1-3 month jobs involved learning something useful. The impact of such experiences should not be neglected when considering life-wide learning, especially in the area of human relations.

Before presenting any data, I should note that we subdivided our respondents into twelve departments or 'combined' departments; and looked for means 20% above or below the average for the whole cohort. This indicated that there were very large differences across subjects. Some may derive from the central nature of those subjects, some from the size of the placement organisations, and some may be connected with the way in which these subjects tend to work. In choosing data from six tables, I will be trying to look at these responses and their significance for life-wide learning, not trying to deny the gains described by a large majority of placement students.

The first table (not shown) focuses on student participation in a wide range of activities by asking them to judge the importance and the frequency of each of 18 activities. In most activities the importance was higher than the frequency; and 12 of the activities had a highest department important score of 100%. The widest gaps were from Evaluation of situations (58 frequency v 89 performance), Presentations/performances (42 frequency v 81 performance), and Management of people (22 frequency v 71 performance).

Table 1 shows the University means for each of 10 Placement Quality ratings and 5 Career Outcome ratings. The University means for the *Very Good* quality ratings (5 on a 5 point scale) include six between 43% and 51% and four between 29% and 39%.

Table 1. Student views on Quality and Career Outcomes from their placements

Questions using <i>Very good</i> on a five point scale and <i>Low</i> for points 1+2	University Mean in % 126 students		Number of departments 20% above the mean (if more than 3) VG	Number of departments 20% below the mean (if more than 3) VG	Highest and lowest scores VG
	Low	VG			
Physical environment	2	45			83-20
Access to tools and facilities	5	44	6	4	83-20
Quality of relationships	6	50	4		70-30
Access to appropriate expertise	10	51	6		100-29
Supervision	9	45			67-20
Induction to the job	9	30	4	5	83-10
Informal support	5	43	4	4	83-00
Challenging opportunities	13	39	6	4	67-17
Allocation of appropriate work	8	31	4	4	62-10
Opportunities to be creative	18	29	4	5	50-09
Awareness of your strengths and potential	3	24	6	5	50-00
Awareness of what you need to achieve in your final year	7	41	5		75-20
Quality of what you achieved in your placement	5	29	5	4	50-10
Awareness of kind of work You want to do in the future	9	29		4	50-14
Awareness of the work you do not want to do in the future	5	24	5	6	50-00

The highest 2 headings were Quality of relationships (50%) and Access to appropriate expertise (51%); and the lowest 3 headings were Induction to the job (30%), Allocation of appropriate work (31%) and Opportunities to be creative (29%). In contrast, the three highest ratings for points 1 and 2 combined are 10% (access to appropriate expertise), 13% (challenging opportunities) and 18% (opportunities to be creative).

The University means for the Very Good ratings concerning Career Awareness were quite low. Four were between 24 % and 29% and the fifth (awareness of what you need to achieve in your final year) was 41%. However, none of these five Low headings was higher than 9%; so most responses were OK or Fairly Good. The wide range of departments scoring at least 20% above the university mean is notable.

Table 2a shows the University means for each of 14 questions: 7 concern Learning Tasks, and 7 concern Project Work. The University means for the top quality rating (4 on a 4 point scale) are headed by *learning from consulting others* (66%), followed by using Projects to learn both *new skills* (54%) and *content* (54%). Seven ratings were in the 40s (three on tasks, four on projects) and four ratings were in the 30s (three on Tasks, and one on Projects). The means for the two lowest ratings (1 and 2 on the scale) were seven between 10 and 19, and seven in the 20s. The 'highest' five of these lower options was *how to handle uncertain situations* in Projects (26%).

Table 2b shows expectations embedded in roles performed on placement. The last entry confirms the low score for opportunities to *manage people* in Table 1; and indicates that six departments were below even that rating, probably zero. The evaluation of outcomes appears to have been used in five to seven departments at most.

Table 2a Tasks and project work

Questions using 1+2 (<i>low</i>) and 4 (<i>top</i>) on a four point scale 120 students	University mean in %		Number of departments 20% above the mean (if more than 3)	Number of departments 20% below the mean (if more than 3)	Highest and lowest scores
	Low	Top			
Tasks					
How much learnt from consulting others	10	66			91-46
Extent task choice allowed progress in taking responsibility	13	45		4	87-20
How much help did you have in learning assigned tasks	18	49	6	4	83-19
How much learnt from sharing tasks with others	23	40	6		83-15
Extent to which others listen to your comments and suggestions	18	31	4		67-14
Extent to which task choice allowed progression:	20	35	6		50-10
in your range of assigned tasks	23	36	5		62-17
in task difficulty					
Projects					
To what extent have you been challenged by project work?	24	43	4	5	100-20
How much responsibility have you been given in project work?	21	44			100-17
To what extent has participation in projects helped you to learn:					
more about its content?	12	54	5	4	100-17
new skills?	12	54	6	5	100-36
how to work with people on a focussed piece of work?	23	42		5	82-24
how to handle uncertain situations?	26	38	6	5	67-20
how to keep to deadlines?	19	46	4	5	78-17

Table 2b. Support for roles

Questions using 1+2 (<i>low</i>) and 4 (<i>top</i>) on a four point scale 120 students	University mean in %		Number of departments 20% above the mean (if more than 3)	Number of departments 20% below the mean (if more than 3)	Highest and lowest scores
	Low	Top			
Roles					
If you were given a responsible role, were you expected to:					
develop initiatives or projects?	32	35	4	4	67-17
monitor progress?	27	31			83-10
evaluate outcomes?	35	26	5	5	78-05
manage people?	65	15		6	67-00

Table 3a shows which of the types of people listed in the Left Column were chosen as the “most influential” by their placement students.

Table 3a. Roles of people selected by students as being the most influential for them

<i>Most influential people</i>	Person N	Person P	Person R	Total
Your supervisor	61	12	4	77
Your manager	20	34	9	63
Another senior person	4	27	28	59
Recent graduate	5	9	14	28
Experienced worker at graduate level	3	7	8	18
Experienced worker not at graduate level	2	4	11	17
Another student on placement	4	5	6	15

Table 3b below shows the quality of the support given by each of the three most influential people cited by each student. This is based, as noted above, by noting the percentage of ratings (+2 and +3 combined) given by each type of influential person listed for each type of help.

Table 3b: Help from individual influential person’s N, P & R

The data used is the sum of the two highest percentages of a 7 point scale. The column heads show the number of responses given for each type of support	N 85-95	P 77-89	R 63-72
Helped you to accomplish your tasks	75	45	44
Helped you to understand situations	82	33	47
Helped you with collaborative working	63	52	50
Helped you with joint problem-solving	53	52	51
Guiding/introducing you to people who could be helpful	67	48	46
Guiding you on how to handle people	43	51	33
Guiding you on accessing relevant information	60	51	46
Encouraging you to take initiatives	60	38	35
Gave you tasks that offered learning opportunities	66	42	43
Gave you, or included you in, challenging project work	56	39	41
Gave you challenging roles that required initiative	55	44	33
Helped you to choose your work	40	61	28
Helped you to prioritise your work	41	58	29
Gave you constructive feedback on some of your work	74	43	41
Gave you constructive feedback on your work in general	69	47	32
Gave you constructive feedback on your mistakes or work below par	52	57	27
Gave you constructive feedback on your strengths and weaknesses	47	63	27

In most cases the Person Ns were the most appreciated, but in the 5 underlined cases Person Ps were more appreciated. This matches the higher proportion of managers selected as Person P. Person Rs came from a wider range of positions, and secured 40-59% (the two middle columns in Table 3c) on nine of the 17 modes of support. Although the percentages drop significantly from N to P and from P to R, a significant number of all three chosen persons appear to have covered a wide range of support roles.

Table 3c. Number of entries in each column for each interval of 10%

	20-29	30-39	40-49	50-59	60-69	70-82
Person N	0	0	4	4	6	3
Person P	0	3	6	6	2	
Person R	4	4	7	2		

Student views on taking personal initiatives

Table 4 below was designed to investigate the nature and level of personal agency used by students on placements. Each question shows how possible forms of personal agency are used or not used by the responding students. The pattern we chose is unusual, because for each form of possible student Initiative, we offered four possible outcomes. Two involve no action (N), and two involve taking some action (A) by approaching another person for help. In either case, the outcome can be positive (POS) or negative (NEG). The first column, *No Need*, is regarded as doing nothing but still a *positive* outcome. Those students don't need to ask, because it is already happening. However the second column, *Not Tried*, is regarded as a *negative* outcome, because it suggests that the students choosing this option would like to engage in the suggested intervention but are either shy or intimidated. If they do try, they may have a successful outcome - *Yes, success* - or an unsuccessful outcome - *Yes, but no success* - which suggests a reluctance to help the student.

Table 4. Personal initiatives demonstrating agency (104 students)

Line 1: University highest, mean, lowest (%) Line 2: Number of departments	No need	Not tried	Yes, but no help given	Yes, success
20% above & below the mean (if more than 4)				
Exploring the situation	High Mean Low	High Mean Low	High Mean Low	High Mean Low
Have you asked if you could visit other sections, sites or departments?	60 22 0 5 5	50 20 0 5	22 11 0 5 6	83 47 17
Have you asked anyone about the different kinds of work in your organisation?	40 14 0 7 5	33 8 0 7	11 3 0 9	100 76 44
Have you asked anyone to introduce you to someone you would like to meet?	50 22 11 5	56 33 0	20 6 0 7	71 39 17 5
Have you overtly asked people for feedback on your work?	17 3 0 9	50 27 0	20 6 0 9	87 66 40
Seeking variety of experience	High Mean Low	High Mean Low	High Mean Low	High Mean Low
Have you asked to move to a different section or department?	86 52 20 5	50 27 0 5	22 11 0 5	40 11 0
Have you asked for new tasks in your current load?	40 12 0	40 15 0 6 5	23 9 0 7	83 65 40
Getting what you want	High Mean Low	High Mean Low	High Mean Low	High Mean Low
Have you asked to work with a different person or group?	80 34 11	56 24 0 6 6	22 9 0 6 6	60 33 11 5
Have you asked to work on a particular project?	40 21 0	56 26 0 6	33 9 0 6 6	71 44 17 5
Have you asked to be given more responsibility?	56 25 0 5	44 28 0	17 6 0 7	71 41 0 5
Have you persuaded others to back any of your initiatives?	44 24 14	50 25 0 5 6	40 9 0 5 6	67 42 11

We start our discussion with variations in the university means for the ten questions. Four questions come under the title “Exploring the situation”, two came under “Seeking variety of experience” and four were under “Getting what you want”. The same data can be found in the first column of each table, so the mean is always available for comparison. The presentation has been changed to accommodate both the four optional answers and the key information provided in other tables by using two lines of figures for each entry. The first line gives the highest score, the university mean and the lowest score; and the second line gives the number of departments which are 20 % above or 20% below the mean.

Three of the ten questions had a more than 50% response of *Yes, success*:

- Have you asked anyone about the different kinds of work in your organisation? (76%)
- Have you overtly asked people for feedback on your work? (66%)
- Have you asked for new tasks in your current load? (65%)

The next four questions had means over 40%, two were over 30% and one was only 11%.

The least popular choice was *Yes, but no help given* where the mean percentages of were between 3% and 11%, the two highest (questions 1 and 5) being linked to *visiting or moving to other sections or departments*. The lowest score for all ten questions was zero; and seven of them had more negative responses than positive responses. The numbers are too small to attempt any further analysis.

Question 5 also led to the highest *No Need* response of 52%. The next highest *No Need* was Question 7 with 34% wanting to *work with a different person or group*, while most others were between 20% and 30%. There are six questions with at least one zero response; and questions 3, 4 & 6 clearly have several departments with very few *No Need* responses. The question *Have you overtly asked people for feedback on your work?* has the lowest mean of 3, and nine departments had zero responses for the *No Need* option. This demonstrates that feedback can only rarely be treated as sufficient.

The *Not Tried* option is of particular concern, because it suggests that a significant minority, 8 out of 10 questions with means between 20% and 33%, either lack personal initiative or feel that their concerns would not be treated seriously. These students could probably be better supported if their reluctance was known to those responsible for their progress. Two questions, *Have you asked for new tasks in your current load?* and *Have you asked to work with a different person or group?*, have 6 departments at least 20% above their means, and three questions have 5 departments in that position.

Preparation and support before and during your placement

Until now, the main tables have centred on the activities and environment in placement workplaces. However, Table 5 below is specifically concerned with the university’s own contribution to placements. The issues addressed are those over which the university and its students have the most influence. The fourteen questions were divided into four groups:

- Opportunities to meet students who have just returned
- Choice of placements,
- Support at department, faculty or university level
- Support during your placement year so far.

This group of questions used a four point scale: *None, Little, Quite good, Very good*. In order to limit the size of this report, Table 5 is based on our students’ responses to the top two options alone: first through the combined scores of options 3 & 4, and second through option 4 on its own. Data from the other options will be introduced when helpful.

My discussions with students and faculty before the questionnaire was even suggested often raised the question of opportunities to meet students who had recently returned from their placements; and it emerged that some departments organised this, while others did not. The questioned not only confirmed this but gathered information about the quality and usefulness of current practices. 20% of our respondents reported no opportunities to meet returning students, and 32% reported little help from this source. Although some departments had a lot of students working from home who found their own placements, it could still have been helpful to them to have met a few returning students in order to get their advice on what they should look for when choosing a placement.

The most positive scores for (3+4) in the other three rows of data were 89% for *Understanding the advantages of placements for your future career* and 83% for *General briefings on placements*. Five responses had (3+4) percentages in the 60s, two in the 50s and 4 in the 40s. One department had four 100% ratings, and another very different department had two 100% ratings.

Table 5. Preparation and support before and during your placement

Questions using <i>top half</i> of a four point scale (3+4) [** X is used when 20% above the mean goes beyond 100%]	University means in %; 103 students		Number of departments 20% above the mean (if more than 3)		Number of departments 20% below the mean (if more than 3)		Highest and lowest department scores	
	3+4	4	3+4	4	3+4	4	3+4	4
	Opportunities to meet students who have just returned							
From placements in your own subject/ department	47	18	4	4			71-20	57-00
From organisations to which you might apply for a placement	40	12	4	5		5	75-20	33-00
From particular parts of those organisations	33	8	4	6	6	6	67-13	22-00
Choice of placements								
Understanding the advantages of placements for your future career	89	40	X**	4			100-71	71-14
Help in deciding what placements would best meet your needs	66	22	5	4		5	100-36	57-00
Help in finding a placement	68	40	4	5		4	100-21	83-14
Support at department, faculty or university level								
General briefings on placements	83	23		6		5	100-53	50-00
Seminars focused on the nature and quality of placement learning	68	15				5	88-53	50-00
The work of the careers' service							87-20	43-00
Advice from administrative staff	54	13		5	4		100-20	33-00
Support during your placement year so far							100-33	
Through visiting tutors	67	30	4	6		4	50-13	
Through contacts with other staff	41	15	4	5	4	6	68-20	50-00
Through discussing your placement report(s)	42	14		6	4	4	84-00	33-00
Making good use of your placement experience in future job applications	60	35	5	4		5	100-20	75-00

Finally, we compare the number of activities with average ratings 20% above or below the university mean. Two department groups with very high profiles at level 4 had 10 ratings 20% above the university mean, and a third had 13 ratings 20% above the mean. All three were in different faculties. This was mirrored by three departments with high ratings below the mean, two with 10 ratings and one with 13 ratings below the mean. This time only two faculties were involved. When we examine Table 5 more generally, we get a very large range of departmental ratings, which suggests that the university has both good expertise and opportunities to improve the quality of placements over time.

Evidence of learning in the first three years after graduation

My previous ESRC project on the Early Career Learning (ECL) of accountants, engineers and nurses developed three very useful tools. The first of these tools was developed from watching how ECL graduates were learning in workplace contexts; and our team discovered that 80 to 90% of the events we witnessed were best described as “working with learning as a side-effect”. This explained why interviews on their own failed to notice most of the learning, because the learners didn’t recognise it as learning. By starting through observation in the workplace, we could develop a discourse of description which could gradually be developed to include activities when we were not even present; as long as we did not fall back into asking “interview questions” that prompted a discourse of justification. We ended up with working processes on one side of our tool and learning processes on the other side. Activities like asking questions went in the middle, because they could be used on either side.

Table 6. A typology of early career learning

Work Processes with learning as a by-product	Learning Activities located within work or learning processes	Learning Processes at or near the workplace
Participation in group processes Working alongside others Consultation Tackling challenging tasks and roles Problem solving Trying things out Consolidating, extending and refining skills Working with clients	Asking questions Getting information Locating resource people Listening and observing Reflecting Learning from mistakes Giving and receiving feedback Use of mediating artefacts	Being supervised Being coached Being mentored Shadowing Visiting other sites Conferences Short courses Working for a qualification Independent study

Four of these work processes have to involve other people and the other four could also involve other people. Thus there are good theoretical reasons for workers to mainly learn from other people, but not always recognise much of it as ‘genuine learning’ (Eraut, 2007b). One rarely noticed advantage of this manner of learning is the benefit for those with expertise. When they are working alongside someone who is less expert, they can mention points or encourage them to ask questions as often as they can, without having to go into long explanations; because their colleague already know much of the context including visual and auditory aspects that could be quite difficult to explain.

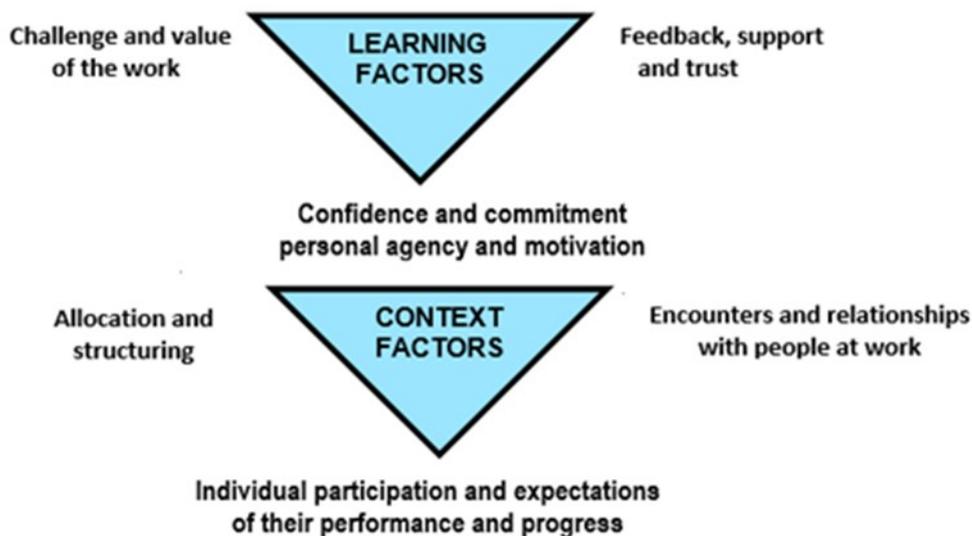
Our second tool was Figure 2, our Two Triangle Model for addressing both Learning Factors and Context Factors which we developed to show how the direction and amount of learning was influenced by key aspects of the workplace itself. This model is presented below, and has been explained in detail elsewhere (Eraut, 2007ab; Eraut & Hirsh, 2007); and examples of it were developed for the first three professions we researched for the ESRC project. Some of the complex interactions conveyed by the model need some explanation.

Our evidence from this project confirmed that both confidence in one’s ability to do the work and commitment to the importance of that work are primary factors that affect individual learning. If there is neither *challenge*, nor sufficient *support* to encourage a novice professional to seek out or respond to a challenge, then *confidence* declines and with it the motivation to learn. *Commitment* was generated through *social inclusion* in teams and by appreciating the *value of the work* for clients and for themselves as novice professionals. Moreover, concerns about career *progress* that arose from inadequate *feedback* of a normative kind tended to weaken novices’ motivation and to reduce their *commitment* to their organisation. Finally, we recognised the importance of novice learners’ *personal agency*, which recognises participants’ own sense of choice, meaningfulness, competence and progress (Thomas 2000), which is not necessarily aligned with their employer’s priorities.

The *allocation and structuring of work* was central to our participants’ progress, because it affected (1) the difficulty or challenge of the work, (2) the extent to which it was individual or collaborative, and (3) the opportunities for meeting, observing and working alongside people who had more or different expertise, and for forming *relationships* that might provide feedback and support. For novice professionals to make good progress a significant proportion of their work needed to be sufficiently new to challenge them without being so daunting as to reduce their confidence; and their workload needed to be at a level that allowed them to respond to new challenges reflectively, rather than develop coping mechanisms that might later prove to be ineffective.

Using these two tools provides a useful guide to both placement students and those who support them. As far as we can tell, most of the language used is readily available to current trainees; and the two tools suggest ways in which they might better understand their progress so far and find ways to discuss their experience to date with those they thought would listen. Connecting evidence relating to both the questionnaire and the two tools described above would help to prepare and support placement students, departmental advisors and employer supervisors.

