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**Learning in the Professional Workplace:
Relationships between Learning Factors
and Contextual Factors**

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Abstract

Evidence was collected from a set of two visits (several months apart) to 16 trainee accountants, 34 graduate trainee engineers and 40 newly qualified nurses. Each visit involved 1-2 days observation and an interview. Analysis led to a two-triangle model depicting the relations between the key variables: a triangle of interacting Learning Factors -- confidence and commitment, the challenge and value of the work, feedback and support; and a similar triangle of interacting Context Factors – allocation and structuring of work, encounters and relationships with people at work, individual participation and expectations of their progress and performance. Particular attention is given to the role of “helpful others” in the workplace: how this depends on the nature of working relationships in particular contexts; and the relative merits of designated helpers and shared responsibility for helping newcomers.

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Introduction

This paper is written at the mid-project stage of research funded by the British Economic and Social Research Council's Teaching and Learning Research Programme; and is based on the first half of a longitudinal study of the mainly informal workplace learning of accountants, engineers and nurses. The paper focuses on two particular aspects of our research: the link between learning opportunities and the work patterns and cultural practices of the organisation in which they occur; and the role played by "helpful others" in the support of the workplace learning of novice professionals.

Methodology/research design

The sample comprises 16 trainee accountants, 34 graduate trainee engineers and 40 newly qualified nurses. The accountants and engineers are formally contracted trainees, for whom employers have developed systems of organised training support. The engineers start with relevant degrees, e.g. in engineering or computer science, but the accountants' degrees are rarely in relevant subjects so they start with only those learning and thinking skills acquired at university that are not sector generic. The data set comprises field notes on observations in the workplace, transcripts of interviews with learners and interviews with their managers and/or mentors. These cover the first two of four visits in a 3 year longitudinal study (see Eraut et al 2003 for details). The interviews with learners go beyond the usual exploration of participants' experiences and feelings to explore three questions as precisely as possible:

What is being learned?

How is it being learned?

What are the main factors affecting this learning in the workplace?

This framework was originally developed for a previous project on mid-career learning in the workplace (Eraut 1999, Eraut et al 2000); but has been enhanced for this research by the addition of a period of 1-2 days observation prior to the interview. In addition to the evidence of the field-notes, the observations enabled us to use workplace documents and activities as starting points for conversations about embedded knowledge and its acquisition that would otherwise have been impossible.

The data from the first year of the project has been analysed in three Interim Reports, one for each sector, which provide the main data sources for this paper. Evidence from the later second visits has also be taken into account. Given the size of this data base and the variety of research settings, the theoretical model that provides the substance of this paper can only be supported by describing the range of evidence on the key issues and providing illustrative examples. Readers can refer back to the interim reports for further exemplification. The project does not aim to provide conclusions that extend across all learners and all contexts. Instead it aims to identify key factors that affect learning, whose relative significance will vary across contexts, and to explain the inter-relationship between those factors in a way that will enable people to make interventions that have a reasonable chance of success.

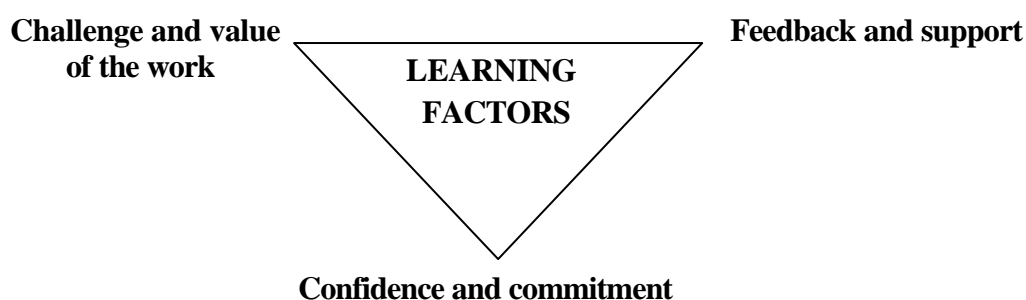
Theory Development

The original theoretical framework was framed by typologies, derived from our previous research, on what has been learned, contexts for learning and modes of learning (Eraut et al 2000). These have now been further developed by the present project, which also began with a four dimensional model for analysing:

1. The nature, range and structure of work activities
2. The distribution of work activities between people and over time and space
3. The structures and patterns of social relations in the workplace
4. The outcomes of work and learning, their evaluation and the attribution of credit/praise or blame.

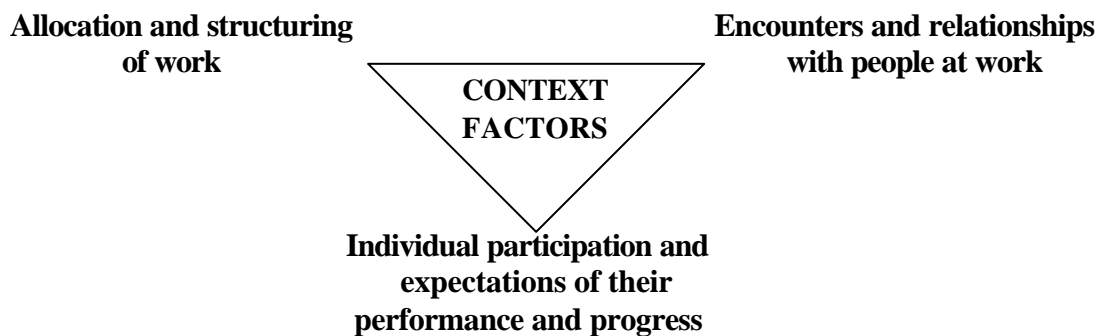
One prominent finding of our earlier research on mid-career learning was the overwhelming importance of **confidence**. Much learning at work occurs through doing things and being proactive in seeking learning opportunities; and this requires confidence. Moreover, we noted that confidence arose from 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. 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 (1982) concept of **self-efficacy**, a context-specific concept, relating to ability to execute a particular task or successfully perform a role. It is not a general attribute like "self-esteem". For some mid-career respondents, however, confidence related more to relationships than to the work itself. Did they feel confident about the support of their working colleagues, in more senior, more junior or parallel jobs? This depends on whether they perceive 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.

