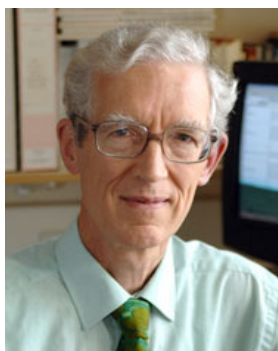


CHAPTER D1

Improving the Quality of Work Placements

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This content of this chapter was presented as a paper at the AERA Annual Conference, San Diego, April 2009 'Symposium on Learning in the Workplace Findings from the UK Teaching and Learning Research Programme'. The results of the on-line questionnaire survey described in this paper have also been presented at a seminar which can be viewed at <http://learningtobeprofessional.pbworks.com/w/page/15914953/Improving-the-quality-of-learning-in-work-placements>.

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 focussed 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 SCEPTR E 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*.

Second, *processes* which were clearly bounded and relatively time consuming were separated from comparatively short *activities*, such as asking questions, observing or reflecting. These *activities*, which could occur many times in a single process, were moved into a different category in the central column of Table 2.

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> <i>Working with clients</i> <i>Participation in groups</i> <i>Consultation</i> Tackling challenging tasks and roles Problem solving Trying things out Consolidating, extending and refining skills	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.

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 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 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.

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.

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 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 Generating, 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 **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

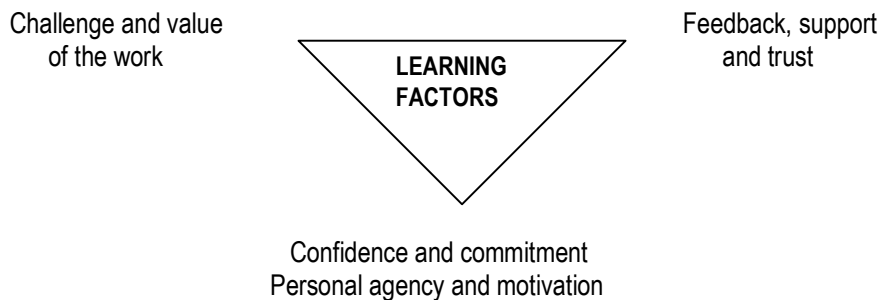
The **fourth conceptual tool** concerns the factors that influence learning in the workplace. One prominent finding of our earlier research on mid-career learning was the overwhelming importance of *confidence*. Much learning at work occurs through doing things and being proactive in seeking learning 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 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.

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.

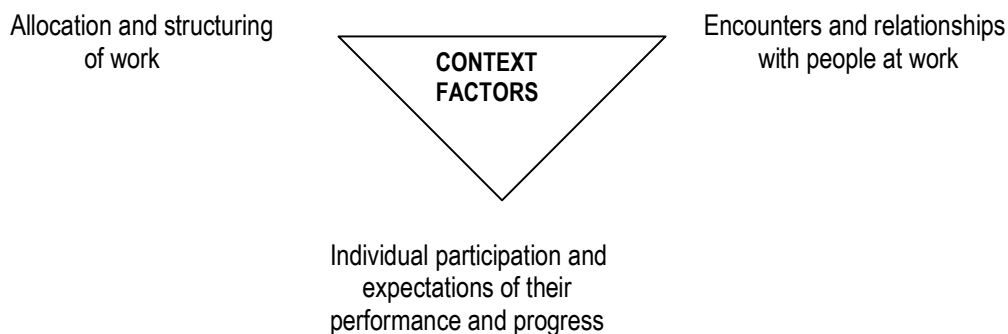
Figure 1: Factors affecting learning at work: the Learning Factors



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: Factors affecting learning at work: the Context 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 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 organisation 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).

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

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 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	76 94HMS	31ML 43
How much responsibility have you been given in project work?	62ML 78 100HMS	27ML 44 59HMS
To what extent has participation in projects helped you to learn more about the content of the project?	88 100HMS	31ML 43
new skills?	88	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? To monitor progress? To evaluate outcomes? To manage people?	66 71 64 24HMS 36 46ML	33 41HMS 25 35HMS 25 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 7 point scale. The column heads show the number of responses.	A 85- 95	B 77- 89	C 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

Table 10 below 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.