Figure 2. Factors affecting learning at work: Two Triangle Model



Lifelong and Life-wide Learning Trajectories

Our third early career learning (ECL) project tool was a new approach to describing what is being learned on placements; because academic criteria cannot cover the full range. The main arguments for Learning Trajectories are to improve the representation of Personal Knowledge and to incorporate the principles and practices of Lifelong Learning. In particular, it seeks to include changes in context, variations in practice and changes in practice, and to ease the unreasonable burden placed on criterion-based assessments. Table 7 shows the generic typology of learning trajectories used to map the knowledge progress of the three ECL professions. At any point in a career, according to their roles, responsibilities and portfolio of work, professionals will be moving along a learning trajectory, either developing new expertise or allowing themselves to withdraw from parts of their portfolios. Willis (2009) demonstrates that the learning trajectory model is also valid for students on their work placement in her analysis of the same 28 stories described in section 2 above, using the learning trajectories framework as an analytical tool.

The added value of the life-wide learning dimension (Jackson 2010) is that development that is relevant to a particular trajectory may be taking place at other sites in a person's life without them recognising that it might also be useful in their professional role. This proposition remains to be evaluated but there is good evidence from student self-reports (Jackson unpublished data, Barnett 2010) that students are developing themselves in all sorts of ways that are relevant to these learning trajectories in different parts of their lives, while they are studying at university.

Careful attention to this third tool will show that many important features are incorporated, which are rarely considered in the practice of helping students learn to become a professional, in spite of their significance. Our list of trajectories was developed during successive research projects on early and mid-career professional learning, which enabled us to classify our findings on what was being learned under eight main headings: task performance, role performance, awareness and understanding, personal development, academic knowledge and skills, teamwork, decision making and problem solving, and judgement (Eraut and Hirsh, 2007).

This approach enables future learning to address both further development along trajectories and whether the right trajectories were chosen and combined in the most appropriate way. Within this overall framework it is still possible, indeed desirable, for different types of representation to be used for different trajectories and at different career stages. Hence another advantage is that learning trajectories problematise the role of occupational qualifications as signifiers of learning. Occupational qualifications are a very public rite of passage, which symbolises generic competence in an occupation; and this claim is backed by the use of apparently clear and specific criteria for assessment. In practice, however, these qualifications require both a specified amount of practical experience and the demonstration of competence in certain aspects of performance by successful candidates. The assessment process may require either that a particular level of competence is reached in each aspect, or that the performance as a whole is satisfactory, or both. However, variations in candidates' strengths and weaknesses are inevitable, because trainees are allocated to one or more placements, whose learning opportunities will differ in kind if not also in quality. So there are bound to be *significant differences in the performance profiles of trainees at the point of qualification*.

The main advantages of learning trajectories around the time of qualification are that:

1. They track aspects of trainee performance before, during and after qualification; and this should avoid the pretense that workers with the same qualification perform at a similar level across the range of occupational activities.
2. They enable continuity of learning by providing profiles of candidates' strengths and weaknesses at the time of qualification, and at appropriate intervals thereafter, which can then be used for planning some of their further learning.
3. Mapping progress over time also measures the ability to learn from experience, which is probably a better predictor of future performance than a single mammoth period of assessment.
4. They incorporate the principles and practices of Lifelong Learning by including both formal and informal learning.

Table 7. Typology of learning trajectories

<p>Task Performance Speed and fluency Complexity of tasks and problems Range of skills required Communication with a wide range of people Collaborative work</p> <p>Awareness and Understanding Other people: colleagues, customers, managers, etc. Contexts and situations One's own organization Problems and risks Priorities and strategic issues Value issues</p> <p>Personal Development Self evaluation Self management Handling emotions Building and sustaining relationships Disposition to attend to other perspectives Disposition to consult and work with others Disposition to learn and improve one's practice Accessing relevant knowledge and expertise Ability to learn from experience</p> <p>Teamwork Collaborative work Facilitating social relations Joint planning and problem solving Ability to engage in and promote mutual learning</p>	<p>Role Performance Prioritisation Range of responsibility Supporting other people's learning Leadership Accountability Supervisory role Delegation Handling ethical issues Coping with unexpected problems Crisis management Keeping up-to-date</p> <p>Academic Knowledge and Skills Use of evidence and argument Accessing formal knowledge Research-based practice Theoretical thinking Knowing what you might need to know Using knowledge resources (human, paper-based, electronic) Learning how to use relevant theory (in a range of practical situations)</p> <p>Decision Making and Problem Solving When to seek expert help Dealing with complexity Group decision making Problem analysis Formulating and evaluating options Managing the process within an appropriate timescale Decision making under pressure</p> <p>Judgement Quality of performance, output and outcomes Priorities Value issues Levels of risk</p>
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One important problem remains to be solved. In the opening section of this chapter we noted that most occupational activities require that several types of knowledge are integrated into a holistic performance. How then can we reconcile the use of learning trajectories depicting changes in aspects of performance over time with recognizing the holistic nature of most kinds of performance? Returning to our earlier discussion about the domain in which performances have been judged as competent or proficient, we decided that points on our learning trajectories should be treated as windows on episodes of practice, in which (1) the aspect of learning portrayed by the trajectory had played a significant part, and (2) the current domain for the trajectory had been sustained or enhanced. This could only be achieved if each window included the following information about the performance:

- The setting in which it took place, and features of that setting that affected or might have affected the performance
- The conditions under which the performance took place, e.g., degree of supervision, pressure of time, crowdedness, conflicting priorities, availability of resources
- The antecedents to the performance and the situation that gave rise to the performance
- The other categories of expertise involved
- Any differences from previously recorded episodes
- Indicators of expertise in the domain of the trajectory having been maintained, widened or enhanced

This last point draws attention to the complexity of learning and performance in most professional, technical and managerial jobs. It is unusual for a performance to use knowledge from only one trajectory, and the seamless integration of personal knowledge from several trajectories may itself be an important learning challenge that goes beyond progress in several separate trajectories. The holistic nature of any complex performance should never be neglected. Within this overall framework it is still possible, indeed desirable, for different types of representation to be used for different trajectories and at different career stages. There is no one best way for describing complex knowledge in use.

The key concept behind this approach is that:

- Entries are based on complete episodes of practice;
- The data displayed in each entry represents a whole performance, involving not only the relevant trajectories but also the ways in which they interacted;
- Each trajectory contains a sequence of entries which show how its particular track has progressed over time.

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A Research Tool Aimed at Improving Learning in Work Placements

Michael Eraut

Evaluation of the quality of student placements at the University of Surrey

Any educational approach that incorporates work placements must be mindful of the quality of the experience in enabling learners to achieve learning goals that are useful to their development and preparation for progressing into a professional role commensurate with their area of study.

The University of Surrey has been monitoring its placements for several years as part of its quality assurance procedures. At the time of writing, the latest report for 2007-08 was completed by Willis in January 2009. 462 students responded, 77.2% of the cohort. In order to qualify as Professional Training placements must be a minimum of 46 weeks if paid, 30 weeks if unpaid. 89.6% of respondents qualified for Professional Training and 71.2% spent 12 months or more in their placement. Key results from this survey are reported below under two headings, those related to placement organisations, those related to university obligations, and those related to both. Table 1 includes data on the Placement Organisations and Table 2 relates to the University's contribution. The percentages relate to the two highest points on a 5 point scale, *above average* and *very satisfied*. The report also gives the number of placement students at department level and the number of placement applications were required.

Table 1. Ratings related to Placement Organisations

Questions on satisfaction with the organisation	above average (4)	very satisfied (5)	4 + 5 combined
Job satisfaction	37.0	41.8	78.8*
Supervision by the Organisation	38.1	36.3	74.4*
Feedback from organisation employees	40.9	40.9	81.8
Value of work experience to Professional Development	36.8	51.5	88.3*

Table 2. Ratings related to University Activities

Questions on satisfaction with the university contribution	above average (4)	very satisfied (5)	4 + 5 combined
Pre-placement briefing/preparation	43.3	17.7	61.0
Support on facilitating placements	40.7	23.6	64.3*
Value of Tutor visits	38.7	21.2	59.9*
Contactability of Department	40.3	23.6	63.9*
Contact with Students' Union	18.8	5.8	24.6*
Anticipated contribution of Professional Training to the students' Degree	41.8	34.8	76.6**

*increased since previous year ** decreased since previous year

The final line of each table is also broken down to the department level, as was a Yes/no question on the impact of Professional Training on employability, which gave a 92.4 % Yes and a 6.5% Unsure. 31.2 % were offered a job by their employers, while a further 12.8% had conditional offers. Those offered a job responded with 21% Yes, 16% No and 51% Maybe. Both of these job questions were also analysed at the department level.

SCEPTRe believed that the survey instrument used to gain feedback on the students' experience could be used to gain valuable information about their learning and I was invited to develop a questionnaire to get a better picture of both the processes and the outcomes of Professional Learning placements. I prepared a draft version, then gradually improved it with much useful advice from both faculty and students. With hindsight, I could improve it in many ways; but it still provides a great deal of useful information. The questionnaire was administered to students on placements in February 2009. This article presents the results of the questionnaire. The next stage will be first to discuss the findings with those involved with Professional Learning placements at Surrey, second to report these findings and any recommendations that are suggested to the University Committee for Professional Learning, then third to discuss the pros and cons of revising the questionnaire and using it annually. This will be further discussed at the end of this paper. This paper is designed to help discussion and, where agreed, improvement. It is not designed for internal or external accountability; and although it shows the range of departments, it does not identify them. Priorities differ greatly across departments, some departments have more involved employers than others and some students get a living wage, while others do not.

Development of the questionnaire

The questionnaire developed by the author is based on his ESRC project on Early Career Professional Learning. This project followed 90 professionals from accountancy, engineering and nursing for their first three years after leaving university. An important aspect of the research was the detailed qualitative study of novice professionals, using observation and interviews with both the subjects and significant others in their workplaces. It focused on three key questions:

1. What is being learned?
2. How is it being learned?
3. What factors effect the direction and quantity of their learning?

In order to adapt the knowledge gained through this research to the work placement environment I began by holding a series of interviews with members of faculty most involved in professional placements, and some students. This helped to articulate the critical features, strengths and concerns of several departments. The process of developing the questionnaire is outlined below:

Phase 1 involved analysing documents and interviewing faculty responsible for placements in 12 different subjects. This led to two reports, one based on these interviews described the variations in current practice and the other presented a review of relevant literature on work-based learning.

Phase 2 involved a competition for students returning from placements in September 2009 to write a two thousand word account of their placement experience under the title of *Learning to be a Professional*. There were 28 entries with a general focus on achievement and professional work. These included several excellent accounts of very positive placements and a few accounts of negative placements. 8 of these students agreed to be interviewed by the author, who clarified a few points, but mainly focused on the role of the people who helped or hindered them during the course of their placements.

Phase 3 involved the creation of an on-line questionnaire based on the issues identified in Phases 1 and 2. This went through several versions, as a result of comments from several people in SCEPTRe (including some students) and interested members of faculty.

Phase 4 was the completion of the questionnaire by 127 volunteer placement students (about 21% of all students on placement) in February and early March 2009, when most students were in their seventh month. The analysis of this data has distinguished between the four faculties and twelve groups of departments within those faculties. However, the particular commercial format chosen was not ideal for the purpose and was not easily convertible into SPSS. A better format has now been found.

Phase 5, the current stage of work, involves presenting and discussing the findings of the work with both students and staff at departmental level. The intention is to strengthen the current system of support through this research and the tools it offers, and to continue to learn from the experiences of those involved. Our purpose is to improve the quality of professional placements, not to make judgments of departments or groups of departments.

This report does not mention individual departments, but it does indicate the following range of responses at departmental level to every question in Tables 3, 4, 6, 10 and 11:

1. The number of departments 20% above the university mean
2. The number of departments 20% below the university mean
3. The highest and lowest scores for every question

The reasons for not providing departmental data are: (a) that the numbers at departmental level are very low, (b) that a few 'departments' are groups of departments, and (c) departments are not the only variables involved. The employers and the students themselves probably play a much greater role. The challenges are: 1) for departments is to find ways of increasing the quality of placement experiences through their relationships with employers, especially those employees who are significant others in each student's workplace, and through supporting their students 2) encouraging and enabling students themselves to be more proactive in seeking to bring about change in their work environment so that they gain more benefit from their experience.

Table 3 summarises the departmental groupings used in this study and Table 4 summarises the tables of data that present the findings of the questionnaire survey.

Table 3. Department groups used for analysing the questionnaire

Faculty of Arts and Human Sciences

Music, sound recording and dance
Politics, sociology and economics
Psychology

Faculty of Engineering and Physical Sciences)

Civil, chemical & environmental engineering
Computing Sciences
Electronic engineering
Mathematics & physics
Mechanical, medical and aero engineering

Faculty of Health and Medical Sciences

Biochemistry
Microbial & nutritional sciences

Faculty of Management and Law

Law
Management

Questionnaire results

Table 4 lists the tables that are used to describe the findings of the questionnaire. The list shows that four of the tables used a 4 point scale: 3, 6, 10 and 11. Table 4 used a 5 point scale and Tables 7-9 used a 7 point scale. Tables 3, 4 and 6 look at both the bottom and top ends of their scales in a similar way, with Table 3 combining two questions, one for the Frequency of the activities and the other for their Importance. Table 10 used four separate choices and Table 11 only used the top two points, because that was the main purpose of the questions presented. Tables 7-9 are best explained later.

Table 4. List of Tables presenting the findings of the questionnaire

- Table 3:** Frequency and perceived Importance of Work Activities (3+4 and 1)
Table 4: Student views of Placement Quality & Career Outcomes (5 and 1+2)
Table 5: Accommodation
Table 6: Support for Learning Tasks, Projects and Responsible Roles (4 and 1+2)
Tables 7-9: Roles of people selected by students as *most influential* and the nature of their Support (+2 and +3 on a 7 point scale)
Table 10: Personal initiatives demonstrating Agency (all 4 choices)
Table 11: Preparation and Support before and during placements (3+4 and 4)

Table 3. Student views on Frequency and Importance of Work Activities (3/4 and 1)

Black figures under F & I are <u>medium/high on a 4 point scale. The lowest point is none.</u>	University Mean in %			Number of departments 20% above the mean		Number of departments 20% below the mean		Highest and lowest department scores	
	F	125	I	F	I	F	I	F	I
Number of students									
Taking the initiative	86	2	95	X**	X	1	0	100-57	100-83
Development of relationships	81	2	94	0	X	2	1	90-50	100-67
Problem solving									
Evaluation: situations or opportunities	79	4	93	5	X	3	0	100-43	100-83
Evaluating projects, reports or proposals	58	16	89	3	X	2	2	75-14	100-63
Group work	66	15	88	2	X	1	2	83-43	100-50
Troubleshooting	62	14	82	4	1	2	1	87-43	100-63
Presentations/performances	70	10	81	3	3	1	1	100-29	100-50
	42	28	81	5	1	5	0	67-13	100-67
Information searches	76	8	71	1	2	2	2	100-33	100-50
Quality assurance	61	18	71	3	3	3	1	100-25	100-33
Management of people	27	39	71	4	2	8	4	70-00	100-33
Research aimed at a publication or report	53	33	65	5	3	4	2	91-17	91-25
More sophisticated technical work	57	23	64	5	6	4	3	100-23	100-32
Research to develop a product or design	42	38	54	4	6	5	3	82-14	87-17
Entrepreneurship	22	46	48	4	4	7	4	35-00	67-00
Financial work	19	53	46	2	5	6	3	50-00	83-09
Administration	55	7	48	3	3	4	4	80-17	90-17
Marketing	21	62	34	2	4	7	8	55-00	70-13

*Marks with a yellow or grey background refer to the percentage of None in Frequency ratings (Importance is not included)

** X is used when 20% above the mean goes beyond 100%

Table 3 compares the University means for each of 18 Frequency ratings and 18 Importance ratings. The only 2 activities with higher Frequency than Importance ratings were *Information Searches* (76 v 71) and *Administration* (55 v 48). The widest gaps in the first group were from *Evaluation of Situations* (58 v 89) and *Presentations/ performances* (42 v 81). However, the biggest difference of all concerned *Management of People* in the second group, where the overall means are (27 v 71) and 8 of the 12 departments are at least 20% below the mean. The lowest Frequency mean ratings are in Entrepreneurship, Marketing and Financial Work, which also have 6 or 7 departments 20% below their means. In the top half both *Problem-Solving* (8) and *Presentations/ Performances* (10) had a high number of departments either 20% above or 20% below their means; while in the bottom half all but the first two items had a majority of departments outside the 20% range. Sometimes these effects will simply reflect the students' subject, but some may be missing out on useful experiences. These issues can be discussed with the departments; but we still have to consider the students' own views of the importance of many activities. 12 of the 18 activities have a highest Importance score of 100.

Student views on Quality and Career Outcomes from their placements

Table 4 shows the University means for each of 10 Placement Quality ratings and 5 Career Outcome ratings. The University means for the **Very Good** quality ratings (5 on a 5-point scale) include six between 43% and 51% and four below 29% and 39%. The highest 2 headings were *Quality of relationships* (50%) and *Access to appropriate expertise* (51%); and the lowest 3 headings were *Induction to the job* (30%), *Allocation of appropriate work* (31%) and *Opportunities to be creative* (29%). In contrast, the three highest ratings for points 1 and 2 combined (The **low** columns in the tables below) are 10% (*access to appropriate expertise*), 13% (*challenging opportunities*) and 18% (*opportunities to be creative*).

Table 4. Student views on Quality and Career Outcomes from their placements

Questions using <i>Very good</i> on a <u>five point</u> scale and <i>Low</i> for points 1+2	University Mean in % 126 students		Number of departments 20% above the mean	Number of departments 20% below the mean	Highest and lowest scores
	Low	VG	VG	VG	VG
Physical environment	2	45	3	1	83-20
Access to tools and facilities	5	44	6	4	83-20
Quality of relationships	6	50	4	2	70-30
Access to appropriate expertise	10	51	6	2	100-29
Supervision	9	45	3	2	67-20
Induction to the job	9	30	4	5	83-10
Informal support	5	43	4	4	83-00
Challenging opportunities	13	39	6	4	67-17
Allocation of appropriate work	8	31	4	4	62-10
Opportunities to be creative	18	29	4	5	50-09
Awareness of your strengths and potential	3	24	6	5	50-00
Awareness of what you need to achieve in your final year	7	41	5	3	75-20
Quality of what you achieved in your placement	5	29	5	4	50-10
Awareness of kind of work you want to do in the future	9	29	3	4	50-14
Awareness of the work you do not want to do in the future	5	24	5	6	50-00

The University means for the **Very Good** ratings concerning Career Awareness were quite low. Four were between 24 % and 29% and the fifth (*awareness of what you need to achieve in your final year*) was 41%. However, none of these five headings was higher than 9%; so most responses were **OK** or **Fairly Good**.

The right hand column shows that five questions have ranges of at least 60%, five further questions have at least 50% and four have at least 40%. This wide range is shown in the number of departments scoring at least 20% above the university mean: four questions had 6 departments, three questions had 5 departments and five questions had 4 departments. Only the last question had 6 departments below the university mean, three questions had 5 departments and six questions had 4 departments.

Table 5. Accommodation

	Arts & Human Sciences		Engineering & Physical Sciences		Health & Medical Sciences		Management & Law		Total	
Usual university	5	12.5%	7	17.1%	1	5.9%	3	10.7%	16	12.7%
Home	19	47.5%	10	24.4%	2	11.8%	7	25%	38	30.2%
Digs	15	37.5%	24	58.5%	12	70.6%	17	60.7%	68	54.0%
Other	1	2.5%	0		2	11.8%	1	3.6%	4	3.2%
Total	40	100%	41	100%	17	100%	28	100%	126	100%

One lone question in our survey concerned students' accommodation during placements. This showed that 54% of our sample stayed in Digs during their placements, 30% stayed at Home, 13% in University accommodation and 3% had other accommodation. The three main types of accommodation were spread very widely across the groups. Thus, the University accommodated people from 9 of the 12 department groups, Home was used by 11 groups and all 12 groups had students living in Digs. Since this topic is not controversial, departments are discussed. The two Social Science groups accounted for almost a half of those living at home, almost certainly for financial reasons. The highest contributions to Digs were Biochemistry (83%), Music/Dance (80%), Computing Sciences (75%) and Law (71%).

Table 6 shows the University means for each of 17 questions: 7 concern Learning Tasks, 7 concern Project Work and 4 concern responsible Professional Roles. The University means for the top-quality rating (4 on a 4 point scale) are headed by *learning from consulting others* (66%), followed by using Projects to learn both *new skills* (54%) and *content* (54%). Seven ratings were in the 40s (three on tasks, four on projects) and six ratings were in the 30s (three on Tasks, one on Projects and three on Roles). The remaining two ratings concerned the professional roles of *evaluating outcomes* (26%) and *managing people* (15%). The means for the two lowest ratings (1 and 2 on the scale) were seven between 10 and 19, eight were in the 20s and three were higher still. The 'highest' five of these two lower options were: *how to handle uncertain situations* in projects (26%), *monitoring progress* (27%), *developing initiatives or projects* (32%), *evaluating outcomes* (35%) and *managing people* (65%). This last entry confirms the low score for opportunities to manage people in Table 3.