We have now added a further element to each apex of this triangle to reflect other factors found to be significant for the learning of early career professionals. These are: **feedback** because of its huge importance at this career stage, the **value** of the work (both for clients and to the individual) as an additional motivating factor and **commitment** to learning, which together with confidence affects the extent to which early career professionals are proactive in taking advantage of the learning opportunities available to them.



Our evidence from this project confirms 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. **Confidence** depends on the successful completion of **challenging work**, and that in turn may depend on **informal support** from colleagues, either while doing the job or as back up when working independently. Indeed the willingness to attempt challenging tasks on one's own depends on such confidence. If there is neither challenge nor sufficient support to encourage a trainee to seek out, or respond to, a challenge, then confidence declines and with it the motivation to learn. **Commitment** is 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 arise from **inadequate feedback** of a normative kind can weaken motivation and reduce commitment to the organisation.

The inclusion of observation in this study has enabled us to give greater attention to the nature of participants' work and their relationships at work; and this has led to the extension of our model to include a second triangle. This mirrors the first triangle but focuses on contextual variables that influence the learning factors depicted in the first triangle. In each triangle the left apex relates to the work itself, the right apex to relationships at work and the lowest apex to the individual worker.



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 needs to be sufficiently new to challenge them without being so daunting as to reduce their confidence; and their workload needs to be at a level that allows them to reflectively respond to new challenges, rather than develop coping mechanisms that might later prove to be ineffective. There are also likely to be competing agendas when tasks are allocated. Novices are more efficient on tasks where they already have enough experience, but also need to be involved in a wider range of tasks in order to extend their experience. Thus managers and/or senior colleagues have to balance the immediate demands of the job against the needs of the trainees as best they can, as well as satisfying the requirements of professional bodies and/or health and safety.

The close interaction between work patterns, local culture and forms of help has determined the structure of this paper. Two sections are devoted to each profession in turn. The first explores how the learning factors and contextual factors depicted in the triangles above interact in the profession, while the second examines in greater detail how the learning of novice professionals is supported by more experienced professionals or peers. Three patterns of support are frequently discussed in the literature – apprenticeship, mentoring and supervision. Nielsen and Kvale (1997) make a further distinction between person-centred and de-centred apprenticeship, while others have referred to the possibility of team mentoring as well as personal mentoring. The theoretical issue is the relative balance between individual and social forms of support.

To avoid making too many prior assumptions we have chosen to use the term “helpful others” because, like G.H.Mead’s concept of “significant others”, this term is sufficiently general to avoid making too many premature assumptions. Using it enables us to select data without making any assumptions about types of apprenticeship, or using terms like “mentor” or “supervisor”, which carry a range of meanings and often represent organisational aspirations rather than realities. The particular research questions we address are:

- In what ways, and from whom, do our participant learners acquire knowledge from other people in their workplace?
- What help and advice do they seek, find or receive; and with what degree of success?
- What help and advice do they not get, but express a need to get?
- What formal and informal roles are taken up by helpful others?
- Which needs for help and advice are most likely to be met by person-centred approaches, by de-centred or team approaches or by combinations of the two?

Many forms of help were offered to our respondent novice professionals during their first 18 months of employment. Some were direct and some indirect. Some were embedded in the work patterns and cultural practices of the organisation. Some could be interpreted as exceeding or falling short of local workplace or organisational norms. Some were immediate, on-the-spot, responses to emerging needs and opportunities. Some were more strategic, seeking to develop capability for future work and career progress.

We start with Accountancy as the profession offering the most de-centred support to their novices, and that for which there is least variation within a single organisation. Engineering offers the greatest scope for individual agency by trainees and helpful others. Indeed a particularly apt metaphor for many engineers is that of “hunter gatherers” searching, either individually or in teams, for both physical and human resources. Nursing has more variation in work practices and local norms, even on a single site, but still draws strongly on the normative traditions of the nursing profession. It is also characterised by the most highly pressurised environments for working and learning. Finally, theories and practices concerning the role of helpful others in the workplace will be cross-examined in the light of these findings, directions for further theorising and research will be suggested, and some conclusions will be drawn.

Learning Accountancy at Work

Our accountancy sample for the longitudinal study comprised 13 trainees, recruited through our two partner organisations, and 3 individuals recruited through their universities. We have also conducted one-off interviews with 8 accountants in order to get a wider range of perspectives. This paper is confined to evidence from our partner organisations, and covers work in both the private and public sectors. Although the focus of our research was on workplace learning, accountancy trainees were also working for professional examinations that, together with appropriate work experience, would enable them to become chartered accountants. Their employers contracted formal preparation for the examinations to private training companies, and gave trainees periods of block release to attend classes, as well as study leave immediately before the exams. Failing their earlier exams could lead to dismissal, and we lost two respondents for this reason.