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	20	11	46 67HMS
Have you asked to work with a different person or group?	35	24	9	16EPS 33 46AHS
Have you asked to move to a different section or department?	50	28	11	2AHS 11
Have you asked anyone about the different kinds of work in your organisation?	13	7	3	77 93HMS
Have you asked to do different kinds of work?	21	23	13	30ML 44 60HMS
Have you asked anyone to introduce you to someone you would like to meet?	23	33	6	14EPS 39
Have you asked for new tasks in your current load?	13	13	9	50ML 65
Have you asked to work on a particular project?	23	24	9	29EPS 45 61AHS
Have you asked to be given more responsibility?	25	28	6	27HMS 42 54AHS
Have you persuaded others to back any of your initiatives?	24	25	8	33HMS 43
Have you overtly asked people for feedback on your work?	3	27	4	52ML 66 79AHS

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 your 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 particular parts 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
	19	20	27	14AHS	34	53HMS

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.

Editorial postscript

Since this work was undertaken the survey instrument has been simplified and refined and it is now being piloted in one Faculty 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. The results of this work will be published in the e-book when they are available.

References

- Alcott, P. (2011) Helping Learners Develop the Means to Deal with Challenging Relationships in Work Placements: The importance of creativity, In N, J. Jackson (ed) *Learning to be Professional through a Higher Education ebook*. Available at: <http://learningtobeprofessional.pbworks.com/w/page/39541570/Helping-Learners-Develop-the-Means-to-Deal-with-Challenging-Relationships-in-Work-Placements>
- Bandura, A. (1995) *Self-efficacy in Changing Societies*, Cambridge University Press
- Eraut, M. (1994) *Developing Professional Knowledge and Competence*, London, Falmer Press
- Eraut, M. (2007) Learning from Other People in the Workplace, *Oxford Review of Education*, 33 (4), 403-422
- Eraut, M., Alderton, J., Boylan, A., & Wraight, A. (1995) *Learning to Use Scientific Knowledge in Nursing and Midwifery Education*, English National Board
- Eraut, M., Alderton, J., Cole, G., & Senker, P. (2000) Development of Knowledge and Skills at Work. In F Coffield (Ed) *Differing Visions of a Learning Society, Vol 1*, Bristol: The Policy Press, 231-262
- Eraut M, Maillardet, F., Miller, C., Steadman, S., Ali, A., Blackman, C., & Furner, J. (2005a) *What is Learned in the Workplace and How? Typologies and results from a cross-professional longitudinal study*, EARLI biannual conference, Nicosia, 2005a

- Eraut, M., Maillardet, F., Miller, C., Steadman, S., Ali, A., Blackman, C. & Furner, J. (2005b) *An Analytical Tool for Characterising and Comparing Professional Workplace Learning Environments*, BERA conference, Pontypridd, 2005b
- Eraut, M. & Hirsh, W. (2007) *The Significance of Workplace Learning for Individuals, Groups and Organisations*, SKOPE Monograph 9, Oxford
- Klein, G. (1989) Recognition-primed Decisions. In WB Rouse (Ed) *Advances in Man-machine Systems Research*, Greenwich, CT: JAI Press, 47-92
- Klein, G.A. Orasanu J, Calderwood R & Zsombok CE (Eds) (1993) *Decision-Making in Action, Models & Methods*, Norwood, NJ: Ablex
- Thomas, K.W. (2000) *Intrinsic Motivation at Work; Building energy and commitment*, San Francisco: Berrett-Koehler
- Willis, J. (2009) *Professional Training and Careers Committee Students Survey, Placements 2007-2008*, University of Surrey, UK
- Willis, J. (2010) Developing professional capability through Professional Training at the University of Surrey. In N, J. Jackson (ed) *Learning to be Professional through a Higher Education ebook*. Available at: <http://learningtobeprofessional.pbworks.com/w/page/23781822/Developing-Professional-Capability-through-Professional-Training-at-the-University-of-Surrey>