The bottom row shows that 26% of the students were 'quite a bit' disappointed with their support and 4% were 'very much disappointed'. These match their opinions on these 17 questions quite closely.

The righthand column shows that three questions (all in the projects section) had ranges of at least 80%, eight further questions (three tasks, two projects, three roles) had at least 60% and the remaining six had at least 40%. This wide range is shown in the number of departments scoring at least 20% above the university mean: the Tasks section had three 6s and one 5, the Projects section had two 6s and one 5, and the Roles section had one 5. Only one question (in the Role section) had 6 departments below the university mean, six questions had 5 departments (5 projects and one Role) and four questions had 4 departments (2 tasks, 1 project and 1 role).

Table 6. Support for Learning Tasks, Projects and Roles

Questions using 1+2 (<i>low</i>) and 4 (<i>top</i>) on a four-point scale 120 students	University mean in %		Number of departments 20% above the mean	Number of departments 20% below the mean	Highest and lowest scores
Tasks	Low	Top			
How much learnt from consulting others	10	66	3	3	91-46
Extent task choice allowed progress in taking responsibility	13	45	3	4	87-20
How much help did you have in learning assigned <u>tasks</u>	18	49	6	4	83-19
How much learnt from sharing tasks with others	23	40	6	2	83-15
Extent to which others listen to your comments and suggestions	18	31	4	3	67-14
Extent to which task choice allowed progression:					
in your range of assigned tasks	20	35	6	3	50-10
in task difficulty	23	36	5	2	62-17
Projects					
To what extent have you been challenged by project work?	24	43	4	5	100-20
How much responsibility have you been given in project work?	21	44	2	3	100-17
To what extent has participation in projects helped you to learn:					
more about its content?	12	54	5	4	100-17
new skills?	12	54	6	5	100-36
how to work with people on a focussed piece of work?	23	42	3	5	82-24
how to handle uncertain situations?	26	38	6	5	67-20
how to keep to deadlines?	19	46	4	5	78-17
Roles					
If you were given a responsible role, were you expected to:					
develop initiatives or projects?	32	35	4	4	67-17
monitor progress?	27	31	2	2	83-10
evaluate outcomes?	35	26	5	5	78-05
manage people?	65	15	2	6	67-00
How disappointed are you if you entered only <i>none</i> or <i>some</i> for Projects and Roles? (N=102)			Whole Sample	Range	
Not at all			70	100-41	
Quite a bit			26	53-00	
Very much			4	14-00	

Student views of the help they get from people they regard as the Most Influential

Tables 7-9 relate to the people whom our responding students found most influential in affecting their work. They were invited to choose up to 5 people, whose influence could be either *positive* or *negative*. Our 7 point scale from -3 to +3 people encouraged this, and it made sense to our respondents, but we should have realised how difficult it would be to analyse our results. There were two major problems:

1. Very few people used negative numbers, so offering this opportunity left some ambiguity.
2. Offering up to five choices meant that some of our respondents had more influence than others.

We think that nearly all the responses referred to positive support, but we cannot be sure; so we have limited our tables to the two highest ratings, (2+3) on the positive end of the scale. We also limited the number of influential people to a maximum of three per person by removing any fourth or fifth entries. Finally, we abandoned any attempt to present data at faculty or department level, because the smaller numbers would exacerbate these problems and could not be trusted.

Table 7 shows which of the types of people listed in the Left Column were chosen as the “most influential”. Table 8 shows the quality of the support given by each of the three most influential people cited by each student. This is based, as noted above, by noting the percentage of ratings (+2 and +3 combined) given by each type of influential person listed for each type of help.

Table 7. Roles of people selected by students as being ‘Most Influential’

<i>Most influential people</i>	Person N	Person P	Person R	Total
Your supervisor	61	12	4	77
Your manager	20	34	9	63
Another senior person	4	27	28	59
Recent graduate	5	9	14	28
Experienced worker at graduate level	3	7	8	18
Experienced worker not at graduate level	2	4	11	17
Another student on placement	4	5	6	15
Less experienced worker in support role	2	0	2	4

Table 8: Help from individual Influential Person’s N, P & R (positive or negative)

<i>The data used is the sum of the two highest percentages of a 7 point scale. The column heads show the number of responses given for each type of support</i>	N 85-95	P 77-89	R 63-72
Helped you to accomplish your tasks	75	45	44
Helped you to understand situations	82	33	47
Helped you with collaborative working	63	52	50
Helped you with joint problem-solving	53	52	51
Guiding/introducing you to people who could be helpful	67	48	46
Guiding you on how to handle people	43	51	33
Guiding you on accessing relevant information	60	51	46
Encouraging you to take initiatives	60	38	35
Gave you tasks that offered learning opportunities	66	42	43
Gave you, or included you in, challenging project work	56	39	41
Gave you challenging roles that required initiative	55	44	33
Helped you to choose your work	40	61	28
Helped you to prioritise your work	41	58	29
Gave you constructive feedback on some of your work	74	43	41
Gave you constructive feedback on your work in general	69	47	32
Gave you constructive feedback on your mistakes or work below par	52	57	27
Gave you constructive feedback on your strengths and weaknesses	47	63	27

In most cases the Person Ns were the most appreciated, but in the 5 underlined cases Person Ps were more appreciated. This matches the higher proportion of managers selected as person P. Person Rs came from a wider range of positions and secured 40-59% (the two middle columns in Table 9) on nine of the 17 modes of support. Although the percentages drop significantly from N to P and from P to R, a significant number of all three chosen persons appear to have covered a wide range of support roles.

Table 9. Number of entries in each column for each interval of 10%

	20-29	30-39	40-49	50-59	60-69	70-82
Person N	0	0	4	4	6	3
Person P	0	3	6	6	2	
Person R	4	4	7	2		

Student views on taking Personal Initiatives

Table 10 below was designed to investigate the nature and level of personal agency used by students on placements. Each question shows how possible forms of personal agency are used or not used by the responding students. The pattern we chose is unusual, because for each form of possible student Initiative, we offered four possible outcomes. Two involve no action (N), and two involve taking some action (A) by approaching another person for help. In either case, the outcome can be positive (POS) or negative (NEG). The first column, *No Need*, is regarded as doing nothing but still a *positive* outcome. Those students don't need to ask, because it is already happening. However, the second column, *Not Tried*, is regarded as a *negative* outcome, because it suggests that the students choosing this option would like to engage in the suggested intervention but are either shy or intimidated. If they do try, they may have a successful outcome - *Yes, success* - or an unsuccessful outcome - *Yes, but no success* - which suggests a reluctance to help the student.

We start our discussion with variations in the university means for the ten questions. Four questions come under the title "Exploring the situation", two came under "Seeking variety of experience" and four were under "Getting what you want". The same data can be found in the first column of each table, so the mean is always available for comparison. The presentation has been changed to accommodate both the four optional answers and the key information provided in Tables 4 and 6 by using two lines of figures for each entry. The first line gives the highest score, the university mean and the lowest score; and the second line gives the number of departments which are 20 % above or 20% below the mean.

Three of the ten questions had a more than 50% response of *Yes, success*:

- Have you asked anyone about the different kinds of work in your organisation? (76%)
- Have you overtly asked people for feedback on your work? (66%)
- Have you asked for new tasks in your current load? (65%)

The next four questions had means over 40%, two were over 30% and one was only 11%.

The least popular choice was *Yes, but no help given* where the mean percentages of were between 3% and 11%, the two highest (questions 1 and 5) being linked to *visiting or moving to other sections or departments*. The lowest score for all ten questions was Zero; and seven of them had more negative responses than positive responses. The numbers are too small to attempt any further analysis.

Question 5 also led to the highest *No Need* response of 52%. The next highest *No Need* was Question 7 with 34% wanting to *work with a different person or group*, while most others were between 20% and 30%. There are six questions with at least one Zero response; and questions 3, 4 & 6 clearly have several departments with very few *No Need* responses. The question *Have you overtly asked people for feedback on your work?* has the lowest mean of 3, and nine departments had zero responses for the *No Need* option. This demonstrates that feedback can only rarely be treated as sufficient.

The *Not Tried* option is of particular concern, because it suggests that a significant minority, 8 out of 10 questions with means between 20% and 33%, either lack personal initiative or feel that their concerns would not be treated seriously. These students could probably be better supported if their reluctance was known to those responsible for their progress. Two questions, *Have you asked for new tasks in your current load?* and *Have you asked to work with a different person or group?*, have 6 departments at least 20% above their means, three questions have 5 departments in that position, and three questions have 4 departments.

Table 10. Personal Initiatives demonstrating Agency

Line 1: University highest, mean, lowest (%) Line 2: Number of Depts. 20% above & below the mean 104 students	No need	Not tried	Yes, but no help given	Yes, success
Exploring the situation	High Mean Low	High Mean Low	High Mean Low	High Mean Low
Have you asked if you could visit other sections, sites or departments?	60 22 0 5 5	50 20 0 5 4	22 11 0 5 6	83 47 17 1 1
Have you asked anyone about the different kinds of work in your organisation?	40 14 0 7 5	33 8 0 4 7	11 3 0 3 9	100 76 44 2 3
Have you asked anyone to introduce you to someone you would like to meet	50 22 11 4 5	56 33 0 3 4	20 6 0 4 7	71 39 17 5 3
Have you overtly asked people for feedback on your work?	17 3 0 3 9	50 27 0 4 4	20 6 0 3 9	87 66 40 3 2
Seeking variety of experience	High Mean Low	High Mean Low	High Mean Low	High Mean Low
Have you asked to move to a different section or department?	86 52 20 5 4	50 27 0 5 4	22 11 0 5 4	40 11 0 4 4
Have you asked for new tasks in your current load?	40 12 0 3 4	40 15 0 6 5	23 9 0 4 7	83 65 40 3 3
Getting what you want	High Mean Low	High Mean Low	High Mean Low	High Mean Low
Have you asked to work with a different person or group?	80 34 11 3 4	56 24 0 6 6	22 9 0 6 6	60 33 11 4 5
Have you asked to work on a particular project?	40 21 0 3 3	56 26 0 4 6	33 9 0 6 6	71 44 17 5 3
Have you asked to be given more responsibility?	56 25 0 4 5	44 28 0 3 4	17 6 0 4 7	71 41 0 5 3
Have you persuaded others to back any of your initiatives?	44 24 14 4 2	50 25 0 5 6	40 9 0 5 6	67 42 11 4 3

Preparation and Support before and during your placement

Until now, the main tables have centred on the activities and environment in placement workplaces. However, Table 11 below is specifically concerned with the university's own contribution to placements. The issues addressed are those over which the university and its students have the most influence. The fourteen questions were divided into four groups:

- Opportunities to meet students who have just returned
- Choice of placements,
- Support at department, faculty or university level
- Support during your placement year so far.

This group of questions used a four point scale: None, Little, Quite good, Very good. In order to limit the size of this report, Table 11 is based on our students' responses to the top two options alone: first through the combined scores of options 3 & 4, and second through option 4 on its own. Data from the other options will be introduced when helpful.

My discussions with students and faculty before the questionnaire was even suggested often raised the question of opportunities to meet students who had recently returned from their placements; and it emerged that some departments organised this, while others did not. The questionnaire not only confirmed this but gathered information about the quality and usefulness of current practices. 20% of our respondents reported no opportunities to meet returning students, and 32% reported little help from this source. Although some departments had a lot of students working from home who found their own placements, it could still have been helpful to them to have met a few returning students in order to get their advice on what they should look for when choosing a placement.

Table 11. Preparation and Support before and during a work placement

Questions using <i>top half</i> of a four point scale (3+4) [** X is used when 20% above the mean goes beyond 100%]	University means in %: <u>103</u> students		Number of departments 20% above the mean		Number of departments 20% below the mean		Highest and lowest department scores	
	3+4	4	3+4	4	3+4	4	3+4	4
Opportunities to meet students who have just returned								
From placements in your own subject/ department	47	18	4	4	3	3	71-20	57-00
From organisations to which you might apply for a placement	40	12	4	5	3	5	75-20	33-00
From <u>particular parts</u> of those organisations	33	8	4	6	6	6	67-13	22-00
Choice of placements								
Understanding the advantages of placements for your future career	89	40	X**	4	1	3	100-71	71-14
Help in deciding what placements would best meet your needs	66	22	5	4	2	5	100-36	57-00
Help in finding a placement	68	40	4	5	3	4	100-21	83-14
Support at department, faculty or university level								
General briefings on placements	83	23	1	6	2	5	100-53	50-00
Seminars focused on the nature and quality of placement learning	68	15	1	2	1	5	88-53	50-00
The work of the careers' service	54	13	3	5	4	1	87-20	43-00
Advice from administrative staff	53	13	4	7	3	4	100-20	33-00
Support during your placement year so far								
Through visiting tutors	67	30	4	6	2	4	100-33	50-13
Through contacts with other staff	41	15	4	5	4	6	68-20	50-00
Through discussing your placement report(s)	42	14	3	6	4	4	84-00	33-00
Making good use of your placement experience in future job applications	60	35	5	4	3	5	100-20	75-00

The most positive scores for (3+4) in the other three rows of data were 89% for *Understanding the advantages of placements for your future career* and 83% for *General briefings on placements*. Five responses had (3+4) percentages in the 60s, two in the 50s and 4 in the 40s. One department had four 100% ratings, and another very different department had two 100% ratings.

Finally, we compare the number of activities with average ratings 20% above or below the university mean. Two department groups with very high profiles at level 4 had 10 ratings 20% above the university mean, and a third had 13 ratings 20% above the mean. All three were in different faculties. This was mirrored by three departments with high ratings below the mean, two with 10 ratings and one with 13 ratings below the mean. This time only two faculties were involved. When we examine Table 11 more generally, we get a very large range of departmental ratings, which suggests that the university has both good expertise and opportunities to improve the quality of placements over time.

Improving the survey instrument and design

There are a number of ways in which the survey instrument can be improved.

Firstly, the questionnaire results must be easily convertible into a form that can be processed using SPSS. This would save a great deal of time. A suitable replacement has now been found.

Relevant members of both faculty and students should be invited to suggest changes that they think would be helpful, both in the questionnaire itself and in the analysis and reporting of the data.

The purpose of the data should be to generate formative discussions about support for placements, which will help members of faculty, students and placement providers improve the quality of the support provided. This key purpose could be jeopardised if the survey was used for summative (accountability) rather than formative (developmental) purposes.

Familiarity with this data should also be helpful when university supervisors visit placements.

At a more detailed level, I recommend that all tables use a four point scale, that the negative option in Table 8 be removed and a few questions that seem to be of little help are deleted, e.g. question 3 in Table 11.

Acknowledgement

This work was undertaken while I was a Research Fellow at the Surrey Centre for Excellence in Professional Training and Education at the University of Surrey.

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Improving the Quality of Work Placements

Michael Eraut

Synopsis

This study was motivated by two questions: 1) How can we make use of the knowledge of how professionals learn through work to improve students' preparedness for learning in work placements? and 2) How can we identify ways in which the quality of a work placement might be improved? The study shows how students' understanding of learning and development in the workplace could be enhanced by incorporating into guidance for learning in the workplace, four conceptual tools developed from knowledge of how professional's learn and develop themselves through their work. It also demonstrates the value of a structured and conceptually-based survey instrument in helping students evaluate their own workplace situation. Patterns of responses to a survey of placement students using this questionnaire, reveal different practices and perceptions of support at departmental level, some appear to be more effective than others. Facilitated discussions within the university could help identify the most effective practices that could then provide the benchmarks for quality improvement.

Introduction

The work described in this chapter was commissioned by the Surrey Centre for Excellence in Professional Training and Education (SCEPTRE) at the University of Surrey. Its purpose was to identify ways in which the quality of the student placement programme and student experiences while they are on work placement might be improved. The University of Surrey has a long tradition of offering students in all disciplines, the opportunity to participate in a year-long work placement, linked to the outcomes for their programme, in their third year of study (Willis 2010).

The project was undertaken in three stages. Phase 1 involved analysing documents and interviewing faculty responsible for placements in 12 different subjects. This led to two reports, one based on these interviews described the variations in current practice and the other presented a review of relevant literature on work-based learning.

Phase 2 involved a competition for students returning from placements in September 2009 to write a two thousand word account of their placement experience under the title of Learning to be a Professional. There were 28 entries with a general focus on achievement and professional work. These included several excellent accounts of very positive placements and a few accounts of negative placements. 8 of these students agreed to be interviewed by the author, who clarified a few points, but mainly focused on the role of the people who helped or hindered them during the course of their placements.

Phase 3 was an on-line questionnaire to students on their work placement, based on the issues identified in Phases 1 and 2. This was completed by 127 students (21%) in February and early March 2009, when most students were in their seventh month. The analysis of this data has distinguished between the four faculties, but not any further.

The intention of this research is to identify ways in which the current systems of support might be strengthened through the development of practical tools to aid tutor and student self-evaluation. Some of the approaches used at Surrey to improve the quality of work placements and students experiences while they are on placement are outlined below.

- Pre-placement activities in the university
- Post-placement activities in the university - e.g. new procedures for inducting students back into the university
- Student to student sharing of issues, experiences and helpful contacts at work (especially when one student follows another in the same employment setting)

- Documents for students, university supervisors and employer supervisors
- Training university supervisors
- Direct engagement with employers
- Regular discussions of issues and challenges within a collegial forum - University Professional
- Training and Careers Committee (PTCC) and the oversight of this forum for work placements within any new programme that is being established or and existing programme being reviewed
- Annual questionnaire survey gaining feedback on the quality of placement experiences and
- institutional support
- Sponsorship of staff, through SCEPTRE Fellowships to research into existing practices and develop new practices
- Research into aspects of the student experience e.g. transition from university to work survey, and the meaning of personal professionalism
- Development of new websites to support students while they are on placement.

Conceptualising learning and development in the workplace and implications

The conceptual framework for this project is based on four conceptual tools from the author's recent longitudinal study (1st three years) of the Early Career Learning at Work of accountants, engineers and nurses (Eraut 2007, Eraut et al 2005ab, Eraut & Hirsh 2007). These are:

- An epistemology of practice (Table 1, page 3)
- A typology of modes of learning (Table 2, page 6)
- A typology of learning trajectories (Table 3, page 10) what is being learned over a period of time
- A two-triangle model of learning factors, context factors and their mutual interaction (Figure 1, page 11 and Figure 2, page 12).

These tools are intended to help students on placements to understand their work environments, to reflect on their experiences, to consider their learning goals, to ascertain learning opportunities, to develop possible ways of accessing these opportunities directly or through helpful intermediaries, and to handle negative experiences.

The first conceptual tool is an *epistemology of practice*, which has been developing since Eraut (1994), began with a search for a tool that would address the nature of practitioners' thinking in different practice contexts and with different levels of experience. I recognised that this would vary with what they were doing at the time and with whom. Eventually I settled for separating four distinct modes of practice:

1. Assessing clients and/or situations (sometimes briefly, sometimes involving a long process of investigation) and continuing to monitor their condition;
2. Deciding what, if any, action to take, both immediately and over a longer period (either on one's own or as a leader or member of a team);
3. Pursuing an agreed course of action, modifying, consulting and reassessing as and when necessary;
4. Metacognitive monitoring of oneself, people needing attention and the general progress of the case, problem, project or situation; and sometimes also learning through reflection on experience.

These activities can take many different forms according to the speed and context and the types of technical and personal expertise being deployed. Although analytically distinct, they may be combined into an integrated performance that does not follow a simple sequence of assessment, decision and then action.

For example, as suggested by research into naturalistic decision making (Klein et al 1993), there may be several assessments, decisions and actions within a single period of performance. The chosen pathway may depend not only on the conditions and constraints on the performers, but also on what they have already learned to do, with or without stopping to think.

The tool itself assumes that *time* is the variable that most affects *mode of cognition* and divides the time- continuum into three sections, Instant, Rapid and Deliberative. These terms attempt to describe how the time-scale is perceived by the performer, and should be interpreted differently according to the orientations of performers and the nature of their work. For example, in one context *rapid* might refer to any period less than a minute, while in another context it might include periods of up to ten minutes or even half an hour. The critical feature is that the performer has limited time to think or consult in a deliberative or analytic mode.

Table 1: Interactions between time, mode of cognition and type of process

Type of Process	Mode of Cognition		
	Instant/Reflex	Rapid/Intuitive	Deliberative/Analytic
Reading of the situation	Pattern recognition	Rapid interpretation Communication on the spot	Prolonged diagnosis Review involving discussions and/or analysis
Decision-making	Instant response	Recognition- primed or intuitive responses	Deliberative analysis and/or discussion with others
Overt activity	Routinised action	Routines punctuated by rapid decisions	Planned actions with periodic progress reviews
Metacognitive	Situational awareness	Implicit monitoring Short, reactive Reflections	Conscious monitoring of thought and activity. Reflective learning. Group evaluation

The *instant/reflex* column describes routinised behaviour that, at most, is semi-conscious. The *rapid/intuitive* column indicates greater awareness of what one is doing, and is often characterised by rapid decision- making within a period of continuous, semi-routinised action. Typically it involves recognition of situations by comparison with similar situations previously encountered; then responding to them with already learned procedures (Klein 1989, Eraut et al 1995). The time available affects the degree of mismatch that is tolerated, because rejection of action based on precedent leads to deliberative, problem-solving and hence to a more time-consuming approach. The *deliberative / analytic* column is characterised by explicit thinking by individuals or groups, possibly accompanied by consultation with others. It involves the conscious use of prior knowledge and its application to new situations, sometimes in accustomed ways, sometimes in novel ways or in a more critical manner.