Most of the work we observed in accountancy involved audit teams working on clients' premises. Work on these audits was also conducted in the "home" office, where junior trainees felt under less pressure. Audits can last from 2 days to 5 weeks and occasionally for longer. Teams vary in size from 2 to 12 members, and are reconstituted for each audit. Most trainees are involved in only one team at a time, and sometimes there are no 'home office' days between their audit visits. The work is structured by the framework for the current audit, the audit of the previous year and tests (or protocols) pre-designed in their home office for each particular client by managers and senior trainees. Audit teams work to strict deadlines and mutual co-operation is essential, as are good relationships with their clients. The process involves collecting information, sampling records, comparing and analysing figures and constructing an independent, credible, defensible account. These audits have to be completed within an agreed time and price, so the allocation of that time to the most important evidence is critical. Although there is foreknowledge of likely areas of work, many unforeseen problems arise that have to be dealt with quickly and may involve some re-allocation of time.

Working and learning are closely intertwined and, as mentioned above, the system comes close to being an ideal type apprenticeship system. Seniors (the common name for trainees in their third and final year) are given the responsibility for being "in charge" of visits to client premises on smaller audits, though not yet qualified and still under guidance from an audit manager in their home office. First year trainees are closely supervised and supported in their first few months, as befits their very limited knowledge and experience of accountancy. Nevertheless, they very soon reach a point where the tasks they do save more time than is taken up by briefing them and answering their questions. The recognition of their net positive contribution is also reflected in the charges made for their time; and this is good for their confidence and morale.

Working in a team towards a completed audit to which all contribute, and involving close relations with client staff that are affected by the conduct of all team members, confers the following advantages for learning:

- trainees are valued for their individual contributions;

- what they do is clearly significant both for the final product and for continuing good relations with their clients;
- there are many opportunities for learning through getting feedback on their work, being initiated into the complexities of the audit process by good on-the-spot supervision and peripheral participation in activities for which they have not yet acquired the necessary competence.

Completing team projects to tight deadlines requires a high level of collaboration, and this increases employees' commitment to their colleagues and to their work. As a result trainees both see the value of their own work and become valued by senior colleagues, with a consequent increase in confidence and commitment to further learning. They also become aware of the need for the more mundane work they are often assigned in their home office.

Two further aspects of learning accountancy are of particular interest. The first is the extent to which learning is scaffolded by documentary support in the form of past accounts for the same client, current files and tests that are often embedded in specialist software. This provides a framework for orienting one's attention, seeing at a glance what has already been done and what still needs to be done and also sets a particular task in its wider context. Further scaffolding is provided by tight supervision and the way in which audit visits are organised. So there is usually considerable clarity about immediate objectives. The second is that when problems arise, decisions have to be made about priorities and the allocation of time. Adjustments to plans affect the team and have to be explained to them, so trainees are gradually exposed to a series of problem solving episodes, and come to recognise what is central to the quality of the audit and what is of lesser importance.

The importance of relationships is very high for trainees because, apart from their need to engage in collaborative teamwork and sustain good client relations, they have to rely on colleagues for most of their learning and advice. One trainee said,

On a social level, you've seen yourself, it's a nice firm to work for ... socially I fit in well which, although obviously not directly related to the actual job itself, has a big impact ... You know if you're getting on with your colleagues, and that's when you start getting the assistance and you start working well together.

He had had a problem with a particularly difficult audit, and explained how the senior involved had helped him afterwards,
I've sat down with the senior and he's explained these points to me ... we didn't have time to discuss it at the time, at the client's ... And that's preparation ... for when I find myself on jobs in future.

Another said, *You go with a lot of seniors on the job and seeing how they've done things ... They realise that two years ago they were in the same position as you, so they're more than happy to help you out [and] give you guidance where you need it.*

Confidence in collegial relationships is indicated by the common assertion that, *I can ask them anything.* Moreover, working closely with them enabled them to observe how they worked with each other, which gave them a sense of a learning trajectory through seeing where they themselves might be in one or two years' time.

Observing and copying more experienced colleagues' behaviour is essential for learning how to work in an organisation. One trainee reported that:

There are little things that other people know, just on how you treat other people and how you get something done, or how you ask for things ... you just pick up things that they do with each other, it's a bit like school ... the more that you see and the more that you learn the more confident you become.

In one particular instance, she was working with someone only a year above her and,
I saw him finish something and he had a look through the file, because when you look through a file you can see what has been done, and he'd say, "Well this has not been done and I did this last week so do you want me to go and ask the client now?" I thought, "I can do that". I can say, "I did that last job, do you want me to go and do it", and it's just so much better than saying, "I have got nothing to do." I think that was when it changed, because I started thinking "I can do things for myself and I am not just an employee I am supposed to be part of a team". I felt before that I was a bit of a tag along, they were the team and I was someone who was learning. Since then I have tried to make sure that I am part of it, rather than just an outsider that is trying to learn... You feel useful and you are useful.

She went on to explain how observation had, *changed the way that I think ... it's mostly how people react with each other that are a year ahead ... and the way that they work together... You know what things you need to do to do something well; you know what sort of level you need to get at, what is expected of you and what is more than is expected; so you know what to aim for and what to build on; also what seniors are grateful for, what kind of things can help them out if you offer to do some of the mundane jobs. Quite often they feel bad about giving them to you, and if you're not too busy and you can see that they have got a real mess of a file and bits of paper, and you say do you want me to sort that out for you then I think they are grateful for that. They don't have to feel guilty making you do rubbish work.* Thus she recognises the time-cost of being helpful, and resolves to return the favour when it matters.