The key to understanding the relationship between time and mode of cognition is that of which is given priority. The intuitive routines developed by experience enable people to do things more quickly and thus save time; but shortage of time may force people to prematurely adopt a more intuitive approach, and thus reduce quality or even make serious mistakes. Crowded contexts also force people to be more selective with their attention and to process their incoming information more rapidly than they would like. Even when a group has some time for discussion, individual members may feel that their contributions have to be short and rapid. Hence meta-processes are limited to implicit monitoring and short, reactive reflections. But as more time becomes available, the role of meta-processes becomes more complex, expanding beyond self- awareness and monitoring to include the framing of problems, thinking about the deliberative process itself and how it is being handled, searching for relevant knowledge, introducing value considerations, etc.

When there is no emergency, experienced people typically prefer to do many things quickly and smoothly, provided they are confident in their own proficiency. However, there are also situations where speed beyond what even proficient workers consider to be appropriate is forced by genuine urgency in a *crisis* situation or by ongoing pressure for greater *productivity*. The greatest benefit of routinisation is that it reduces workers' *cognitive loads*, and thus enables them to give more attention to monitoring the situation or communicating

with clients and colleagues, hence becoming both more productive and more effective. Not everyone, however, takes the opportunity to bring a more evaluative perspective on their practice; and in many cases it is difficult to sufficiently disentangle routines from the practice in which they are embedded, either to try to describe them or to evaluate them. Indeed, both description and evaluation threaten to diminish the utility of routines, which depend on putting your trust in them and not having to think about them.

The corresponding disadvantage is *inflexibility*. Routines are very difficult to change, not only because this would imply a negative evaluation of the previous practice but also because such change involves a period of *disorientation*, while old routines are gradually unlearned and new routines are gradually developed.

During this period practitioners feel like novices without having the excuses or discounts on performance normally accorded to novices. The pain of change lies in the loss of control over one's own practice, when one's tacit knowledge ceases to provide the necessary support and the emotional turmoil is reducing one's motivation. Although newcomers may not have to change the practices they are just beginning to learn, they are likely to encounter others in the process of change; and they may need to become more aware of the problems it creates and why some practitioners fight against it.

Situational understanding is a critical aspect of professional work, and probably the most difficult. Our natural tendency when something goes wrong is to blame either our decision-making or our consequent actions; because situational understanding tends to be taken for granted by all but newcomers. While newcomers may be well aware of their lack of situational understanding, they may not get much helpful feedback on it. This is because most people get so familiar with many situations that they cannot imagine anyone else "not being aware of the obvious". Thus newcomers' ignorance of the local culture may not be understood; and there may not be much information to help them learn about the situations and contexts that are so familiar to those around them. Most students on placement need a lot of advice on how best to understand the groups and contexts they encounter; and greater awareness of Table 1 and its implications for daily work activities and interactions could be an important aspect of their preparations for their placements; because the tacit dimension of situational understanding is critical.

One of the most important features of any workplace or community context is the people with whom one interacts - colleagues, friends, customers, clients, acquaintances. However, much knowledge of other people is tacit: although one might gossip about them, one does not often have to put knowledge of people into words unless it is a specific part of one's job, and one might then find it difficult to do so. Getting to know other people typically involves the absorption of a great deal of incidental information, acquired by being a participant observer on occasions when both were present. Much of this information will take the form of impressions of their character and behaviour and/or memories of episodes in which they participated.

Secondary data may include short comments or even stories about a person. While stories would normally be regarded as an explicit form of communication, they may also carry implicit cultural and personal knowledge. Typically you learn more about the people you meet than you are able to explain, and some of that knowledge may be so provisional that you are reluctant to make it explicit. Yet you still take that knowledge into account when you interact with that person, because you are unlikely to stop and think, unless there is something problematic about the occasion.

People are predisposed to interpret other people's actions in particular ways, creating preconceptions at early encounters which determine their own behaviour; and thus affect how others respond to them in ways which will often tend to confirm those preconceptions. Moreover, other people may have preconceptions about you, which may lead you to develop misconceptions about them. It is quite common for people to draw premature conclusions about each other, based on their early interactions. This often leads to unnecessary misunderstandings and the reinforcement of each other's prejudices; so it is important to find ways of opening discussions that create some space for other perspectives to develop. While tacit knowledge of other people will continue to play an important part in our lives, because it is available for almost instant use whenever we need it, it will rarely be as valid and unbiased as we like to assume.

Engagement with other people is very important in this context; but some people may not understand newcomers' questions because they cannot imagine not knowing the answers.

Given these uncertainties, it is useful for newcomers to have research skills in areas like interviewing; because it enables them to frame more effective questions at both cognitive and emotional levels. However, it would normally be inappropriate to sound like an interviewer, so you have to slip questions into ongoing conversations. The skill comes through preparing the ground so that your questions seem natural, asking the right kinds of question, i.e. those that open up a conversation from which you learn useful things, and expressing your interest in a manner that helps to extend the conversation.

The *second conceptual tool* is a *typology of learning processes*, whose purpose is to make users aware of the wide range of learning modes used in workplaces. This is important because most workplace learning is not recognised as learning, which in most students' minds is still linked to classrooms. The categories were derived from learning events elicited by indirect methods, primarily changes in the work capability of participants between visits. These were then sorted by two principles. First, did they describe the event as a working process or a learning process (Eraut et al 2005a; Eraut 2007)? Processes in the left column of Table 2 below were judged to be *working processes with learning as a by-product*, while those in the right column are clearly recognizable as *learning processes*.

Work processes with learning as a by-product accounted for a high proportion of the learning events of participants. Their success depended both on the available opportunities and on the quality of relationships in the workplace. Hence the amount of learning reported varied significantly with person and context. One reason for this is that the majority of this learning through working involved other people. The first four entries in the left column (in italics) *required* the presence of other people; and the second four *often involved* other people. The main reason for this is that on-the-spot communication is simpler, shorter and more natural.

Table 2. Typology of early career learning

Work Processes with learning as a by-product	Learning Activities located within work or learning processes	Learning Processes at or near the workplace
<i>Working alongside others</i>	Asking questions	Being supervised
<i>Working with clients</i>	Getting information	Being coached
<i>Participation in groups</i>	Locating resource people	Being mentored
<i>Consultation</i>	Listening and observing	Shadowing
<i>Tackling challenging tasks and roles</i>	Reflecting	Visiting other sites
<i>Problem solving</i>	Learning from mistakes	Conferences
<i>Trying things out</i>	Giving and receiving feedback	Short courses
<i>Consolidating, extending and refining skills</i>	Use of mediating artefacts	Working for a qualification
		Independent study

Working alongside others allows people to observe and listen to others at work and to participate in activities; and hence to learn some new practices and new perspectives, to become aware of different kinds of knowledge and expertise, and to gain some sense of other people's tacit knowledge. This mode of learning, which includes a lot of observation as well as discussion, is extremely important for learning the tacit knowledge that underpins routines and intuitive decisions and is difficult to explain. When people see what is being said and done, explanations can be much shorter and the fine detail of incidents is still in people's minds. Clues to situational recognition may not be remembered, unless they are picked up on-the-spot by questions or comments. Moreover, multi-sensory engagement over some time enables the gradual development of tacit as well as explicit situational.

Working with clients also entails learning (1) about the client, (2) from any novel aspects of each client's problem or request and (3) from any new ideas that arise from the encounter. Some workers have daily experiences of working with clients, which may or may not be recognized as learning opportunities. Some progress from less to more important clients, or from those with simple needs to those with more complex needs. There can also be a strong *emotional dimension*, when a client arrives in a distressed state or is about to receive bad news. This is a context where sharing experiences can be helpful. Another factor is the extent to which client contact gives the work meaning and value, and thus enhances workers' sense of collective purpose.

Consultation within or outside the working group or even outside the organisation, is used to co-ordinate activities or to get advice. The act of initiating a consultation, however, depends on the relationships between the parties, the extent of a worker's network and the culture of the workplace. For newcomers the distinction between a consultation and being mentored or supervised is not always clear, as part of a mentor's or supervisor's role is making oneself available for consultation. *Mentoring* is often limited by lack of informal opportunities to develop an appropriate relationship. In many situations mentoring is provided by helpful others, who are not designated mentors, and this is often better for mutual on-the-spot support and feedback.

Tackling challenging tasks and roles requires on-the-job learning and, if successful, leads to increased motivation and confidence. However, people are less inclined to take on challenges unless they feel confident both in their ability to succeed as a result of previous experience and in the support of their manager and/or colleagues. Without such previous experience and support, challenges pose too high a risk. *Problem solving, individually or in groups*, necessarily entails learning; otherwise there would be no problem. Such problems are not just technical, they may require new knowledge, searching for informants, imagination, persistence and interpersonal negotiation.

Trying things out is distinguished from less purposeful behaviour by the intention to learn from the experience. It requires some prior assessment of risk, especially where other people might be affected, and may require special arrangements for getting feedback, as well as time for subsequent reflection and evaluation. *Consolidating, extending and refining skills* are sometimes supported by episodes of supervision, coaching or feedback. This is greatly helped by informal personal support and some sense of an onward learning trajectory (see Table 3 on page 10).

Implications for students on placement

The key issues for students on placement are (1) getting access to workplace learning opportunities, (2) making good use of their mentors and, where necessary, (3) finding informal mentors prepared to offer help or suggest someone else who might be helpful. This usually means engaging proactively in activities placed in the central column of Table 2. *Asking questions and getting information* are important, proactive activities; but many novices feel diffident about asking questions of senior colleagues unless they are working together and the question is spontaneous. They feel that asking a "silly" question would reflect badly on their reputation and are afraid of being prematurely labelled as ineffective. This constraint, however, does not apply to talking to peers or novices a year or less ahead of them who still remember what it was like at their stage; and this should be considered when allocating and supporting newcomers.

Locating resource people also requires confidence and social understanding. Some students are very proactive in seeking out and developing relationships with a wider network of knowledge resource people, while others give it little attention, often because they did not appreciate its potential value. Resource people may be gatekeepers and/or guides to who knows what and who is prepared to support newcomers. Progression routes to more ambitious tasks may depend on whom you get to know; and willingness to engage in routine work may earn you the right to get access to more challenging work.

Listening and observing activities are very dependent on what the observer/listener is able to grasp and comprehend; and comprehension depends on awareness of the significance of what has been said and/or done. Such awareness and understanding is developed through discussion and *reflection*. Much is learned through watching other people

communicating with colleagues, clients or subordinates. However, it should be noted that our previous research found as much learning from bad examples as from good! Sometimes the best role models are among the support staff. Reflection also plays an important role in *learning from mistakes*, both one's own mistakes and those of others.

Giving and receiving feedback are both important, often vital, for most learning processes. The easiest, most natural feedback is given *on-the-spot* or soon after the event by a co-participant or witness. *Informal conversations away from the job* often convey indirect and/or unintended messages as well as intended advice, and second hand messages often misinterpret what was said. *Formal roles such as mentor or supervisor* involve some responsibility for a learner's short to medium term progress and an obligation to provide formative feedback on a regular basis; but this may not happen in practice. Most people at work get too little feedback; so being proactive can be very important. In the early stages it is best for newcomers to try and get some feedback from people just ahead of them. Later, they can get a lot of feedback by asking about their performance in particular situations; and it is more useful to them and easier for those asked if they seek advice on how they could improve rather than how good it was.

Table 3. Typology of learning trajectories

<p>Task Performance Speed and fluency Complexity of tasks and problems Range of skills required Communication with a wide range of people Collaborative work</p> <p>Awareness and Understanding Other people: colleagues, customers, managers, etc. Contexts and situations One's own organization Problems and risks Priorities and strategic issues Value issues</p> <p>Personal Development Self evaluation Self management Handling emotions Building and sustaining relationships Disposition to attend to other perspectives Disposition to consult and work with others Disposition to learn and improve one's practice Accessing relevant knowledge and expertise Ability to learn from experience</p> <p>Teamwork Collaborative work Facilitating social relations Joint planning and problem solving Ability to engage in and promote mutual learning</p>	<p>Role Performance Prioritisation Range of responsibility Supporting <u>other</u> people's learning Leadership Accountability Supervisory role Delegation Handling ethical issues Coping with unexpected problems Crisis management Keeping <u>up-to-date</u></p> <p>Academic Knowledge and Skills Use of evidence and argument Accessing formal knowledge Research-based practice Theoretical thinking Knowing what you might need to know Using knowledge resources (human, paper-based, electronic) Learning how to use relevant theory (in a range of practical situations)</p> <p>Decision Making and Problem Solving When to seek expert help Dealing with complexity Group decision making Problem analysis Formulating and evaluating options Managing the process within an appropriate timescale Decision making under pressure</p> <p>Judgement Quality of performance, output and outcomes Priorities Value issues Levels of risk</p>
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Placement learning is most likely to occur from appropriately challenging work, because this develops confidence and proactive behaviour. However, confidence is relational as well as personal. People avoid challenges if difficulties are treated by critical bystanders as failures rather than opportunities to learn from mistakes. Thus the allocation of work and the contexts in which it is situated are crucial to an effective placement, because it encompasses the need for both challenging work and relationships which support the challenges and provide appropriate feedback. This has to be complemented by the personal agency of the learners in finding out what skills and situational understandings they might need and how best they might access them.

The *third conceptual tool* was designed to focus on *what was being learned* at work. Table 3 below comprises 8 main headings and 53 sub-headings. All of them are sufficiently general and understandable to be used in a wide range of professional contexts; and they provide a very rich range of possible outcomes from placements, many of which only rarely get included in feedback or appraisal. We describe these headings as learning trajectories, because this is central to the concept of lifelong learning. This:

- Rejects the simplistic Yes/no pattern demanded by the competency approach to assessment
- Allows for long periods of improvement in tackling complex problems and contexts
- Expects declines in areas where a person is no longer working regularly
- Seeks to expand the range and quality of a practice over time, as well as develop new practices
- Enables holistic assessments of performances that combine several different trajectories

We encourage evidence for a person's capability to be based mainly on witnessed accounts of holistic performances, most of which usually cover more than one trajectory. Often the combining of different headings is a much greater challenge than working within a single trajectory. Hence the rationale for having learning trajectories is:

- To be sure to include all the relevant headings involved in each cited performance
- To ensure that the combination of trajectories is given sufficient attention
- To still be able to improve quality through addressing those trajectories which appear to be weaker in the particular contexts under discussion

The *fourth conceptual tool* concerns the factors that influence learning in the workplace. One prominent finding of our earlier research on mid-career learning was the overwhelming importance of *confidence*.

Much learning at work occurs through doing things and being proactive in seeking learning opportunities; and this requires confidence. Moreover, we noted that confidence arose from successfully meeting *challenges* in one's work, while the confidence to take on such challenges depended on the extent to which learners felt *supported* in that endeavour by colleagues, either while doing the job or as back up when working independently. Thus there is a triangular relationship between challenge, support and confidence (Eraut et al. 2000). The contextual significance of the word "confidence", which was used by our respondents without further elaboration, depended on which aspects of this triangular relationship were most significant for particular people at particular points in their careers. The dominant meaning for most mid-career respondents usually came close to Bandura's (1995) concept of *self-efficacy*, a context-specific concept, relating to ability to execute a particular task or successfully perform a role. For some mid-career respondents, however, confidence related more to *relationships* than to the work itself. Did they feel confident about the *support* and *trust* of their working colleagues, in more senior, more junior or parallel jobs? This depended on whether they perceived their more significant working relationships as mutually supportive, generally critical, faction-ridden or even overtly hostile. For early career professionals, this latter aspect of confidence was more prominent.

Figure 1 below shows how our early career project, where observations over a three year period added greatly to our understanding of contexts, was able to expand this triangular relationship to include new features. We added *feedback* and *trust* to support and the *value of the work* to the challenge, because both had a major influence on *motivation* and *commitment*. Feedback was especially important during the first few months of a new job, when it was often best provided by the person on the spot. This happened within the *distributed apprenticeship* approach we found in accountancy, and in other organizations where local workplaces had developed a positive learning culture of mutual

support. In the longer term, more normative feedback on progress and meeting organizational expectations also became important.

Equally important for developing confidence after the first few months was the right level of *challenge*. Newly qualified nurses were over-challenged physically, mentally and emotionally by their sudden *increase in responsibility* and the unceasing *pressure of work* in most ward environments. While some engineers progressed through a series of challenging assignments with remarkable rapidity, most of them were under-challenged and many of them were seriously under-challenged. The value of their work carried many nurses through their unnecessarily pressured start, and this was strengthened in some contexts by their *social inclusion* in supportive teams. We also noted the importance of *personal agency* in sustaining their motivation after their early period of settling into their new environment, and that this was not necessarily always aligned with their employer’s priorities. Personal agency is particularly significant in placements, when many employers have no long term stake in students’ learning and are therefore more likely to leave such matters to local managers.

Figure 1. Learning factors affecting learning at work



The role of *extrinsic motivation* is frequently discussed in the workplace, and there is no need for us to discuss it here. However, Thomas’ (2000) framework provides a useful basis for exploring intrinsic motivation, which is less well understood. Under *opportunities* he puts *sense of choice* over work activities and *sense of the meaningfulness* of their purpose; and under *accomplishment* he puts *sense of competence* in their work activities and a *sense of progress* in their purpose. This gives four kinds of intrinsic motivation, which were all prominent in the research reported above.

The inclusion of observation in this study enabled us to give more attention to the allocation and structuring of people’s work, their relationships at work and their level of participation in workplace activities; and this led us to the extension of our model to include a second triangle. This mirrors the first triangle, but focuses on the contextual factors that influence its learning factors.

Figure 2. Contextual factors affecting learning at work



The allocation and structuring of work was central to our participants' progress, because it affected (1) the difficulty or challenge of the work, (2) the extent to which it was individual or collaborative, and (3) the opportunities for meeting, observing and working alongside people who had more or different expertise, and for forming *relationships of mutual trust* that might provide *feedback and support*. Our analysis of modes of learning in the workplace confirmed the importance of relationships by showing how many of the prominent modes of learning on the left side of Table 2 were dependent on good relationships with other people. These were not necessarily very close relationships but they required some mutual respect and a disposition to collaborate.

For novice professionals to make good progress a significant proportion of their work needed to be sufficiently new to challenge them without being so daunting as to reduce their confidence. Their workload needed to be at a level that allowed them to respond to new challenges reflectively, rather than develop coping mechanisms that might later prove ineffective. This usually worked well in our two accountancy organisations; but in engineering the appropriateness of the allocated work differed hugely according to the company and the specialty. Very few graduate engineers in electronics or computer science had sufficiently challenging work and nobody appeared to take any responsibility for addressing this problem. In nursing the quality of learning was mainly influenced by the ward manager and her senior nurses, and some of the best and worst learning environments we observed were in the same departments of the same hospitals. Eraut et al (2005b) provides a more substantial account of these factors and their interactions.

Research into student work placements at the University of Surrey

The University of Surrey has been monitoring its placements for several years, and its latest report for 2007- 08 was completed by Willis in January 2009. 462 responded, 77.2% of the cohort. In order to qualify as Professional Training placements must be a minimum of 46 weeks if paid, 30 weeks if unpaid. 89.6% of respondents qualified for Professional Training and 71.2% spent 12 months or more in their placement. Key results from this survey are reported below under two headings, those related to placement organisations, those related to university obligations, and those related to both. Table 4 includes data on the Placement Organisations and Table 5 relates to the University's contribution. The percentages relate to the two highest points on a 5 point scale, *above average* and *very satisfied*. The report also gives the number of placement students at department level and the number of placement applications were required.

Table 4. Ratings related to Placement Organisations

Questions on satisfaction with the organisation	Above average (4)	Very satisfied (5)	4 + 5 combined
Job satisfaction	37.0	41.8	78.8*
Supervision by the Organisation	38.1	36.3	74.4*
Feedback from organization employees	40.9	40.9	81.8
Value of work experience to Professional Development	36.8	51.5	88.3*

Table 5. Ratings related to University activities

Questions on satisfaction with the university contribution	Above average (4)	Very satisfied (5)	4 + 5 combined
Pre-placement briefing/preparation	43.3	17.7	61.0
Support on facilitating placements	40.7	23.6	64.3*
Value of Tutor visits	38.7	21.2	59.9*
Contactability of Department	40.3	23.6	63.9*
Contact with Students' Union	18.8	5.8	24.6*
Anticipated contribution of Professional Training to the students' Degree	41.8	34.8	76.6x

*increased since previous year x decreased since previous year

The final line of each table is also broken down to the department level, as was a Yes/no question on the impact of Professional Training on employability, which gave a 92.4 % Yes and a 6.5% Unsure. 31.2 % were offered a job by their employers, while a further 12.8% had conditional offers. Those offered a job responded with 21% Yes, 16% No and 51% Maybe. Both of these job questions were also analysed at the department level.