The effectiveness of informal feedback depended partly on time constraints, but more importantly on the skill of the manager or senior responsible in developing a positive learning climate in each team, in which mutual feedback without resentment or discouragement occurred naturally. We observed such positive climates in most audit teams and trainees found it very helpful and encouraging. However, while the majority of trainees received good on-the-job support most of the time, a trainee who was reporting to a very senior colleague observed,

I don't find it that productive working for someone who is quite high up in the organisation...I think it would be better if I was assigned to someone who's maybe a couple of years into their training, or someone like x or y who's a year in. I mean that was quite good working for them [on a previous audit]. But ... someone who's a bit further on than I am, or someone who's just qualified ... have got more time to give me feedback and, well, to tell me what I'm meant to be doing. Because at the moment, you can't waste [a senior manager's] time asking them every detail.

There were also some very positive examples of help from more senior managers,

The PA [Principal Auditor] who was working on that was extremely good at explaining things to people ... He was very good at taking things back to first principles, back to basics ... and making complex issues comprehensible ... And I think that is a quality which is lacking across a lot of the office.

In general, however, trainees were strongly encouraged to ask for help rather than struggle and cause a delay.

Everyone says it's perfectly okay to say, "Look I actually don't know this, I actually haven't done this before ... or I have done it before but I didn't understand it ... Give me some help".

They have all been where you are, you have to learn that you can't sit there and just pretend or just try and not do a piece of work because you don't understand. You have got to ask straightaway or you will feel more insecure about what you are doing. I think clearing up any insecurities you have got as soon as possible is really important because no one expects you to know.

One exception to the prevailing "ask anything" culture was another trainee's encounter with a less than friendly senior when she, *had loads of questions because it was one of my first jobs and I thought, "He makes me feel like I am bothering him", and that's really quite discouraging.* This incident was included in her post-audit report to the manager, which indicated her confidence in the organisation's norms of behaviour.

During one observation in a client's office, the trainee was working mainly with her senior, who invited her to join a meeting with a member of the client's staff, in order to observe and learn. Subsequently a manager from the accountancy organisation joined them. There was a discussion about the tasks carried out, and the trainee described the tests that she had done. The manager went through her work with her, and asked her if she knew about *Control cycles in audit manuals*. When she said she didn't, he advised her that they were useful. He praised her work, and suggested some further tasks to carry out. This episode covered an invitation to observe (peripheral participation), supervision with feedback, and advice on how to further develop her understanding of the audit process.

Several examples of coaching were also described by trainees as illustrations of the kind of support they received, or observed by the researcher.

I only just knew what a debtor was when I went to them [the seniors], and they sat down and just talked through the test and ... how they'd do it, and you went off [and] got all the information ... tried it out yourself and then, any problems [take to the senior] ... I almost had to be talked through the first few things when I was doing it ... once you've done it once ... even though each company does things a bit differently you don't need nearly as much help ... the second time you do it.

When the trainee sought advice, the senior suggested that he look at a particular file. He advised him to, *use these formats and plug in the numbers. [senior 2] has picked up the information which is here. This gives you comparisons over a seven-year period. And here is the sales information. Speak to her about how she got this*

information. She's done an analysis. Just see if they are consistent. Also compare with budgets (he listed the tasks), there are some important indicators. Do you have my planning notes? The trainee found the notes and the senior continued,

Advertising revenue per page. No pages from this spreadsheet. See the year-end adjustment. Total sales/total revenue. There is a huge difference. You can print out the journals. I can show you, if you have a look, to see what items have changed. Advertising here. Change in number of pages. You can also get information from these reports (he found them on the computer), then look at the spreadsheet.

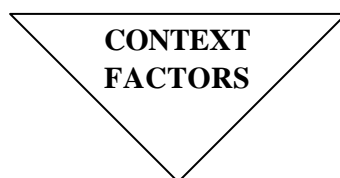
Another first-year trainee, listening to the conversation, interjected: *I spoke to someone yesterday. They have standard rates, but negotiate with local customers. The senior said, OK, you need to make a note of that. Circulation revenue – ask them the cover price and if it has changed.* They discussed the figures on the spreadsheet. The senior pointed out relevant figures and advised on how to estimate for the current year, *Just look at the previous year's. That's for sales. Also look at GP margin.*

The main purpose of this coaching and of other forms of trainee support is to develop trainees' capabilities so that they can work more independently and undertake more complex tasks. However the benefits are unlikely to accrue to the person who gave the help, unless all his colleagues do the same, because they may not meet each other again on an audit team. Allocation to teams is done on the basis of availability and the skill mix needed for the audit concerned, not on the basis of keeping teams together. Hence, it is important to promote and sustain an organisational culture of helpfulness.

The Context Factors for the learning of accountancy trainees are summarised below:

Allocation and structuring of their work

Audit teams (temporary)
Scaffolded progression
Contact with range of clients
Formal professional training for examinations



Relationships at work

Strong mutual support in teams
Strong organisational culture
Sensitivity to client differences
Develops peer group interaction

Participation and expectations

Clear apprenticeship route
Pay your way
Must pass examinations

The nature of the audit teams working together on client premises develops strong, though temporary, mutual support. The scaffolded progression, supported by both audit frameworks and colleagues only a little bit more experienced, provides a clear progression route; and continuity is maintained by a common company-based methodology and a strong organisational culture. Both direct participation, through paying your way through accomplishing specific tasks, and peripheral participation, through witnessing interactions of seniors with clients and ongoing adjustments to the work plan, sustain trainees' learning trajectories. Ongoing professional training in a separate context develops peer group interaction away from the work environment, but introduces a pressure to pass that is a very real threat to continuing employment.