The purpose of the *e-questionnaire* sent out by the author in February 2009 was to expand this data to a wider range of questions based on the conceptual framework described above. Given the short time available, only the first fairly simple analysis was ready for use in this paper. This was confined to compiling the answers to 8 sets of questions:

The Importance and Frequency of Work Activities (3+4 on a 4 point scale) Student views of Placement Quality (4+5 and 5 alone on a 5 point scale) Student views of Career Outcomes (4+5 and 5 alone on a 5 point scale) Support for Learning Tasks (3+4 and 4 alone on a 5 point scale) Support for Project Work and Responsible Roles (3+4 and 4 alone on a 5 point scale) Support from Influential Individuals (+2 and +3 on a 7 point scale) Personal initiatives, e.g. Agency (4 choices) Preparation for (and visits to) Placements (4 point scale)

Most tables include percentage responses for both the whole sample and the four Surrey faculties:

- Faculty of Arts and Human Sciences (AHS, N=41)
- Faculty of Engineering and Physical Sciences (EPS, N=41)
- Faculty of Health and Medical Sciences (HMS, N=17)
- Faculty of Management and Law (ML, N=28)

In order to draw attention to key differences, we have only presented faculty breakdowns, when the faculty figures are the lowest or highest of the four, and when they differ from the overall mean by at least 20%. The only exceptions are for 100% responses.

Table 4 compares 18 Importance ratings with their parallel Frequency ratings. In all but 2 cases Importance ratings are higher than Frequency ratings. This applies throughout the first group, but the gap is particularly wide for Evaluation (90 v 48) and presentations/performances (81 v 41). However, the biggest difference of all concerns Management of People in the second group, where the overall means (71 v 27) are surpassed by its main constituents in the Faculty of Management and Law where 85 for Importance drops to 15 for Frequency. This was exacerbated by their limited participation in Entrepreneurship, Financial Work & Marketing.

The only 2 cases with higher Frequency ratings were Information Searches (72 v 76) and Administration (45 v 55). Wide inter-faculty differences in the first group were in Problem-solving, Groupwork and Presentations, with Health & Medical Sciences being strongest in all three. Whereas in the second group the wide distributions were in found in Quality Assurance and Research aimed at a Publication or Report (both strong in Health & Medical Sciences), and in More Sophisticated Technical Work and Research to develop a Product or Design (both strong in Engineering & Physical sciences).

My conceptual introduction gave evidence for the importance of the five shaded items in Table 7a. This suggests that a significant minority of students (20-30%) lack important types of support. There are only two faculty differences in the first column, with Management & Law being particularly low in informal support and allocation of work. This is reflected in half the items in the second column, where the Medical & Health Sciences have a distinct advantage. The first and third rows of Table 7b confirm that perhaps a quarter of the students get insufficient support for learning. The implications of students now knowing what they don't want to do will also be followed up.

Table 6. Importance and frequency of work activities (2/4)

	Importance (N=121)	Frequency (N=122-3)
Work activities	Medium & high (3+4)	Medium & high (3+4)
Taking the initiative	96	86
Development of relationships	95 100HM	80
Problem solving	91 100HM	63ML 79 94HM
Evaluation: situations or opportunities	90 100AH	58
Evaluating projects, reports or proposals	88 100ML	44AH 65
Group work	83	39AH 62 76HM
Troubleshooting	82	69 83EP
Presentations and/or performances	81	24AH 41 59HM
Information searches	72 88HM	76
Quality assurance	71	47AH 60 76HM
Management of people	53HM 71 85ML	15ML 27
Research aimed at a publication or report	64 82HM	39AH 51 65HM
More sophisticated technical work	42ML 62 90EP	34AH 55 93EP
Research to develop a product or design	35ML 53 78EP	22ML 40 61EP
Entrepreneurship	35HM 48 65ML	12HM 22 30ML
Financial work	24HM 45 65ML	0 HM 19 41ML
Administration	34EP 45 62ML	35HM 55 70ML
Marketing	24E/H 34 65ML	6 HM 21 41ML

Table 7a. Student views of the quality and career outcomes of their placements (N=124).

	Quite good & very good (4+5)	Very good (5)
Physical environment	84	45 54 HMS
Access to tools and facilities	83	6 ML 45 65 HMS
Quality of relationships	80	36 ML 49 59 HMS
Access to appropriate expertise	78	36 ML 51 61 EPS
Supervision	77	45 59 HMS
Induction to the job	75	24AHS 31 41 HMS
Informal support	57 ML 74	29 ML 43 65 HMS
Challenging opportunities	70	39 53 HMS
Allocation of appropriate work	54 ML 69 88 HMS	21 ML 31 37 AHS
Opportunities to be creative	60	22 EPS 28 35 HMS

Table 7b: Student views on career outcomes from their placements so far (N=124).

Outcomes	Quite high & very high (4+ 5)	Very high (5)
Awareness of your strengths and potential	80	15 AHS 24 41 HMS
Awareness of what you need to achieve in your final year	78	32 ML 41
Quality of what you achieved in your placement	75	29 35 HMS
Awareness of the kind of work you want to do in the future	50 ML 65	24 EPS 30 41 HMS
Awareness of the work you do not want to do in the future	47 HMS 60 66EPS	15 EPS 24 32 ML

The results in Table 8a are a bit higher than those in Table 7a; but the more challenging questions in Table 8b match those in Table 7a. Many of the high means in Health & Medical Sciences are spectacular in both Table 8a and Table 8b. The last group in Table 8b is significantly lower, and Managing People is much lower than the other responsible roles. Table 8c shows that 30% of respondents were disappointed by the lack of these opportunities, and 57% were disappointed in the faculty of Management & Law. Table 8d shows that 54% stayed in digs during their placements, 30% stayed at home and 13% in university accommodation. The main outliers were Arts & Human Sciences with 46% at home (39% in digs), while Health & Medical Sciences had 71% in digs (12% at home).

Table 8a. Support for learning Tasks (117-8)

	OK & Great (3+4)	Great (4)
How much have you learned from consulting other people?	90	67 88HMS
To what extent has the choice of tasks given you enough scope for progression in <i>taking responsibility</i> for tasks?	86	32EPS 44 69HMS
How much help have you had in learning your assigned tasks?	82	49 71HMS
To what extent do people listen to your comments and suggestions?	81 94HMS	22AHS 31
To what extent has the choice of tasks given you enough scope for progression in your <i>range of assigned tasks</i>	80 94HMS	35 46HMS
To what extent has the choice of tasks given you enough scope for progression in <i>task difficulty</i> ?	62ML 77	36
How much have you learned from sharing tasks with others?	76 94HMS	27ML 41 71HMS

Table 8b. Support for project work and roles (N=119)

	OK & Great (3+4)	Great (4)
To what extent have you been challenged by project work How much responsibility have you been given in project work?	76 94HMS 62ML 78 100HMS	31ML 43 27ML 44 59HMS
To what extent has participation in projects helped you to learn more about the content of the project? new skills?	88 100HMS 88	31ML 43 42ML 54 71HMS
how to work with other people on a focused piece of work?	77 94HMS	32ML 41 65HMS
how to handle uncertain situations?	76	24ML 38 47HMS
how to keep to deadlines?	81	45
If you were given a responsible role, were you expected: to develop initiatives or projects?	66	33 41HMS
To monitor <u>progress</u> ?	71	25 35HMS
To evaluate <u>outcomes</u> ?	64	25
To manage people?	24HMS 36 46ML	4ML 15 18AHS

Table 8c. How disappointed are you, if you have entered only *none* or *some* for projects and roles?

	Eng. Phys Sc	Art Hum	Man Law	Health Med Sc	Total %
Not at all	75	79	43	77	70
Quite a bit	22	14	52	23	26
Very much	3	7	5	0	4

Table 8d. Accommodation (N=124, 9% outside UK, 10% periods outside UK)

	Engineering Physical Sciences	Arts Human Sciences	Management Law	Health Medical Sciences	Total %
Digs	59	39	61	71	54
Home	24	46	25	12	30
University	17	12	11	6	13
Other	0	2	4	12	3

Table 9a. Roles of people selected by students as Most Influential (positive or negative)

<i>Most influential people</i>	Person A	Person B	Person C	Total
Your supervisor	61	12	4	77
Your manager	20	34	9	63
Another senior person	4	27	28	59
Recent graduate	5	9	14	28
Experienced worker at graduate level	3	7	8	18
Experienced worker not at graduate level	2	4	11	17
Another student on placement	4	5	6	15
Less experienced worker in support role	2	0	2	4

Those people selected in Table 9a were the subjects of the columns presented in Table 9b. In most cases the Person As were the most appreciated, but in the 5 underlined cases Person Bs were more appreciated. This matches the higher proportion of managers selected as person B. Person Cs came from a wider range of positions, and secured 40-51% on 9 of the 17 modes of support. Although the percentages drop significantly from A to B and from B to C, a significant number of all three chosen persons appear to have covered a wide range of support roles. This will also be subjected to further analysis.

Table 9b. Help from individual influential person's A, B & C (positive or negative)

The data used is the sum of the two highest percentages of a <u>7 point</u> scale.	A	B	C
The column heads show the number of responses.	85-95	77-89	63-72
Helped you to accomplish your tasks	75	45	44
Helped you to understand situations	82	33	47
Helped you with collaborative working	63	52	50
Helped you with joint problem-solving	<u>53</u>	<u>52</u>	<u>51</u>
Guiding/introducing you to people who could be helpful	67	48	46
Guiding you on how to handle people	43	<u>51</u>	33
Guiding you on accessing relevant information	60	51	46
Encouraging you to take initiatives	60	38	35
Gave you tasks that offered learning opportunities	66	42	43
Gave you, or included you in, challenging project work	56	39	41
Gave you challenging roles that required initiative	55	44	33
Helped you to choose your work	40	<u>61</u>	28
Helped you to <u>prioritise your work</u>	41	<u>58</u>	29
Gave you constructive feedback on some of your work	74	43	41
Gave you constructive feedback on your work in general	69	47	32
Gave you constructive feedback on your mistakes or work below par	52	<u>57</u>	27
Gave you constructive feedback on your strengths and weaknesses	47	<u>63</u>	27

Table 10: Personal initiatives demonstrating agency

Personal Initiatives (N=101)	No need	Not tried	Yes, but no success	Yes - success
Have you asked if you could visit other sections, sites or departments?	23	<u>20</u>	<u>11</u>	46 <u>67HMS</u>
Have you asked to work with a different person or group?	35	<u>24</u>	9	16EPS 33 46AHS
Have you asked to move to a different section or department?	50	<u>28</u>	<u>11</u>	2AHS 11
Have you asked anyone about the different kinds of work in your organisation?	13	7	3	<u>77</u> <u>93HMS</u>
Have you asked to do different kinds of work?	21	<u>23</u>	<u>13</u>	30ML 44 <u>60HMS</u>
Have you asked anyone to introduce you to someone you would like to meet?	23	<u>33</u>	6	14EPS 39
Have you asked for new tasks in your current load?	13	13	9	50ML <u>65</u>
Have you asked to work on a particular project?	23	<u>24</u>	9	29EPS 45 <u>61AHS</u>
Have you asked to be given more responsibility?	25	<u>28</u>	6	27HMS 42 <u>54AHS</u>
Have you persuaded others to back any of your initiatives?	24	<u>25</u>	8	33HMS 43
Have you overtly asked people for feedback on your work?	3	<u>27</u>	4	52ML <u>66</u> <u>79AHS</u>

Table 10 was designed to investigate the level of personal agency. The column *Not Tried* suggests shy or possibly intimidated students, and *Yes, but no success* suggests employer reluctance to help the students. Further analysis should tell us whether the 20 to 30% responses to Not Tried are the same or different from those who gave lower responses in Tables 6 to 9 above. Students from Health & Medical Sciences and from Arts & Human Sciences appear to have used the most initiative. The HMS students probably work in small, almost self governing, departments in hospitals; and the AHS students are more likely to work in small organisations where relationships are fairly close. These hypotheses will be discussed with the departments involved.

The data in Table 11 address issues over which departments have the most control. The easiest change would be to establish more opportunities for students considering placements to meet returning students. This is already done in some departments. Other issues are more difficult and will need more faculty interest in some departments. As with Table 10, investigation of the bottom end would be helpful. This is also the most important area for recruiting more placement students.

Table 11. Preparation and support before and during placement

Variable response rates	None	Little	Quite good	Very good		
Opportunities to meet students who have just returned						
From placements in your own subject/ department	21	30	31	5ML	18	27HMS
From organisations to which you might apply for a placement	27	32	29	0ML	12	27HMS
From <u>particular parts</u> of those organisations	40	32	26		8	20HMS
Choice of placements						
Understanding the advantages of placements for your future career, specifically or generally	2	10	49	22AHS	39	51EPS
Help in deciding what kinds of placement would best meet your needs						
Help in finding a placement	6	28	44	14ML	21	40HMS
	6	26	27	26AHS	40	53H/E
Support at department, faculty or university level						
General briefings on placements	2	17	60	9ML	21	33HMS
Seminars focused on the nature and quality of placement learning	7	27	51	5ML	14	27HMS
The work of the careers' service	23	4	40	5ML	12	20HMS
Advice from administrative staff	15	32	41	0ML	12	22EPS
Support during your placement year so far						
Through visiting tutors						
Through contacts with other staff	6	27	38	18ML	29	37EPS
Through discussing your placement report(s)	28	30	28	7ML	14	33HMS
Making good use of your placement experience in future job applications	25	34	28	7ML	13	20HMS

General conclusions

The work demonstrates three general ways in which improvement of work placements and enhanced learning might be achieved.

Firstly, students' understanding of learning and development in the work place, and the centrality of situational understanding to effective performance at work, could be enhanced by incorporating the practical tools that have been developed from a substantial programme of research into how professional's learn and develop themselves through their work.

Secondly, the research instrument that was developed to evaluate the quality of work placements and the agency of students themselves in the work place setting could be refined and used to support self- evaluation. This could be a significant contributor to the self-awareness necessary to obtain the maximum benefits from a work placement. If this became a formalised process within the work placement, for example as part of the processes relating to tutor visits, then issues raised could be addressed in the conversations between tutors, students and work placement supervisors. Where issues are raised, particularly those relating to student agency in bringing about change, these could be linked to other practical tools that could enable students to think through the situations they are in. Alcott (2011) describes an example of a tool to help placement students develop strategies for dealing with difficult relational situations.

Thirdly, the findings of this survey reveal patterns of responses which reflect different practices at departmental level, some of which appear to be more effective than others. Facilitated discussions within the university, perhaps brokered by the Professional Training and Careers Committee, could help identify the most effective practices that could then provide the benchmarks for improvement.

Quality improvement is a never ending process and the approach described illustrates one approach in a major on-going enterprise. I am very grateful to SCEPTrE for providing me with the opportunity to contribute to this important work.

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Editorial postscript

Following the pilot the survey instrument was simplified and refined and used as a self-evaluation tool at the mid point of a student's placement prior to a review of the placement experience by the visit tutor, student and supervisor.

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Learning through Work

**Norman Jackson, Jenny Willis,
Michael Eraut and Sarah Campbell**

This article was originally published as a chapter in Learning for a Complex World: A lifewide concept of learning, development and education. It shows how Michael's research influenced the work we did at the University of Surrey to develop a Lifewide Learning Award. Authorship is by the SCEPTRe team that explored how and what higher education students learnt through work.

Synopsis

One of the educational goals of a modern higher education system is to prepare learners for the demanding world of work in which they will subsequently spend most of their lives: a world that will be full of challenge, change and disruption. One of the ways in which learners prepare themselves for the world of work is to participate in paid or unpaid work while they are studying at university. Learning through work is part of the lifewide learning profile of many, perhaps most students. This article draws on three sets of studies and interventions undertaken at the University of Surrey to consider the nature of learning and development in the work environment. It describes a learning partnership model that was developed to support learning through work experiences that are not directly linked to students' academic programmes. It concludes that much valuable learning and development can be gained and recognised through a lifewide educational model that encourages systematic recording and reflection on the experiences of working and the learning and personal development gained through such experiences.

Introduction

This article draws together some of the things we have learnt about student development in the particular contexts of work environments and describes the piloting of a Learning through Work Certificate as part of the Lifewide Learning Award Framework developed at the University of Surrey. It seeks to present, connect and integrate three different research and development strategies that were focused on what students were learning and how they were developing in workplace situations.

The **first set of studies** relate to the question *what do we know about how professionals learn and develop in the workplace, and how can we make practical use of this knowledge to improve student development in the work place?* Our starting point was to connect to the extensive body of research into how professionals learn and develop themselves through work (e.g. Eraut, 1994, 2000, 2004, 2007a & b, 2009, 2010, 2011). Eraut characterised continuous professional practice and ongoing development in terms of what he called 'learning trajectories' (Eraut, 2007a&b, 2009, 2010b). This research provided the basis for Willis (2009):

- a) To examine the ways in which students at the University of Surrey were developing themselves through work placements. Eraut's research was used to: a) evaluate whether students on placement were developing in the same ways as professionals in the early stages of their careers
- b) Create guidance for students involved in workplace learning on how people learn in the work environment
- c) Create a self-evaluation tool to help students and tutors analyse the quality of workplace situations and pedagogic support
- d) Inform development of a framework - the Learning through Work Certificate - that would enable students to recognise and gain recognition for their development through part-time work.

The **second set of studies** addressed the question *how do students engaged in work understand they are developing themselves as professionals?* Students' perceptions of personal professionalism in the work placement environment were examined through two essay competitions. The consequent analysis (Campbell, 2011a) of what being professional means to students undertaking a work placement demonstrated the complex and integrated nature of their development and led to the production of a Guide (Campbell 2011b) to help students preparing for a placement to appreciate the dimensions of professionalism. The study on what being professional means also informed the design of the reflective prompts in the Learning through Work Certificate described below.

Both of the above studies informed the **third intervention** which addressed the question *how can we help students recognise the learning and development they are gaining in part-time work environments and make claims for this development?* The 'Learning through Work' Certificate was designed to be part of the Lifewide Learning Award Framework and was piloted between July-October 2010.

First set of studies: Learning and development trajectories

Learning and development trajectories in the workplace are demonstrated by individuals and teams getting better at what they do and creating more effective, more efficient, innovative ways of working that enable the organisation/business to be more successful. Becoming better at work can involve many different things (Eraut 2009):

- Doing things faster
- Improving the quality of the process
- Improving communications around the task
- Learning quickly
- Becoming more independent and needing less supervision
- Combining tasks more effectively
- Quicker recognition of possible problems
- Expanding the range of situations in which one can perform competently
- Helping others learn to do the task or part of the task
- Increases in task difficulty / taking on tasks of greater complexity
- Dealing with more difficult or more important cases, clients, customers, suppliers or colleagues
- Creating new and better ways of doing things.

Some of these types of progress could be described as *doing things better*, some as *doing things differently* and some as *doing different things*. Sometimes all three may be happening at once. They all manifestations of people developing themselves.

Progression in dealing with work situations often involves doing the same thing, or not quite the same thing, in more difficult conditions or across a wider range of cases. Although these types of progress seem fairly obvious, people are not always conscious that they are learning things and developing themselves through experience, nor do they remember how or when they learnt something. People are generally not very interested in the dynamic of their own learning. Research on workplace learning (Eraut 2007a, 2007b, 2009, 2011) found that newcomers first recognised that they had learned something when they realised that they were doing things that they could not have done a few weeks earlier. Focusing attention on the how, why, when and where of learning occurs (Table 1) does lead to enhanced self-awareness and it is these processes and how self-awareness can be used to motivate further development that are of particular interest to our lifewide learning project.

Table 1. Typology of modes of learning in the workplace. Source: Eraut 2007a, 2007b

Work processes with learning as a by-product	Learning activities located within work or learning processes	Learning processes at or near the workplace
Participation in group processes Working alongside others Consultation Tackling challenging tasks and roles Problem solving Trying things out Consolidating, extending and refining skills Working with clients	Asking questions Getting information Locating resource people Listening and observing Reflecting Learning from mistakes Giving and receiving feedback Use of mediating artefacts	Being supervised Being coached Being mentored Shadowing Visiting other sites Conferences Short courses Working for a qualification Independent study

One of the benefits for students engaging in work environments is that they develop the capacity to learn through the activity and social processes of work – learning and personal development associated with learning is a by-product of working. As a result of participating in work environments students are exposed to, and learn from and with others, the cultural knowledge of the organisation, which is then incorporated into their personal knowledge (Eraut 2010, 2011):

- *Codified knowledge* necessary for the job in the form(s) in which the person uses it
- *Know-how* in the form of *skills and practices*
- *Personal understandings of people and situations*
- *Accumulated memories of cases* and *episodic events*
- Other aspects of *personal expertise, practical wisdom* and *tacit knowledge*
- *Self-knowledge, attitudes, values* and *emotions*.