Designated Support for Accountancy Trainees

Managers and seniors “in charge” clearly have responsibility for helping those whom they supervise; and nearly all trainees felt that they got good immediate help and feedback on their performance in audit teams. However, like most organisations, accountancy firms also appoint other people to helping roles. All the companies in the project provided feedback and support both formally through appraisal and informally through some kind of mentoring or ‘buddy’ scheme. The appraisal schemes had two common features:

- 1) An individual job appraisal after each substantial audit (at least 5 days in one organisation and 2 weeks in another); and
- 2) A 6 monthly appraisal by a senior manager who has access to all the job appraisals and may be expected to speak to people who have been in charge of the trainee.

However, some trainees considered the feedback process unsatisfactory, especially when the appraiser was not closely involved with the trainee’s work:

I can understand that it is very difficult after six months and the person that did my appraisal had never worked with me, they were just the manager in the office, [but] there must be some way that they can give us some sort of feedback ... and how we could do better because I find it really frustrating ... I don’t know what I can do to do better or if I am doing okay.

Even formal feedback, it appears, depends on good relationships.

Another issue affecting appraisal was performance related pay. Some saw it as conflicting with accurate feedback from staff:

They don’t even like to say stuff like “Well, you can improve”, because it would be taken that you’re not up to scratch and they don’t want to be the person responsible for you not getting your pay rise.

However, another trainee suggested that, *We have performance related pay now, so it’s up to you and the people that want to work to stand out.*

When trainees start work they are assigned a ‘mentor’ or a ‘buddy’, but the systems differ slightly. In one organisation the mentor is a manager who acts as a back-stop and is expected to make contact about twice a year. In another a buddy is assigned who is a year or so ahead, and located in an office close to the trainee. Buddies are expected to give more day-to-day support, and to help the trainee become more familiar with office procedures, as well as being generally available for support if required. However, neither scheme appeared to be highly valued.

One trainee commented that, *I think it’s very much something that management put in place and ... I wouldn’t say it’s overly useful.*

Another had a mentor with whom s/he had had only two formal meetings because s/he saw him frequently in the workplace and s/he had *not really had that many problems*. A third knew his/her mentor by sight, but had, *not actually had a meeting*. Yet another referred to his/her buddy, *I don't see her that often but I know she's there if I wanted to see her, so that's ... what matters really*.

Given the very positive endorsement of informal support for learning reported hitherto, why did we find such disappointing responses to more formal attempts to provide support for learning? The answer, we believe lies in the work patterns, communication systems and relationships in these accountancy firms. Short-term support is very well provided informally within audit teams; but possibilities for medium term support are limited by lack of continuity of relationships with more senior accountants. Even if they are designated as mentors, they do not know enough about the trainee's performance over time and in a variety of contexts to be able to give good medium term feedback. We will return to this issue in the concluding section of this paper.

The trainees themselves are aware of changes in their capability that they cannot easily express:

I know things have changed the way that I think ... it's mostly how people react with each other that are a year ahead ... and the way that they work together.

They also use the nature of the tasks allocated to them as a proxy indicator of their progress:

I was given quite a lot of work to do, which I wasn't really expecting, and everything I did was reflected on ... in a positive way ... so I was quite pleased about that. And it made me think that the way I was working and what I could do was acceptable, and it gave me a bit of a ... confidence boost I suppose, to ... push me forward and say you can do this.

But the changing membership of audit teams means that few managers, if any, see a trainee's performance changing over time.

Thus trainees have little access to external perspectives of their overall strengths and weaknesses; and find it difficult to compare their progress with that of other trainees. Some were content with indirect signs of progress, but others either received few such signs or did not fully trust their own inferences. They wanted clear feedback about the extent to which they were meeting their employer's expectations. One trainee did not know what was considered signs of good progress:

I haven't the foggiest. Sometimes I think it might be just that you produce a lot of paperwork or it might be based on results.

Although the structure is very powerful in sustaining trainees' progress, failure in the parallel system of professional examinations (for which the companies pay for formal training) may, in many companies, lead to trainees being dismissed. There is also some room for individual agency. For example, one of the most ambitious trainees, whose ambition was to work in the finance department of a large company had the following profile after 18 months:

- Looks ahead to getting one step up the ladder when new trainees come, then to being ‘in charge’ of an audit team on client’s premises.
- Went to a larger company on a 5 week job.
- Has already done short audits on his own (2 day jobs)
- More confident in validity of his reports, and in pursuing inquiries relentlessly
- Has interviewed one client’s senior finance officer
- Working on riskier areas in audits, judging whether client explanations are reasonable, taking into account the economic conditions at the time.

Our assumption is that this trainee worked very hard, performed well on audits, persuaded people to give him more challenging tasks, and got impressed managers to lobby those allocating staff to audit teams to give him opportunities for greater responsibility. He had sussed¹ out the system, while most of his colleagues were probably unaware that this kind of progress was possible.

We suggest that the problem of inadequate feedback on general progress reported by many trainees is created by the way the system works rather than the dispositions and capabilities of trainees’ official appraisers. An important link between performance on audits and trainees’ six-monthly appraisals is the evaluation form (confusingly called an appraisal) expected after all the longer audits. This starts with the trainee’s self-report (which may need prompting), and is then followed up with comments by the manager, and passed on to the trainee and his/her appraiser. It provides useful written feedback on performance when completed soon after the audit, but loses value if the time lag is too long for the feedback to still seem relevant. What is less clear is how useful the completed forms are to the appraisers.

Appraisers are expected by trainees to give some normative feedback on their general progress with regard to strengths and weaknesses, comparison with other trainees and meeting employer’s expectations. But the information available to them is limited to audit report forms, consultations with audit managers, and perhaps an occasional brief encounter with the trainee. Appraisers will be fortunate if the forms provide a consistent trail of comments, and consultation with several audit managers is time consuming. Moreover, they need reliable comparative information that is difficult for audit managers to provide. Many audit managers may not have observed a large or representative sample of the trainee’s behaviour; and in order to make valid comparative judgements, the manager needs to know not only for how long the trainee had been working at the time of the audit (which is easy to check), but also for how long the trainees being used as a reference group had been working at the time that particular manager most vividly remembered their performance. This is asking a lot of busy managers.

¹ A slang term referring to a process of informally sensing and elucidating hidden beliefs and powers in an organisation, how one succeeds or gets things done

The Learning Factors for accountancy trainees are summarised below:

Challenge and value of the work

Good progression and client variation
Audit is legal requirement
Value for clients is clear



**LEARNING
FACTORS**

Feedback and support

Good on-the-spot feedback and support
Feedback on evaluation forms too late
Normative feedback weak

Confidence and commitment

Short term confidence
Commitment to audit teams
Concerns about general progress
Less commitment to organisation
Range of career choices

The range of career choice is an underlying personal issue, which affects the nature of commitment to the profession and also to the firm. Some trainees envisage working in a finance department in a general financial management role; or working in accounting areas other than audit. Those wanting to stay in audit work can choose even larger firms or much smaller firms, both offering different mixes of client and different cultures. For some, there is also strong anxiety about their examinations. Hence the very positive aspects of an almost ideal type apprenticeship system are often counterbalanced by uncertainty about whether they are on track for their preferred career option. Similarly lack of general feedback about their overall strengths and weaknesses can create uncertainty over both where they would stand in the job market and their career choice after qualification.

Learning Engineering at Work

Our engineering sample for the longitudinal study comprises 27 trainees, recruited through our four partner organisations, and 7 individuals recruited through their universities. Most of the evidence used in this paper comes from our partner companies, whose work covered construction, telecommunications and aerospace. All respondents from these companies were employed as graduate Engineers (GEs) on company training programmes accredited by the relevant professional bodies. These programmes were accredited for providing training suitable for graduates seeking to become Chartered Engineers.

The Chartered Engineer qualification is based on criteria generic to the specific field of engineering. Candidates have to provide annual reports on their progress cross-referenced to these criteria and signed by a designated 'professional mentor' (usually in the same company), and a final portfolio describing all the relevant work they have done and discussing what they have learned about the professional work of engineers. The portfolio is also cross-referenced to the criteria, and is followed by a *viva voce* examination. The presence of an accredited training programme is an asset in recruiting and regarded as a useful discipline by the companies; but trainees' interest in proceeding to the qualification varied greatly among our respondents and tended to decrease over time as they re-evaluated the effort involved and how beneficial it might be for their career.

All GEs work in teams, usually project teams but sometimes also teams or groups with a particular type of expertise. The work, however, is broken down into individual tasks; GEs spent relatively little time on group activities. They spent much more time working on their own than nurses or accountants; but they did not work in isolation. All but one of the offices we visited were open-plan; and most GEs seemed to like working in this kind of environment. The obvious advantages are those of having a desk near to team members, line managers, and senior engineers.

All these working arrangements are conducive to helping graduate engineers learn from those around them. We have been struck by the way this underpins the recognition of GEs as people who still need to learn, and who need help to do so. The prevalence of an 'ask anyone' culture in which people around the office are friendly and usually willing to discuss things, exactly suits the physical office environments in which most GEs work,

I mean stuff like that was quite easy to get to know because I could just ask ... it is quite a friendly environment so I could just find out from somebody else

In nearly all the firms we have visited there is a common understanding that GEs can ask or contact any person within the firm if they believe that person has the relevant knowledge or expertise. In seeking help or consultation, people can be contacted directly (face to face), or by phone or email.

Working in a team immediately makes a trainee a member of one social group, and a new trainee will automatically be introduced to immediate colleagues in the section (a second social group) but not necessarily to others in the building. So it is helpful to have a number of informal ways in which a wider circle of people can be met.

Examples we were told about included:

- Lunch-time talks and discussion groups;
- In-house courses;
- Parties at Christmas and other occasions;
- Going out to the pub or a local restaurant on Fridays;
- Courses or seminars at other firms or institutions;
- Sports and exercise clubs.

There is employer support for many of these activities because they are believed to promote satisfaction, interest, and improved work performance. From our standpoint, they also promote opportunities for much informal learning from colleagues. This may not be directly through the talk at such events. As far as we can tell, this is mostly, and appropriately, social rather than work focussed. However, in these gatherings the new graduate engineers can gain some acquaintance with seniors they may later work with in a team, or need to consult at work. They may even pick up indirect indications of whom it would be best to approach for specific expertise, or at least, who could advise them on whom to approach.

Many graduates have unrealistic expectations about the nature of the work they are likely to encounter, but all agree that sitting waiting to be assigned a job is boring. They need to keep busy. However, from a manager's perspective, it is not that simple. The GEs need to work, preferably at something genuinely productive for the firm, but they still need to prove themselves. Tasks have to be found that need doing, but it will not be a complete disaster if the job takes longer than experienced staff would need, or if others have to lend a hand. This is why new recruits find themselves designing web sites, up-dating standard 2D engineering drawings by putting the data into computer programmes that will thereafter produce any required sectional drawings, constructing and testing individual components, or working on similarly chosen, discrete, but basically routine tasks. The current on-going upgrades of technology from analogue to digital systems seem to provide many useful tasks that GEs can be asked to tackle. Another type of task involved upgrading old equipment:

Basically the challenge we face at the moment is looking at old designs and personally working out how they work, our first project with... was challenging in that we didn't know how the thing worked and we actually had to sit down and draw it all up on the whiteboard from basics, and work out what it was doing which was challenging, and when we actually worked it out, it was a sense of, you know, achievement, you'd actually done something and you understood it, we're also fault finding in another board, trying to work out what's wrong with it and that's challenging as well because it's a big board.