This form of knowledge development and use of knowledge is highly relevant to the idea of self-authorship (Baxter Magolda 2004) with its knowledge-based assumptions that 1) *knowledge is complex and socially constructed*, 2) *self is central to knowledge construction* and 3) *authority and expertise are shared in the mutual co-construction of knowledge among peers*.

Eraut’s study of the early career learning of professionals (Eraut 2007a&b, 2011) demonstrated that most learning was not a separate activity but a by-product of their ongoing work; and most of these events involved working with other people. This gave rise to a typology of learning modes of early career learners (ibid.). They are the means by which cultural and personal knowledge are developed.

Eraut’s study (2007a) also identified over 50 learning and development trajectories organised into 8 categories (Table 2), each involving the individual to access, integrate and utilise their knowledge, capability, qualities and dispositions in order to perform or accomplish something. At any point in time an individual performing a professional role is either developing or regressing within a particular trajectory depending on the experiences he is gaining through his work. Eraut (2010b) argues that in dynamic work environments the concept of competence-based goals as indicators of a person’s workplace capability is far too restrictive. Lifelong learning requires the use of lifelong learning trajectories, which can offer more freedom to be holistic, attend to the emotional dimension of work and appreciate the significance of complexity. Lifewide learning contributes to the holistic development of a person and offers the potential for individuals to develop along some of their lifelong learning trajectories through different parts of their lives simultaneously.

Table 2. Summary of learning trajectories organised into eight categories Source: Eraut 2007a

Learning trajectory	Details
Task performance	Speed and fluency; complexity of tasks and problems; range of skills required; communication with a wide range of people; collaborative work
Awareness and understanding	Other people: colleagues, customers, managers etc; context and situations; one's own organisation; problems and risks; priorities and strategic issues; value issues
Personal development	<u>Self evaluation</u> ; self-management; handling emotions; building and sustaining relationships; disposition to attend to other perspectives / to consult and work with others / to learn and improve one's practice; accessing relevant knowledge and expertise; ability to learn from experience
Academic knowledge and skills	Use of evidence and argument; accessing formal knowledge; research-based practice; theoretical thinking; knowing what you might need to know; using knowledge resources (human, paper, electronic); learning how to use relevant theory in a range of practical situations
Role performance	Prioritisation; range of responsibility; supporting other people's learning; leadership; accountability; supervisory role; delegation; handling ethical issues; coping with unexpected problems; crisis management; <u>keeping up-to-date</u>
Teamwork	Collaborative work; facilitating social relations; joint planning and problem solving; ability to engage in and promote mutual learning
Decision making and problem solving	When to seek expert help; dealing with complexity; group decision making; problem analysis; formulating and evaluating opinions; managing the process within an appropriate timescale; decision making under pressure
Judgement	Quality of performance, output and outcomes; priorities; value issues; levels of work

We hypothesised that students on work or clinical placements are also developing to varying degrees along these trajectories in ways that are appropriate to their particular work contexts. Willis (2009a) tested this hypothesis by using these trajectories as a tool to analyse 28 student narratives of how they developed themselves as professionals through their work placement. The students identified 32 factors, either explicitly or implicitly, that they believed were relevant to them being and becoming professional in their particular work context. Each student's narrative revealed a different combination of perceived learning and the aspects of learning and development reported could be related to Eraut's eight learning trajectories (see Willis 2009b for a description of the analysis).

Second set of studies: how students become professional

As Eraut's work demonstrated, fulfilling a professional role requires working with epistemological, intrapersonal and interpersonal complexity. This is more than simply a checklist of things that have to be done; it requires assessing situations often with incomplete information, and making decisions about the best courses of action and then following through to ensure that actions are appropriate and effective. We were interested in concepts of professionalism that students had developed through work experiences. Students who had completed a year-long work placement and/or other work-based experiences were invited to reflect, in a structured way, upon the idea of personal professionalism (their view of what being professional means). An analysis of 22 essays (Campbell 2011) demonstrated that students conceptualised professionalism as a way of being, rather than a checklist of skills and behaviours. The italicised quotes in this section are taken from student essays.

This way of being is made up of facets such as appearance, manner, conduct, communication, interpersonal skills, attitudes, values, approach, skills and openness to grow.

Factors such as continuous dedication, learning and commitment to success help individuals to become effective professionals. Not only that but also the extra knowledge that involves ethics, positive attitude, enthusiasm to learn, teach, and many other aspects mentioned above such as respect, passion, persistence and professionalism. In summary, everyone has some degree of personal professionalism but each individual has the ability to develop it through self-improvement.

People are not only merited on what they know and their credentials, but also on their attitudes and behaviour, so the way I carry myself and the things that I do should be a reflection of what I'm capable of.

Interacting with others (people you work with, managers, customers and clients) appropriately and respectfully, and communicating clearly and directly emerged from student accounts as essential to being professional.

How you interact with people plays a big part in how professional you appear.

Professionalism is a combination of taught aspects, like knowledge and skills, and experiential, such as interpersonal skills. Students feel you can't be told how to be professional; it is something you learn from direct experience of doing things that require you to be professional, and the conception of it changes as you gain more experience. Becoming professional is a never-ending process.

Being professional is not something you are told how to do, but something you learn from experience.

Professionalism can also be learnt by observing others as they fulfil their role. Students often stated their own conceptions were a result of observing others either embodying professionalism or conversely being unprofessional. Students also commented that experience had broadened their conceptions of professionalism and helped them to realise that previously held stereotypes of a professional did not capture true professionalism.

Each member of staff has their own methods and ways of being an effective professional and being in contact with a team like this has helped dispel some of the myths and stereotypes I still had regarding the world of work and being a professional.

I witnessed first hand the variety of ways to be a successful professional. Whilst each individual may have their own methods of performing their job well, I have noted certain themes that I believe are fundamental in professionalism.

Various skills are important to professionalism, but a key aspect is approach to work, delivered through effective interpersonal skills. Achieving and succeeding requirements of the role, but in a certain way, to a certain standard, to deadlines, characterises professionalism for students. Students have a sense that professionalism must become intrinsic and internalised. If professionalism is internalised, it leads to achieving self-efficacy, self-worth, achievement, accomplishment, a sense of satisfaction and most of all embracing confidence, which in turn strengthens and develops a professional identity. This professional identity helps self-determination and motivation, with the will to do well derived from intrinsically motivated desires.

I conclude that professionalism is more than simply doing right by the context of one's workplace, but also the personal determination to better oneself in practice and conduct.

Personal professionalism seeps into all we do in life, in both career and social scenarios.

What emerged from accounts was a sense that being professional is about bringing yourself and your personality into the role, enhancing not only yourself but also the role and the organisation. Professionalism is about not only doing what is required or behaving in a way because you are told to, but also doing/behaving because of internalised professional values, doing it for self and self-set standards, arising from intrinsic motivation.

For me the answer is that a professional works to such standards, not because of the penalties that are imposed if they don't, a bad mark, a sacking for example, but rather they do it because to do anything else would be unacceptable to that person themselves.

I work to high standards because I know that if I did otherwise I would be personally disappointed, the results would not be a reflection of my ability and so I would be letting myself down.

An appropriate set of dispositions is essential to fulfilling the professional role in the right way. The *willingness* to be a certain sort of person behaving in a certain sort of way is paramount. These are some of the more important dimensions of willingness identified by students in their accounts.

- Willing to try to perform at a high standard
- Openness and willingness to learn and develop for the role, necessitating an ability to listen
- Willingness to present yourself in a confident but not arrogant manner
- Willingness to do that bit extra, which is necessitated by taking the initiative and an aspect of creativity
- Willingness to take responsibility for and learn from mistakes
- Willingness to be open to constructive criticism, seeing criticism as positive chances for change
- Awareness of different perspectives and willingness to see alternative perspectives to your own
- Ability and willingness to both learn from others and teach others; ability to lead and to be led
- Willingness to take an active role in being a professional, in the work, and a commitment to growth and self-Development
- Willingness to be positive and encouraging
- Willingness to accept and use feedback from colleagues in order to improve.

These aspects of willingness all amount to a sense of resilience in attempting to be professional. Passion, commitment and seeing the positives in both people and situations all contribute to a climate of encouragement which helps to bring out the best in other people. This fosters another important dynamic in work: the importance of working effectively in a team or collaboratively with others. Students recognised the importance of being able to work effectively with others as well as the ability to work autonomously by taking the initiative. A professional is expected to manage himself and regulate his own behaviour. Knowing your limits of competency, taking responsibility for your own decisions and actions and knowing when to seek help are all important aspects of self-management. Another key aspect of self-management is the ability to manage and regulate emotions. This awareness also enables awareness of the emotions of others and helps to take other perspectives. This ability to manage emotions is an important part of effective interpersonal skills and is captured by Emotional Intelligence theory, which has become a prominent feature in business and organisational research. These are key skills in being an effective leader and employee.

Communication emerged as a vital element of being professional and to the effective use of interpersonal skills. Students' recognised communication occurs through various mediums (telephone, face to face conversation, email, written reports, presentations etc.) and in different contexts with different people. Being able to conduct professional conversations, knowing what / what not to say and how to say it, is part of professionalism. Having the appropriate language is essential as is:

- Speaking/writing well, concisely and clearly – being comprehensible
- Being polite and respectful – addressing people with their titles is important
- Being able to express opinions appropriately
- Being approachable
- Not being patronising

- Willing to share your ideas, knowledge, opinions; having your own voice, ideas and therefore confidence is important to facilitate the sharing of these ideas
- Being able to write appropriately in ways that meet the needs and interests of the audience
- When resolving issues, remaining objective rather than being personal
- Managing expectations; being clear, direct and concise
- Networking skills and building relationships.

Students recognise and appear to cope with the complexity of professionalism, seeing it as something that is embodied in outward appearance and conduct, but also internally in terms of values, attitudes and approach. Students talked of forming a professional identity which results from integrating many of the aspects mentioned above, as well as others. This identity of professionalism is then presumably integrated into the many other identities people hold at any one time; hence some students touch upon taking professionalism not only into the workplace but also into other aspects of life.

Students also recognised the importance of learning from experience, positing that professionalism can only develop from experiencing professional contexts. Students acknowledged that whilst higher education helps develop many of the 'soft' skills inherent in professionalism, these are not realised fully and further developed without the experience of professional contexts. This will help students to realise how transferable many of the facets of professionalism are across situations, which can then benefit them during their time in higher education. This highlights the importance of encouraging and supporting students to engage in professional contexts during while they are studying in order to begin to develop and internalise a conception of professionalism.

The studies described above allowed us to connect a body of research in professional work environments with the experiences of students on work placement. Our next step was to extend our examination of the learning potential of the work environment to situations that were not linked to any formal educational experience or course structure.

Third set of studies: learning through part-time work

In May 2009, 368 undergraduate and postgraduate students completed an online survey inviting them to comment on the opportunities that part-time work provided for personal/professional development. The primary reason cited (100 per cent) was to earn money, followed by the intrinsic motivation of doing something useful and seeking enjoyment (35 per cent). Students also believed that the experience would be useful for their CV, but relatively few students (less than 15 per cent) said that they got a job to develop their skills. Part-time work is predominantly in retail, sales, bar work, waiting, but there are also a range of roles in volunteering, teaching/tutoring, secretarial/temping, cleaning, healthcare and other areas (Figure 4). While only a small percentage of respondents claimed that they sought part-time work to develop their skills, a word cloud (Figure 5) of 888 responses to the question 'What was the most important thing you gained from your part-time work?' shows that students recognised they gained significant skills and experience.

Table 3 provides more detail on the opportunities for personal development that part-time work provided. Over 60 per cent of respondents to the survey believed that the part-time work environment *often* or *always* provided opportunity for the development of professional skills, communication skills, working with others in a team, learning how to interact with customers or clients, learning how an organisation works and how people are managed, learning how to manage themselves, learning how to negotiate with and persuade others, taking on challenging responsibilities and gaining confidence in self. These are all significant dimensions of development for individuals.

Learning through Work Certificate

Convinced that there was value in encouraging students to reflect on and evaluate the learning and development they were gaining through part-time work, in 2009 SCEPTR developed and piloted a Learning through Work Certificate. This was subsequently aligned to the capability and values statement for the Lifewide Learning Award and incorporated into the Award Framework as a freestanding certificate and as a pathway in the Award. The revised Learning through Work Certificate was piloted between July and October 2010. Eleven students joined the pilot scheme; four withdrew before completing and seven successfully completed the requirements for the Certificate. Their portfolio accounts provide a useful database from which to draw out the learning and achievements they gained through their part-time work.

Educational design

The Learning through Work Certificate provided university recognition for informal learning and personal development gained when students completed at least 100 hours of part-time or temporary full-time (paid/unpaid) work which was not part of a programme of study. In order to receive university recognition for learning and personal development participants had to document their experiences and evaluate the learning and personal development they had gained. Four techniques are used to help students understand, evaluate and reveal their learning and personal development:

- completion of a skills and experiences self-evaluation questionnaire and personal development plan
- online resources to help participants appreciate the nature of learning through work, based on the research of Michael Eraut described earlier
- creation of an ongoing reflective diary or blog to record and make sense of their experiences and the learning and personal development gained from them
- a reflective account (2,000–2,500 words) – to connect, synthesise and integrate the learning gained through the experience or work. The account draws upon the reflective diary and any other documents or artefacts (such as digital images or audio or video recordings) used to represent learning and personal and professional development.

The Certificate encourages participants to focus on key aspects of personal development that are generic to all work situations and are important to being an effective professional. These are incorporated into the same capability and values statement that underpins the Lifewide Learning Award. The Certificate also recognises more specific skills that are necessary to fulfil a particular role. A copy of the guidance can be found at <http://lifewideeducation.co.uk>.

In common with the Lifewide Learning Award, the Certificate encourages students to be aware of and reflect on the situations they encounter and deal with at work. This is consistent with Eraut's research into learning in the workplace.

Situational understanding is a critical aspect of professional work, and probably the most difficult [for a student on first entering the work environment].....because situational understanding tends to be taken for granted by all but newcomers. While newcomers may be well aware of their lack of situational understanding, they may not get much helpful feedback on it. This is because most people get so familiar with many situations that they cannot imagine anyone else “not being aware of the obvious”. Thus newcomers’ ignorance of the local culture may not be understood; and there may not be much information to help them learn about the situations and contexts that are so familiar to those around them. Most students on placement need a lot of advice on how best to understand the groups and contexts they encounter....because the tacit dimension of situational understanding is critical. (Eraut 2011:4)

Learning and personal development

The seven participants in the pilot scheme were a mix of male and female, home and overseas students, studying at level 2, P (professional placement year) or 3. Their disciplines included applied psychology and sociology; sociology, culture and media; mathematics; business management; and economics. Each had different levels of experience of paid work, and the nature of their experience ranged from retail through care work, technology support and events management. Some were junior members of a team, others led a small team.

At the start and end of the process, participants were invited to use an audit tool (Table 4) to help them think about a) the sorts of learning and development they anticipated from the work and b) the areas of moderate or significant

development they had gained through the work experience. Given the diversity of their roles and experience, each profile is individual. The 23 audit dimensions are listed in the second column of Table 4. Participants' evaluations of their personal development is shown in the columns labelled 1 to 7, with dark shading indicating considerable development, light shading indicative of some development and blank cells meaning there was little or no perceived development in this dimension. The final column calculates the total score for each dimension, using the scale 1 = considerable development, 0.5 = some development.

The most striking feature of this table is the extent to which participants identified significant or some learning over a majority of the 23 opportunities for learning and personal development listed. All participants believed that they had gained valuable work experience and 14 of the 23 elements of experience were rated 5 (out of a possible 7) for the significance of the learning.

Many of the themes identified as being significant in the earlier Willis (2009a) study relating to student development in the professional training environment, also featured in the narratives of students engaged in part-time working. For example - responsibility/trust, feeling valued, variety of work, new skills or knowledge, dealing with challenging situations, communicating with different types of people, being part of a team, working independently, being organised and able to manage time.

The dimensions that score most highly (Table 4 with 6–7 points) are communication and interpersonal skills, personal dispositions/qualities associated with self-realisation and developing self-confidence through successful execution of a responsible work role.

Table 4. Learning through Work Certificate participants' evaluation of new learning through their experiences of work.

	Opportunity for learning/personal development	1	2	3	4	5	6	7	Summary
1	Finding and applying for a job				Light		Dark		2.5
2	Experience of being interviewed				Dark			Light	2
3	Learning about how an organization/business works		Light	Light	Light	Light	Dark		5
4	Dealing with challenging situations at work	Dark	Dark	Light	Light	Light	Dark		6
5	Applying classroom learning	Light	Light	Light	Light	Light	Dark		2
6	Gaining valuable work experience	Dark	Dark	Dark	Dark	Dark	Dark		7
7	Developing valuable technical skills		Light	Light	Light	Light	Dark	Light	3.5
8	Learning professional behaviours		Light	Light	Light	Light	Dark		6
9	Developing communication skills		Light	Light	Light	Light	Dark		6.5
10	Develop and use IT skills		Light	Light	Light	Light	Dark		3
11	Learning how to work with colleagues or in a team		Light	Light	Light	Light	Dark		6
12	Learning how to interact with customers or clients		Light	Light	Light	Light	Dark		5
13	Learning about being managed		Light	Light	Light	Light	Dark		5.5
14	Learning how to manage others		Light	Light	Light	Light	Dark		5
15	Learning how to manage yourself eg punctuality		Light	Light	Light	Light	Dark		5
16	Learning about business skills and practices.		Light	Light	Light	Light	Dark		5.5
17	Coping with and managing emotions		Light	Light	Light	Light	Dark		5.5
18	Learning how to negotiate with and persuade others		Light	Light	Light	Light	Dark		4
19	Clarifying future career goals		Light	Light	Light	Light	Dark	Light	5
20	Being given challenging responsibilities		Light	Light	Light	Light	Dark		5.5
21	Being creative and resourceful to make things happen		Light	Light	Light	Light	Dark		3
22	Experience of being enterprising		Light	Light	Light	Light	Dark	Light	2.5
23	Self-confidence		Light	Light	Light	Light	Dark		6

Notes: (n=7); Significant new learning = dark grey; New learning = light grey; Sum = total for the number of cells that are defined as significant (1) or some new learning (1/2).

Participants express a sense of self-fulfilment having coped successfully with challenging situations.

The main challenges were managing and prioritising different customer demands with very urgent demands with very short time scales. One of my greatest challenges of my job was to interpret what the customer wants and on a few rare occasions I was in a difficult position, where the customer didn't know or understand what they were asking for. On one occasion [we were] commissioned by a customer to create a podcast of a series of lectures a guest speaker was doing at the University. The customer made it clear through 2 phone conversations that they would like a podcast. After confirming to the customer what a podcast was, we agreed to take on the project. We filmed the first event and guaranteed that the podcast would be produced within 72 hours onto a DVD. Once the customer had viewed the product, she wasn't happy. The customer expected more than a podcast but wasn't sure what. This was a difficult conversation and in the end we had to cut our losses. This experience highlighted to me that customer relationships are a complicated [matter] and continually evolving. [But] all was not lost as a few months later the ex-customer re-commissioned [us] to create her some podcasts and now with the right expectations.

A student who undertook a month-long internship in China.

I feel that I was finally able become an effective communicator because I had improved the way I read other people's emotions through different forms of communication that I originally never really looked at before. In the past, during my time at work I tend to communicate clearly orally or through written communication as there was a slight language barrier between some of my colleagues and I learnt how to communicate and read off body language and see how they were feeling. Although it sounds extremely elementary, this use to help me decide whether or not a task should be prioritised because my worker was in a rush and also use to help me see what my supervisors and colleagues thought of my work when viewing it.

The developmental value of the experience for this student:

Another area of skill that didn't seem to go so well included my ability to problem solve tasks. I remember being set a vague task from one of my colleagues to create a collage of event pictures that Auditoire had produced so it could be used on the website. The process of it was quite long but it was embarrassing that it took over 5 attempts for me to get it correct and that I stayed in the office until 9:30pm trying to get it correct. It was partially to do with the language barrier as well but I believed that my inability to work out what I had been set reduced my self esteem for a while. I learnt how to move on from the situation as mistakes are always made.

Moving down the scale of perceived significance, dimensions that score 5.5 and 5 relate to aspects of management or being managed, business structure and function, and once more an opportunity to rise to a challenge through being given responsibility. Least perceived development lies in the process of job application and selection, perhaps reflecting participants' prior experience of this or the informal/casual way in which part-time jobs have been found and secured. It is also evident that the nature of the part-time work these students were engaged in rarely offered them the opportunity to apply learning from their programme of study, reflecting the fact that the primary motivation for part-time work is often to earn income rather than to gain career specific experience. The exceptions to this rule, however, shows that part-time work if linked to a field of study and career aspiration can provide valuable and relevant personal development

Something that I found to be valuable and relevant to my course is applying theory from books on mental disorders to reality, speaking to patients and hearing how that disorder affects them. There is nothing more valuable than getting the opportunity to discuss real life cases from their point of view that you learnt about in a book. A particular example I think of is a patient who had bipolar disorder mixed with alcoholism which they used to self medicate the lows they experienced from their disorder. They shared with me how they felt and acted when experiencing the highs/mania of bipolar in contrast to what it is like to experience the lows of the disorder. It was an amazing experience as I had read about the theory of this disorder extensively however for someone to open up and share with me what it really like for them to live with this

disorder is so enlightening. In a book I can read about the typical behaviour that may be displayed by someone with the condition but the book cannot tell me what was going through that persons head when they were displaying that behaviour and how it feels to look back on it as they are progressing through the treatment.

By comparing the learning they anticipated with what they actually achieved using the self-audit tool (Table 4) students were able to recognise how they had changed. An illustration of this process is given below.

A further difference [I noticed] is the depth to which I went into for the 'Developing communication skills'. In the chart I completed before starting this position I merely ticked the 'some new learning' option for the entire category, and upon reflection of what I have learned so far in these last 3 months I can identify a difference in learning between verbal/oral skills, listening skills, written, designing and media use. These are secondary skills which have developed along the way, I have had no formal training to develop my communication skills, but they have inadvertently improved in the process, something which I am grateful for! I feel that it applies to a large number of the categories on the above list ...

This process of structured reflection is supported by participants' personal diaries or blogs, which they keep in the medium they choose. An extract from one student's blog shows how she used it not simply to record events, but also to analyse her experiences:

14th July – Today has been a mad house, with the new releases of Eclipse and Shrek 4th, the cinema was packed with Orange Wednesdays guests. There was not enough staff to cover the number of guests we received. I started to panic and had to do a lot of refunds, I learnt that I need to slow down and keep calm even if there is a huge queue and guests are waiting. Guests appreciate for you to take your time with them so they don't feel rushed.

16th July – Today I was called in to the office about a team member harassing the girls. I personally have encountered a few incidents but failed to report it due to it seemed natural for him to do it as a joke. He was dealt with and if he is complained about again then he will be fired from his job as this is not the 1st time this has happened. Apart from that I am now fully trained and confident with in the box office. I haven't spent my full month here because Odeon has not been that straight forward however I am now trained fully in 3 of the main areas and am now a confident worker who the supervisors are pleased with.

18th July – I am on another close which I appear to be doing a lot of. Over 60 per cent of my shifts are working until past midnight. Now I am fully trained in retail, everything was done quickly except the supervisors were arguing amongst each other saying none of them were doing their jobs correctly. This is slightly worrying if my bosses aren't getting along and can't work as a team as this reflects.

Participants appreciate the value of this process of reflection, as expressed by one who focused her submission around her work in a private clinic:

I feel the whole point of completing this certificate is that it gives me the opportunity to evaluate and consolidate what I learnt from my summer of work experience. On a day to day basis we often do not take the time within our lives to sit down and reflect on what we have learnt, what hurdles we have jumped over and what we should be proud of or on the other hand what we can take away from our mistakes to develop as a person. A major part of what I feel this certificate has given me the chance to do is exactly that, reflect on my work experience at a deeper level than I would have ever thought to have done ... It helped me on days ... of low morale which we can all get when busy with many tasks in our lives by reminding me why I am doing this, what I have learnt so far and how much more I have to learn if I continue. Having come back from the summer and spoken to class members who have not completed the certificate I have to say I feel a sense of accomplishment, I worked hard over the summer and am putting these experiences into the certificate – the words I will put into this I will always have and can look back on in the future to remind myself what I spent the summer doing.

She concludes with words that demonstrate the life-changing impact of her reflecting on her work experiences:

In this work you have to try and keep your work as value free as possible, otherwise it would not be considered ethical. Any emotions or feelings that may arise due to a patient have to be kept aside; otherwise it may cloud your judgment when trying to effectively treat patients. When working with staff alike it is important to remain professional and value free. Through working at the clinic my personal values may have been shaped but this is something that must remain personal and free from my professional life. I however do feel I gained a new sense of self confidence from my time at the clinic, confidence for talking to members of staff (not being afraid to ask questions) as well as confidence when working with patients. I feel I even gained some more confidence at being interviewed, although this was not my first time being interviewed I feel you gain something new from every interview you have.

Conceptions of professionalism

The Learning through Work Certificate encourages participants to reflect on what being professional means to them in the belief that professionalism is a necessary characteristic for appropriate and effective performance in any work environment. Some examples of students' responses are given below.

Student A *My views on what makes one a professional have undoubtedly changed over the past few years, and in some cases even more so over this summer. I feel that the key characteristics that demonstrate you are a professional are:*

- *A mature attitude; being able to draw a line between having a laugh whilst working and immaturity*
- *An open personality; being the sort of person who can meet a stranger with an open smile and engage and involve anyone in a conversation or project.*
- *A sense of humility; being able to admit mistakes and to learn from past mistakes to make more justified and informed decisions in the future.*
- *A democratic countenance; being able to listen to other colleagues opinions when making a decision.*
- *A flexible nature; being able to adapt to changing situations.*

I feel that my placement over the summer has improved these characteristics within me, as well as improving my understanding of what I need to do to become a more effective professional. One significant improvement I feel I have made has been around my maturity, particularly regarding my ability to behave in a much more professional manner around the workplace, despite distractions.

Student B *Something else which I feel is appropriate is maintaining a high level of maturity in the workplace and respect for other colleagues. As the youngest member of the team there could be some things I say or do which would not be suitable or which could offend others. I therefore must adopt a certain attitude and adhere to office etiquette to enable myself to not only fit in, but also be respected and considered as a member of the team. This is something which I feel I have managed to do throughout the past three months as I feel I am generally a very mature and respectful person, and have developed this through my working like so far and other activities where I have worked alongside a variety of different people.*

Student C *Being an effective professional means includes having the ability to:*

- *Identify any problems and get them sorted out as quickly as possible before they manifest themselves*
- *Working as part of a team*
- *Learning from others and give knowledge to others*
- *Adapt and be flexible when given situations or problems arise*
- *Learn from previous experience / encounters with previous customers*
- *Make the job your own by bringing any past experience you have or new ideas*

Student D *after my experience in China it is possible to become a professional in different ways. Usually when asked what makes an effective professional I would list technical skills such as having the ability to apply numeracy or applying IT. I feel that in the past I have demonstrated such skill but after my experiences in China I believe that an effective professional must at least have the skills listed below:*

- *Self Management – through time management, being a self starter at tasks and improving skills through constant reflection.*
- *Problem Solving – by analysing situations and creating appropriate solutions.*
- *Communication – the ability to clearly express a subject or emotion orally or verbally.*
- *Team working – through co-operating and respecting others, negotiating with colleagues and realising the interdependency of a team.*

I feel that an endless amount of skills could be added to the list but this is the minimum required to become an effective professional.

These perceptions represent much valuable learning gained through exposure to and participation in everyday work situations. They are insights that can be built upon in future and insights that can be shared when they present themselves to prospective employers.

A learning partnership for self-authorship

The Learning through Work Certificate provides another example of a learning partnership (Baxter Magolda 2004) through which students' experiences of being and knowing, and their development of personal knowledge (skills, qualities and dispositions necessary to make effective use of this knowledge), enabled them to successfully fulfil their work roles.

The work of Baxter Magolda draws attention to the importance in personal development of what she calls 'the growth of epistemological, intrapersonal and interpersonal complexity' (Baxter Magolda 2004:41). As Eraut shows (Eraut 2007) and our students' reveal (Willis 2010; Campbell 2011) the work environment provides an important setting in which students can encounter the conditions that provide the opportunity for growth in being able to deal with complexity.

Examples of students engaging with and appreciating such complexity in the situations they had to deal with has been provided in some of the extracts above and some further examples are given below. All seven accounts revealed, to varying degrees, students engaging in situations that involved the three assumptions that underlie the concept of self-authorship namely: 1) *knowledge is complex and socially constructed*, 2) *self is central to knowledge construction* and 3) *authority and expertise are shared in the mutual co-construction of knowledge among peers*.

Student A took on a part-time summer job at a major supplier of building materials.

Naturally, some opportunities passed me by, some causing me to miss out on a high value sale. One particularly expensive sale I [nearly] missed out on was when a customer came in looking for a price list of our various timbers and tonne bags of ballast and shingle and the suchlike. After ascertaining that the customer didn't hold an account with us, I proceeded to give him the prices that would be charged to customers that were described as 'cash customers', and were naturally more expensive than the 'trade customer' rates that were set up. The customer was quite shocked that we were around 40p a metre more expensive than one of our largest competitors and began to leave when my colleague came over and rescued the sale. As it turned out, the gentleman was part of a large firm who were beginning a new building project nearby and were looking to purchase a large quantity of supplies from us – something that I had failed to enquire about before offering prices.

Student B undertook a month-long internship for an events management organisation in Beijing. Before she went she tried to prepare herself by reading about what it was like to live in China and took lessons in Mandarin, but this did not really prepare her for the significant cultural differences that she had to learn to deal with.

During my internship, I kept a diary and I learnt that my attitude towards the Chinese culture had changed over time. I firstly entered the country thinking that Chinese people were not welcoming and were too traditional and to some

extent narrow minded to eventually become a world economic power. I then realised during the second week into the internship that I had come with a Eurocentric point of view and been slightly unfair and so did my best to give a try and adapt to it. Once I stopped being Eurocentric I realised that I was much more happy in my time during China and felt much more confident with myself ... I learnt that Chinese companies (or at least the company I worked for) placed a high level of importance on hierarchy and sometimes suggestions were not really regarded as useful if you were low in the company's hierarchy. It would sometimes be regarded as rude or going beyond your designated boundary. I learnt that it was best to give advice or suggestions when asked as oppose to using your own initiative.

Concluding remarks

There is no doubt that organisational work environments provide conditions that expose students to the everyday cultural knowledge that underpins the behaviours and actions of the organisation. This knowledge and other knowledge necessary for learners to be effective in their work role are learnt collaboratively and often informally through performing the role. This experience of developing and using these forms of knowledge is valuable to students future learning in other work environments and complements more formalised classroom learning with its strong reliance on transmissive modes of teaching and codified abstract knowledge. These forms of knowledge development and use are important to the development of self-authorship – the sense and agency to design and implement your own life (Baxter Magolda 2004).

The work environment is dynamic and because it is full of social interaction, the detail of what happens is unpredictable. In such environments students gain experience of learning how to deal with situations as they emerge. Much of this learning and the personal change/development that results is both generic and transferable i.e. general insights and skilful practices can be used to inform thinking and support action in other situations. The learning partnership model developed through the Learning through Work Certificate, encouraged students to pay attention to the cultural and social interactions in their workplace and to use these events as resources for learning. Fundamentally, this process helped participants reflect critically upon their experiences. The process of making their understandings explicit enabled participants to appreciate even more what they had learnt and how they had changed. This enhanced self-awareness is the most tangible and useful outcome for participants in the process. The mediating artefacts created by participants to reveal some of their learning and development enabled the assessors to appreciate and validate the personal knowledge and newly acquired practical skills.

Through the process of developing and piloting the Learning through Work Certificate we realised the important role played by work in enabling students to learn and develop in ways that are essential for their future employment. These forms of development could be incorporated into a higher education through a lifewide concept of education.

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Lifewide Learning & Ecologies of Learning and Practice: The Legacy of Michael Eraut

Norman Jackson

Introduction

It was no coincidence that the Surrey Centre for Excellence in Professional Training and Education invited Michael to work on its lifewide learning project. Michael had spent nearly two decades attending to the question of how people learn in highly specialised environments. He observed people performing their work-related activities and tasks in their work environment and, through interview, probed what was going on in the minds of his research participants. He thought deeply about what he had observed and heard and tried to make sense of all these things developing a number of useful conceptual tools to aid understanding in the process.

Unlike the educational environment where the work of students was formed around learning and explicitly directed to the achievement of specific learning outcomes, Michael recognised that the work environment was configured rather differently. In this environment learning is typically a byproduct of trying to achieve something rather than the explicit goal of what is being done. Because of the simple fact that work is about achievement of goals and performances directly related to work – like making something, solving a problem or dealing with an enquiry or a complaint, the learning in the activity is often hidden from or unacknowledged by the worker. In such contexts, learning is often not simple to define and people may only know that they have learnt something when they suddenly realise that they can do something that we could not do a few weeks or months before.

Michael's hard-won understandings were directly relevant to the world of work that our students on work placement were experiencing so it was easy to incorporate his thinking into our own thinking, practices and research designs. In particular we developed new placement student survey instruments based on his research.

But his understandings were also relevant to the other non-formal and informal social learning environments that we were interested in. His thinking permeated our own. But I don't think that Michael fully appreciated this for most of the time he spent working with us. Furthermore, I don't think our lifewide learning ideas significantly impacted on his thinking. However, I do remember him saying to me at SCEPTRe's closing event in April 2011, and the last time I saw Michael, that he finally understood the significance of what we were exploring.

Ecologies for learning and practice

In the last few years we have begun to develop the idea of learning ecologies (Jackson 2016) and ecologies of practice to explain the complexity involved in performing complex tasks where significant learning is involved. As far as I am aware, Michael Eraut never used the term learning ecologies, indeed it was not an idea that we worked with in SCEPTRe. Ironically, in 2017 when I was contemplating editing a book with Ron Barnett on Learning Ecologies, Michael was one of the first people I thought of inviting to join us. Only then did I discover from his wife Cynthia, that Michael was suffering from dementia.

Because, in the work environment learning is typically a bi-product of work, if Michael had written about learning ecologies, I am sure that he would have talked about ecologies of practice from which learning was derived. And at the heart of such an ecology he would have undoubtedly placed his concept of an 'epistemology of practice' (Eraut 1994) i.e. when encountering or creating a new situation the practitioner: 1) Assesses it 2) Decide what action (s) to take in the short and longer term 3) Implement the action (s), modifying, consulting and reassessing as and when necessary; 4) Metacognitive monitoring of oneself, people needing attention and the general progress of the case, problem, project or situation; and also learning through reflection on the experience.

These actions are combined into an integrated performance that does not follow a simple sequence of assessment, decision and then action but is responsive to the effects of interaction of the person and their situation (s) in their particular environment. What I take from this core concept is the idea of a person, with capabilities developed from a past learning life, acting with awareness and sensitively to the situations and environments he/she finds themselves in and responding in the way they judge to be most appropriate and effective in this particular set of circumstances.

Michael's core concept is an interactionist model of being which must also be at the heart of any ecology of practice. Learning how to perform and/or how to achieve something is the bi-product of this complex interaction which may be sustained over considerable time. The second idea that Michael has drawn attention to is the way learning emerges from such a process in his concept of learning (and development) trajectories. In his monograph with Wendy Hirsch (Eraut and Hirsch 2007:11) the term 'learning trajectory' to embrace the 'progress in a person's performance' and the learning and development that was associated with the progress.

Examples of making progress in a developmental and performance sense involves doing things better, doing them differently and doing different things, and might include (ibid:12).

- Doing things faster
- Improving the quality of the process
- Improving communications around the task
- Becoming more independent and needing less supervision Helping others learn to do the task
- Combining tasks more effectively
- Quicker recognition of possible problems
- Expanding the range of situations in which one can perform competently
- Increases in task difficulty/ taking on tasks of greater complexity
- Dealing with more difficult or more important cases, clients, customers, suppliers or colleagues.

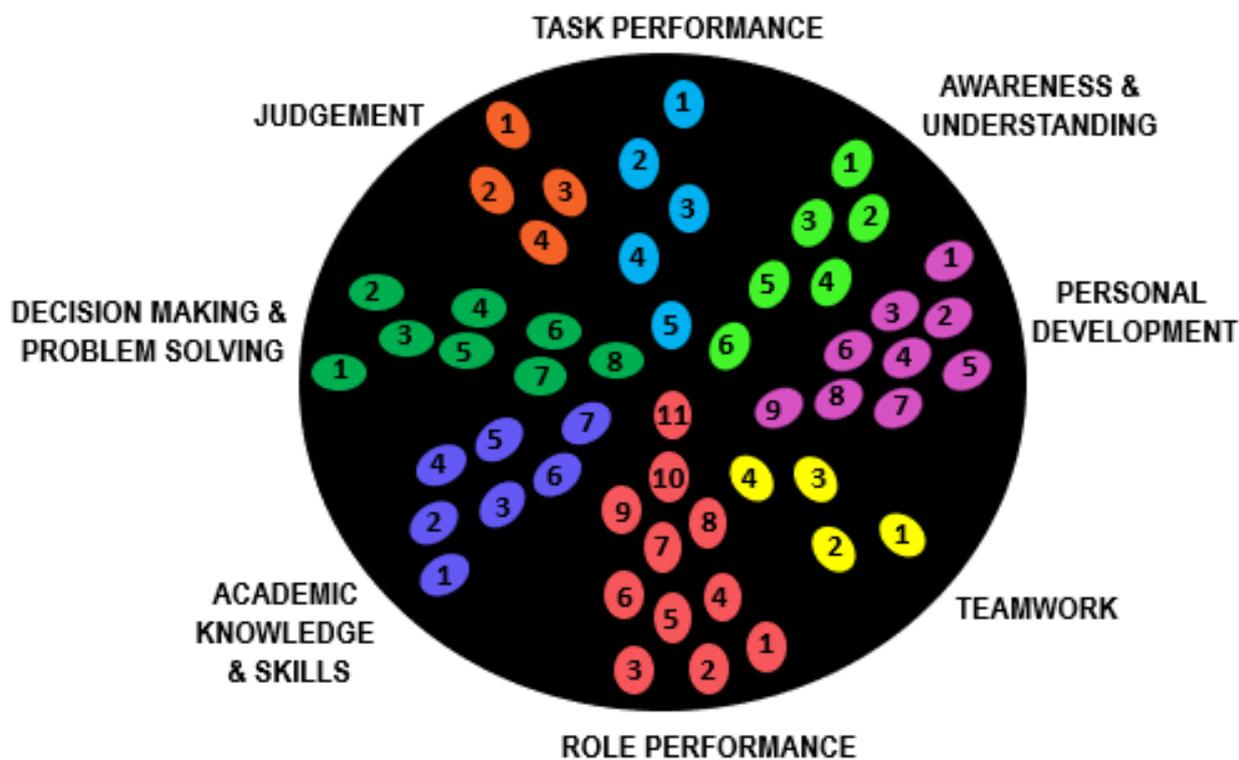
Eraut and Hirsch (ibid) viewed performance as complex and multidimensional, and the development of one set of performances (and related capabilities) along a trajectory does not necessarily mean that other capabilities are being developed at the same time. Indeed, some capabilities and related performances might regress if there are no opportunities to practice and perform them (ibid:12). Eight learning trajectory categories and 53 learning trajectories were identified to cover complex performance in the professional work environment (Table 1).

Table 1 Learning trajectories identified by Michael Eraut

<p>Task Performance</p> <ol style="list-style-type: none"> 1. Speed and fluency 2. Complexity of tasks and problems 3. Range of skills required 4. Communication with a wide range of people 5. Collaborative work <p>Awareness and Understanding</p> <ol style="list-style-type: none"> 1. Other people: colleagues, customers, managers, 2. Contexts and situations 3. One's own organization 4. Problems and risks 5. Priorities and strategic issues 6. Value issues <p>Personal Development</p> <ol style="list-style-type: none"> 1. Self-evaluation 2. Self-management 3. Handling emotions 4. Building and sustaining relationships 5. Disposition to attend to other perspectives 6. Disposition to consult and work with others 7. Disposition to learn and improve one's practice 8. Accessing relevant knowledge and expertise 9. Ability to learn from experience <p>Teamwork</p> <ol style="list-style-type: none"> 1. Collaborative work 2. Facilitating social relations 3. Joint planning and problem solving 4. Ability to engage in and promote mutual learning 	<p>Role Performance</p> <ol style="list-style-type: none"> 1. Prioritisation 2. Range of responsibility 3. Supporting other people's learning 4. Leadership 5. Accountability 6. Supervisory role 7. Delegation 8. Handling ethical issues 9. Coping with unexpected problems 10. Crisis management 11. Keeping up-to-date <p>Academic Knowledge and Skills</p> <ol style="list-style-type: none"> 1. Use of evidence and argument 2. Accessing formal knowledge 3. Research-based practice 4. Theoretical thinking 5. Knowing what you might need to know 6. Using knowledge resources (human, paper-based, electronic) 7. Learning how to use relevant theory (in a range of practical situations) <p>Decision Making and Problem Solving</p> <ol style="list-style-type: none"> 1. When to seek expert help 2. Dealing with complexity 3. Group decision making 4. Problem analysis 5. Formulating and evaluating options 6. Managing the process within an appropriate timescale 7. Decision making under pressure <p>Judgement</p> <ol style="list-style-type: none"> 1. Quality of performance, output and outcomes 2. Priorities 3. Value issues 4. Levels of risk
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While we might argue about the detail of this framework and its relevance to all work contexts and environments (remember Michael was specifically focused on environments and contexts in which selected groups of professionals worked) the idea that we develop ourselves along complex trajectories of knowing, understanding, capability, awareness and many other aspects of development, according to the nature and circumstances of our interactions with the environment in which we are performing, is highly relevant to the idea of ecologies of learning and practice.