A conscientious manager also tries to ensure that a graduate engineer will gradually cover a sufficient range of different work to cover the requirements of the relevant professional institution. Progress in this regard is monitored against standard documentation. But this is going to be over two years, and does not meet the impatience of an enthusiastic GE. The once common practice of rotating GEs around the different company divisions to gather a range of experience is now relatively rare, at least in our sample. The most common pattern during the first year is a large number of small tasks. Although some progression in the complexity of tasks was

detectable, most GEs did not feel **technically challenged** by this; and it did not obviously relate to the company's main business. Some were doubtful about whether this less challenging work would improve.

I found that quite a lot of the time I was being bogged down with doing mundane work, just the administration side; just...spreadsheets, checking the figures and not necessarily always being trusted with the big jobs.

Since I started, yes I have got a lot more of a workload, and first of all ... there was three of us working on projects ... eventually I was working on a project just by myself. So yes, more responsibility and a bit more of a work load as well.

Another GE started with a frustrating 3 months doing little else than reading technical material and project reports, because there was so little work available. She had small bits of involvement in a small number of projects but had not seen any project through from start to finish. She had had quite a demanding period just before her first research visit, which included one very challenging project, but she was now wondering whether another equally challenging project would turn up. At the time of her second visit (after 18 months) the flow of work was easing off again; and the interview ended with uncertainty about staying in the job if more challenging work did not arrive.

Satisfactory **task performance** clearly depends on having learned, and being able to use, all the relevant technical knowledge and skills for the immediate task, including the understanding of design specifications and standards. Correct task completion brings the need to know, and to be able to use, the appropriate report-writing format and documentation procedures to satisfy quality assurance standards. But other things are also required. Appropriate work practices need to be adopted, including the prioritisation and planning of work, and keeping a log-record of progress with the task. The trainee needs to have found out who does what, and the people who are sources of relevant help and expertise on this task. So knowing how to contact the right people and communicate effectively with them is basic.

Yeah, there's a whole plethora of people who can teach you various bits and it's basically just finding them, the right person. Take G for instance, G yesterday; we didn't know how to use his rig when we first saw him so we went up there and he showed us how it works, what to do, how to programme the tests as well.

Well, you go to T, for a section of the work, what have you, but he is not possibly the most helpful of people...When you actually come to ask a question, ...he sometimes doesn't understand what you're asking or doesn't give you a very full answer and I find if I go and speak to J, J really does sort of lay it down step by step, this is what you need to do, do this, do this... If I've got a problem, I really feel it's important, I'd go to J or P. It's not that T is less approachable, it's just that I find J's input to my situation is more constructive, more helpful.

References to **teamwork** that were based on direct experience were predominately positive. The positive features noted by GEs included regular, often daily, briefing updates when problems could be aired and other team members could either offer a solution, or suggest someone or something to consult. This process was then backed

up by close informal liaison during the working day and good systems for recording progress, which allowed flexible switching of sub-tasks if someone completed their commission ahead of time. However, they also reported less than satisfactory teamwork experiences when working in a looser section grouping, rather than in a team defined by its common output. Other unsatisfactory features were insufficient briefing on tasks before they started, failure to explain the 'whole scope' of the project (the bigger picture), and indifferent coaching while they were working on their tasks.

Coaching is seen as an important method for facilitating the learning of more complex tasks. Ideally, it should include pre-task briefing, light monitoring while GEs try their hands, a readiness to answer all questions, a willingness to demonstrate on occasions, and the ability to give pertinent, on-going feedback on how the task is developing and how well GEs are performing. Yet it stands rather uneasily as a process that is universally expected, less often received and rarely recognised formally.

Problem-solving is the very stuff of engineering and graduate engineers are well aware of this. Several claimed that being confident in their own problem-solving abilities was one of their personal strengths. Once work begins in earnest, so the opportunities to learn more about solving problems multiply. One trainee was a member of a team with a large problem:

We have one case where a column from a new extension, ... that we were going to found under ground came directly over a great big electricity cable that supplied the whole site, ... so we had to come up with some kind of three legged ground beam that would span over the top of it, which was quite a little bit out of the ordinary... you are solving problems all the time, its part, it's just the nature of the work, ... little queries coming in from site by fax, ... so you find your way around it and send it back ...

The last comment sums it up. Frequently, the learning process is incremental and cumulative but, at this early career stage, it can also be overt. One trainee consultant engineer explained why s/he liked to be present on site when installations took place, so that s/he would know the practical snags that might arise. If, some time later, s/he were to be asked (often over the telephone) about similar problems, s/he would know what to advise.

With the design you can learn about the theory and things like that. It's like you're doing design reviews, (and) as I'm going through different sets of drawings with different projects, you start to see different way things are done. And that's important I think. ... until you've got experience on practicalities... on site, you cannot start understanding how things go together, ... seeing the practicalities of it brings the design and the theory and the management together for me.

Experience in **decision-making** accrues in a similar manner. During their first year at work, graduate engineers do not have to make crucial decisions with huge cost implications; but they are immediately plunged into the need for many decisions of different types and at different levels. Deciding the best way to approach tasks, deciding between alternative solutions to problems, and deciding where to seek assistance are obvious examples. Similarly, they are party to, and have chances to

observe, decision-making in many different contexts. Even when they are assigned an individual task, the best approach will usually be discussed; and within teams there are numerous opportunities to hear, and sometimes contribute to, decision-making discussions. An important aspect of good decision-making is being able to appreciate all the factors that have a bearing on the decision. Listening to discussions between senior engineers helps such learning, and practical experience reinforces it. Another aspect is access to resources; and many examples of how restricted access to resources affects decisions were observed or described to us; sometimes it was lack of ICT hardware or software and sometimes not having people with previous experience. Thus GEs began to understand how accumulated experiences of decision-making in a range of contexts developed engineers' **judgement**.