We can represent the 53 learning trajectories in the framework as 53 separate strands in a values-capability-development 'rope'. The analogy of a rope made up of many strands was invented by another SCEPTre Fellow Jenny Willis (2010) in the context of the idea of learning trajectories. Just as the strength is given to the rope by the complex intertwining of its strands, our capability to achieve difficult things is the result of our unique learning and practice history and the complex entanglement of the many strands of knowledge, skill, value, disposition and other qualities and characteristics that constitute who we are. Each strand can be numbered (Table 1) and colour coded according to its category (Figure 1).



We might speculate that any significant new project undertaken by an individual will require them to create an ecology to achieve the goals of their project. All the components of the learning ecology will be involved and learning and performance will emerge through the implementation of the ecology. This way of viewing development as improved or new knowledge, skill or capability demonstrated through performances along one, several or many trajectories simultaneously provides a useful and holistic way of viewing the developmental outcomes from a learning ecology. I will illustrate what I mean by reference to an example of an ecology of practice I recently created.

Embedded in the detail of the learning trajectory framework is the idea of knowing how to create an ecology of practice in order to achieve or perform in this unique set of circumstances. While an experienced practitioner will have a repertoire of ways and means of accomplishing their tasks, the ways these are implemented, adapted and integrated can only be known through the experience of thinking and doing in a particular context and set of circumstances.

Using the learning trajectory model to illuminate the learning, performance and achievement outcomes from an ecology of practice

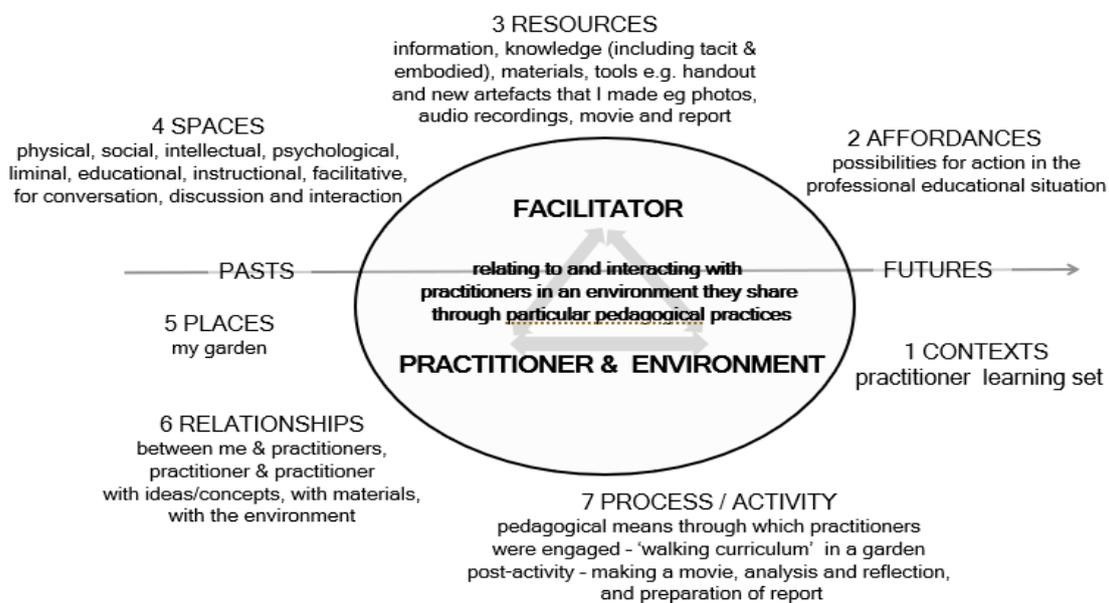
As I was writing this article my wife (who is a GP) invited me to facilitate an event for a group of experienced General Practitioners (GPs) at our home. I have been interested in the idea of a 'walking curriculum' (Judson 2018). In her work on Imaginative 'Ecological Education', Judson frames the idea of a walking curriculum as a means of engaging school children in the natural world to support 'a place-based and context / situation specific approach to learning which aims to develop

learners' somatic (bodily), emotional, and imaginative bonds with the natural world generally, and with specific places in particular.'

I am interested in understanding how an opportunity to walk in, through and with nature might stimulate creative thinking in the contexts of professional conversation, problem solving, learning and relationship development. I thought it would be interesting to try to use the idea as the foundation for session with the GP's and use my garden as the environment or place for this experience. This was as much a new experience for me as it was for my participants.

My ecology of practice: The overall pattern of my unfolding ecology followed the pattern that Michael had determined. I assessed the situation, decided on the actions I needed to take in the short and longer term, I implemented these actions and monitored (and documented through photos, audio and video recordings) what happened and then reflected on the experience and documented what I had learnt from the whole experience in a written report. In terms of assessing the situation and deciding what to do, I am an experienced teacher/facilitator so I have a well developed repertoire of practices that I have learnt to draw upon. I spent a few hours thinking about the context and the environment and what I thought might interest the people involved and designed a simple process involving activities in my garden and house to engage participants. I produced a two-page handout to communicate the task and shared and discussed it with my wife.

Figure 2 Representation of my ecology of practice within which new learning emerged. The diagram of an ecology for practice is based on the current model I am using (Jackson 2019).

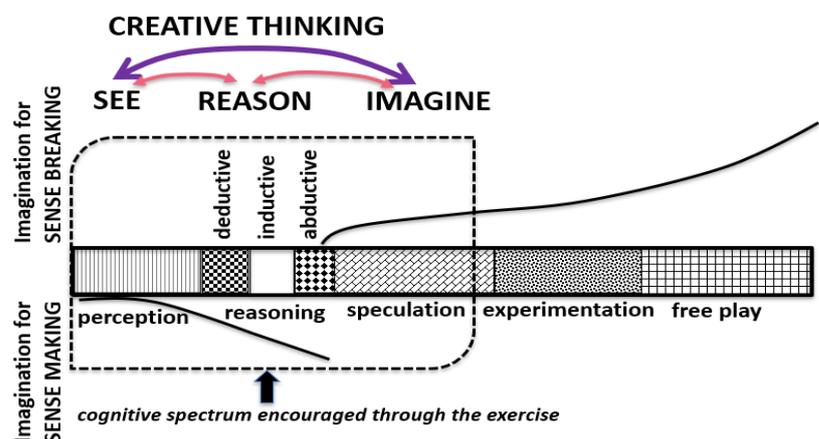


Once the group was assembled I introduced the activity using the handout and highlighted two ideas. The first was the idea of a walking curriculum developed by Gillian Judson (Judson 2018a & b) – a walk in the natural world with an educational purpose to stimulate imagination and creative thinking to gain fresh perspectives on problems and solutions to problems in their professional world.

The second idea was to encourage creative thinking – the playful and productive interplay of perceptions, reasoning and imagination. I used the theoretical framework developed by Ann Pendleton-Jullian and John Seely Brown (2016) to show the creative thinking process (Figure 3) to raise awareness of how perception, reasoning and imagination were intertwined in thinking about and with complexity.

Figure 3 The cognitive spectrum (Pendleton-Jullian and Brown 2016)

CREATIVE THINKING : involves the complete spectrum of thinking harnessed in a purposeful, imaginative and productive way



The activity took place at my home. I am blessed with a large garden which provided the venue for the walk. It has three different spaces – cultivated garden with a small lake, natural woodland and an uncultivated meadow.

The exercise I had constructed (my pedagogical strategy) involved participants walking in pairs for about 30mins discussing problems and challenges in primary care and possible solutions using objects they found in the garden that provided them with a useful metaphor. The objects were photographed and emailed to me and were used as visual prompts (displayed on the TV) when the group reconvened inside the house and shared their conversations.

Everyone took the exercise seriously and I was able to observe the way participants interacted with each other and the garden and took photographs and short video clips to show how the activity worked.

After the event I spent a day making a 10min movie to provide participants with a reflective aid and also document the process and synthesise the outcomes i.e. provide evidence of the value of the process as a means of learning. I have made many short movies before so the process was known to me but I had not edited audio recordings before so that was new to me. I uploaded the movie to my YouTube channel and sent a private link to the participants. After I completed the process I 'new' what was involved in making such a movie in a way that I didn't know before.

I also spent several hours creating a short report of the event which served as a reflective tool for participants and a means of documenting the process for myself drawing out the most important things I had learned. I revised the recordings of GPs giving feedback and collated the problems and solutions they had highlighted and the garden metaphors they had used. In doing this I realised that they had used two different cognitive routes to tackle the challenge I had given them. This was a new insight for me.

Learning as a bi-product of my ecology of practice

The purpose of the activity was to encourage professional interaction and conversations in an environment in which such conversations did not normally take place. The short movie I made demonstrates how this was achieved. By placing participants in the natural world and inviting them to seek objects and relationships that could act as metaphors for problems and possible solutions in their professional lives I was encouraging them to think ecologically. Participants' stories indicated that this objective was achieved.

Using the cognitive continuum framework (Figure 3) as a conceptual tool I observed two patterns of engagement with the challenge I had set (Figure 4).

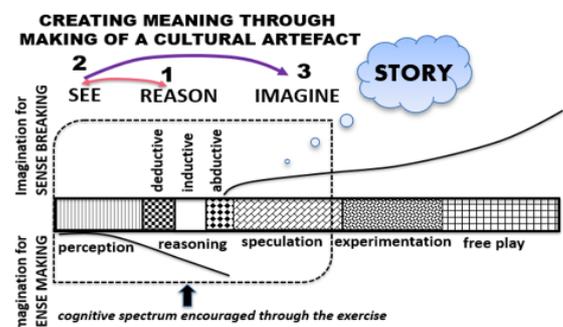
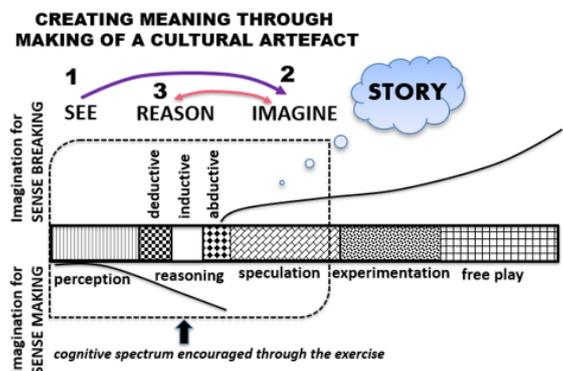
Figure 4 Two ways in which participants engaged with the challenge I had set.

The first approach was: 1 Perceive - look at something 2 Imagine what that something might mean in the context of our experiences and practices 3 Discuss and reason how the something becomes a metaphor for experience and practice. This approach is well illustrated by the story of the children's table and chairs as it is the first thing that can be seen as participants stepped out of the door.

The second approach began with conversations. I observed participants deep in conversation without paying attention to their surroundings and then searching for images in the environment that they could use to inspire, illuminate and communicate their story. In terms of thinking this approach might be characterized as 1 Reason (cases drawn from practice experiences) 2 Perception (look for something in the environment) with 3 Imagination to see the something as a metaphor for the problem or solution they were seeking. The reality is that participants used a combination of these approaches.

I could have learnt more about this question I was seeking to understand by trying to gain more feedback from participants but that was not the point of the exercise. My task was to facilitate their professional conversations and experiences – more specifically my job was to encourage them to think in a way that combined and integrated their perceptions, reasoning and imaginations to create meaning. That was my goal and my observation was that what emerged achieved this goal.

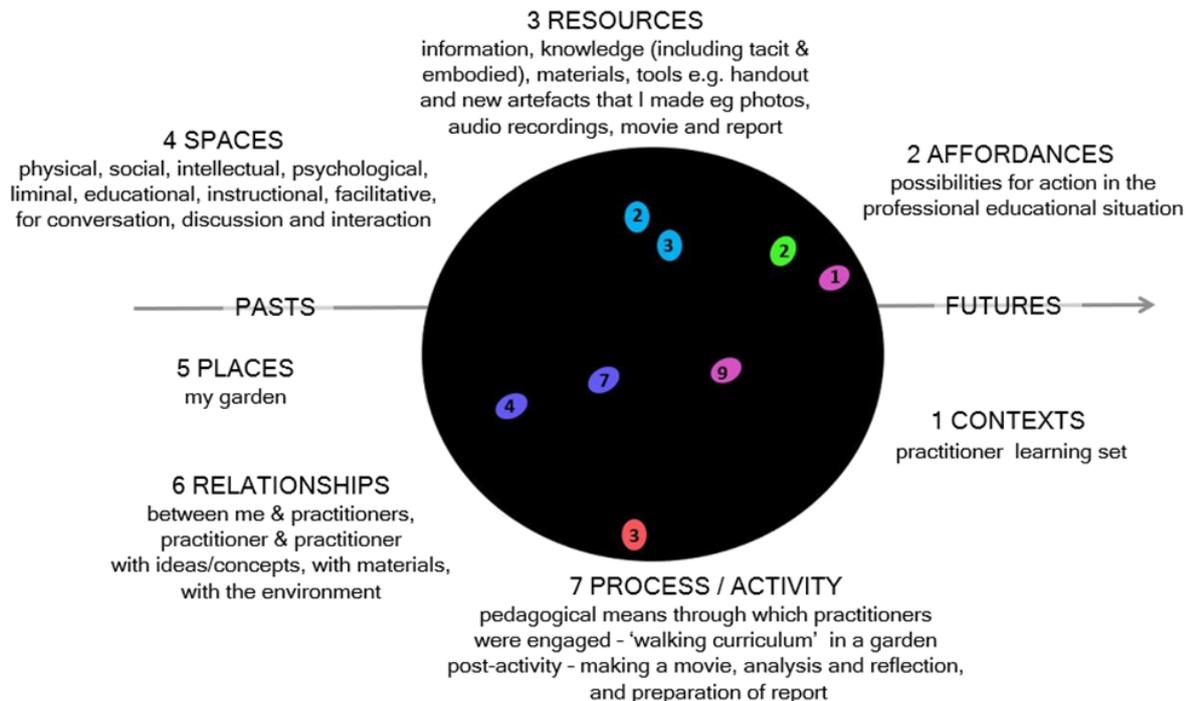
TWO APPROACHES TO CREATIVE THINKING



My learning trajectories

Returning to the tools that Michael Eraut has given us, I discovered that I could use the learning trajectory framework to reveal the aspects of learning and development I believe I gained through this recent ecology of practice. Figure 5 provides a visual summary. The method does not attempt to quantify the amount or quality of learning and development it merely shows that some learning and development occurred in these domains.

Figure 5 Learning trajectories that were active in my learning ecology (see Table 1 and figure 1 for coding)



My final tribute to a great researcher



For any researcher who devotes a significant part of their life to trying to understand something, the knowledge they create lives on in their published work and perhaps recordings of the talks they have given. Through careful and thoughtful effort, Michael created important new knowledge about how people learn in professional work environments – knowledge that we can trust. And in that knowledge are conceptual ideas that can be used as a springboard for further exploration. Michael certainly informed and influenced my thinking and I think he would be very happy to know just how much we appreciate him and the legacy of learning he gave us. Thanks to his work I have conceptual tools to help me think about how I learn and what I am learning in the contexts of my own practices, and ideas for how I might progress my own understandings.

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FAREWELL TO EXECUTIVE EDITOR JENNY WILLIS



It is always a sad occasion when we bid farewell to a much-valued, hardworking and creative colleague. In July Jenny announced that she was relinquishing her role as Executive Editor of the 'Lifewide' and 'Creative Academic' Magazines, a role which she has performed magnificently since the birth of both organisations. Under her able and creative stewardship we produced 21 Issues of Lifewide Magazine and 13 Issues of Creative Academic Magazine, most of which contain at least one article written by Jenny. A considerable output especially given that most of the work was undertaken on a voluntary basis alongside her busy life as a teacher and wife, and running her own charity concerned with mental health. In addition to her editorial work on the magazines, Jenny co-edited the proceedings of our 2014 Learning Lives conference 'Lifewide Learning and Education in Universities and Colleges'.

I first started working with Jenny when she held a Research Fellowship in the Surrey Centre for Excellence in Professional Training and Education (SCEPTRE). Her work at the University was primarily concerned with conducting research into what students on work placement were learning and how they were learning, and here she made many useful connections to the work of Michael

Eraut featured in this magazine. But Jenny is deeply interested in learning and though her long career as a teacher she is committed to helping and enabling others to learn. So it wasn't at all surprising that she enthusiastically embraced the idea of lifewide learning. When the SCEPTRE project came to an end in 2011 and I set up Lifewide Education, Jenny was the first person to come on board and she has worked tirelessly ever since we started to support our mission. In her role as Executive Editor she has helped to give Lifewide Education a voice and in the process shaped who we are as an organisation. At a personal level, she has given me great practical support and encouragement. But Jenny will not be abandoning us, she remains a member of the core team and has promised to continue supporting and contributing to the Lifewide and Creative Academic enterprises and we look forward to continuing our productive relationship in the years to come. So Jenny, on behalf of Lifewide Education and Creative Academic

A GREAT BIG THANK YOU FOR ALL YOU HAVE DONE FOR US **Norman Jackson (Founder Lifewide Education)**

FAREWELL MESSAGE FROM JENNY

In July, I made one of the most difficult decisions of my life: to renounce editorship of LWE and CAM. These magazines have been a significant source of intellectual stimulation and creativity for me since their inception and my 'retirement.' Not only do I have a proprietorial bond with them, I am profoundly indebted to Norman and feared that my withdrawal would be an act of disloyalty. For it was Norman who enabled me to straddle my formal role as an administrator at the University of Surrey and my academic research interests first, through a fellowship in SCEPTRE, and later through involvement in numerous student-focused projects.

What changed in July? I was confident that Norman could now depend on new talents, who brought their own styles to editorship. At nearing 69, I still resist 'retirement', but recognise that I can no longer sustain my current workload. To use Norman's model of learning ecologies, one contributor to the projects was undergoing the natural evolutionary process, giving way to younger ones.

I would like to record my sincere thanks to Brian Cooper, who put me through an accelerated introduction to editing – I hope I did you justice; to Norman, for giving me the many opportunities he has; and to all our readers and contributors for giving me so many hours (days, weeks...) of academic pleasure.

I hope to be able to contribute still to LWE and CAM as they evolve, and recall a Zen quote:

"New beginnings are often disguised as a painful ending." Lao Zu

Opportunity for a new Executive Editor

As Jenny Willis reminds us, when someone relinquishes a role an opportunity is created for someone else to fulfil that role.

This is an open invitation to any member of the community who might be interested in joining the Editorial team as Executive Editor to produce, with the Editorial team, two issues of Lifewide Magazine each year, to get in touch.

Norman Jackson,
Commissioning Editor Lifewide Magazine,
lifewider1@gmail.com



EXCITING NEWS

One of the great delights in life is to open your mailbox and discover an interesting and exciting invitation. This happened to me a few weeks ago when I received an email from Marga Biller who is the Project Director for the Learning Innovations Laboratory at the Harvard Graduate School of Education. LILA is a 20-year old research project that brings together non-competing chief learning, talent and innovation officers from 20 global organizations to push one another's thinking and practices as they consider the future of human development and creativity in the workplace. The community consists of leaders operating in a variety of contexts such as Steelcase, Deloitte, US Army University, Merck, Independent Schools of Victoria Australia, Publicis Sapient, and Visa.



Founded in 2000 at the Harvard Graduate School of Education's Project Zero, "Learning Innovations Laboratory (LILA)" is a consortium of researchers and practitioners who are leaders in the field of organizational effectiveness, learning, innovation and change. They collaborate by sharing experimental work and emerging thinking in order to generate effective future practices. With the input of academic experts from a variety of disciplines, these leaders collectively become a 'learning lab' in which they learn with and from one another about the contemporary challenges of human learning & innovation in organizations. LILA is an invitation only learning community that actively explores how current research can inform the decisions they take on key challenges and initiatives in their organizations

Each academic year, the LILA community explores a topic related to challenges of human and organizational development. Last year LILA explored the theme of *Collective Mindfulness* and based on conversations that took place last year and the member's current challenges, it was decided that the theme for 2019 - 2020 would be *Ecologies of Learning in a Transforming World*. Marga was inviting me to join the process to share our work on learning ecologies, lifewide and life-long learning and I will be going to present and discuss my ideas at the first meeting in October 23 and 24th.



Short animation describing what Learning Innovations Laboratory (LILA) is about.

<http://www.pz.harvard.edu/resources/what-is-lila>



lifeworld magazine

Lifeworld Magazine is the voice of the Lifeworld Education community.

It is published twice a year and each issue examines a different aspect of lifeworld learning, education, personal development & achievement.

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Neda Tomlinson

We welcome contributions from members of our community.

Please send your contributions to Norman Jackson lifewder1@gmail.com

Lifeworld Education is a not for profit, community-based, educational enterprise whose purpose is to encourage and support a lifeworld and ecological approach to learning, personal development and education.

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