Many graduate engineers in our sample showed high levels of **self-confidence** and determination. A lot of this had clearly come by virtue of a successful academic career; and the system of appointment in engineering companies tends to favour such candidates. Nevertheless, a graduate engineer still needs to be confident enough to show his/her relative ignorance, and to ask for help when it is needed.

I think the main strength is ... my confidence. I have an awareness of what I don't know, which I think is very, very important in engineering. So, if I don't know something, I will say, or I will ask ... so I think that's my strength.

My determination definitely ...not being afraid to ask for help when I need it ...but at the same time you know I can use my own initiative. I can get on with things on my own. I don't need a great deal of guidance... I haven't turned down any work that has been offered to me so far. I've accepted it all. I've realised it will all be a learning experience.

In this context, self-confidence is a more general emotion than the self-efficacy we observed among accountants, though it would be unlikely to be sustained if the GE was seriously concerned about his/her general progress. The significance for our research is that the attitudes that accompany high levels of confidence and determination are part of a positive predisposition to learning by trial and error and through making mistakes, which play a particularly important role in the self-development of engineers. Graduates at this level are generally expected to be adept and adaptable learners, and able to learn in many ways, both through doing and by locating resource people and asking them questions and/or observing them in action.

The Context Factors for the learning of graduate engineers are summarised below:

**Allocation and structuring
of their work**

Project teams (long term)
Open plan offices
Social links around workplace
Intranet
Strong CPD programmes
Little direct client contact
Work suitable for trainees is scarce



Relationships at work

Ask anything culture
Loose links in large teams
Informal contact with neighbours
Develops wider networks
Hunter-gathers of resources and expertise
Broader context of project often missing

Participation and expectations

Learning is serious business
Work expectations often unclear
Have to do whatever turns up
Limited peripheral participation within their project

The work of engineers is on much longer timescales than the other two professions. The work teams tend to be larger and looser, and both the quantity and the quality of the work available for graduate engineers vary across departments and over time. There is more overt emphasis on the learning dimension of their work, and there are many more potential sources of learning: CPD courses, computer based information and learning opportunities, experts contactable on the intranet and people around the office or known to people in the office. The downside was that the kind of work graduates wanted was not always available and limited direct contact with clients, combined with large projects on long timescales, meant that the wider context in which their work was situated was often unclear to them. The graduate engineers had to be much more self-directed than their contemporaries in the other professions. They needed to be hunter-gathers of resources and expertise.

Designated Support for Graduate Trainee Engineers

All four partner firms are large companies, which provide **training programmes** that exist independently of the induction programmes we have already mentioned. None of the graduate engineers thought this training was unimportant or irrelevant; over half considered it to be crucial. For example, in one company where a graduate engineer missed an important **introductory course**, designed to familiarise new employees with the technical principles that underlie the firm's business, he had to be coached in what it was necessary to know by the team leader; and this continued to bother the trainee when interviewed. This course was additional to a 'Buddy' arrangement, and a **formal induction**.

The same company runs a three-year **Graduate Development Programme (GDP)**, with specified modules of training, to guide graduate engineers towards their chartered status; and its personnel/training section runs meetings to help graduate engineers make best use of the opportunities. The early modules include exercises

designed to foster people skills, such as team working, by assigning tasks to be carried out by small groups and reported upon to senior engineers.

Within this formal system, and the opportunities it gives for monitoring the GEs' progress, the personnel section, and some senior engineers, are alert to a range of signals of how well a graduate engineer is settling in, and will offer help if required. One important indicator is moving to live nearer the work site. Other signals include: a readiness to seek help; having hands-on skills; and quickly grasping the firm's concept of 'the design cycle.'

Mentors are assigned to help graduate engineers to construct a record of work experience that will meet the requirements for chartered status, and to be a confidential ear on other matters affecting their progress. They are expected to arrange meetings within set time periods. For technical and software training, the firm's **intranet** carries materials for individual use, although not all GEs were aware of this when interviewed. There is also a confidential phone line staff may use to seek advice, counselling, etc. should they suffer adverse circumstances.

The other three partners offer similar access to planned programmes of training, but organise it rather differently. **Training courses** on technical matters specific to the company's core business are common, but there is variation in the way access to other training courses is decided. All our graduate engineers feel they want a say in the training they receive, and in some companies they can negotiate with their mentor or team leader exactly which courses to attend. In our non-partner organisations, systems for providing formal support vary more widely. Where the graduate engineer works for a large, multi-site company there are official courses, but the associated travel to courses that may not strictly suit the graduate engineer's specialism can look unappealing. In other cases, special efforts have been made to ensure that the graduate engineer's training and experience will lead to attaining chartered status.

Historically there have been numerous interpretations of **mentorship**; and across the organisations that have given us access, the title of mentor covers several different roles and functions. In one organisation practice varied from branch to branch. At least five modes of mentorship operated in the ten organisations we have visited:

Mode 1: ('Buddy' style mentoring) a short term arrangement in which a general mentor helps a graduate engineer at work during their first weeks, rather than months. This general mentor's function is very close to what other organisations saw a 'buddy' as doing, i.e. helping out with the early practicalities of fitting into the workplace.

Mode 2: (Career mentoring) a mentor, separate from immediate line managers or project leaders, whose function is to be a sounding board and stimulus to reflection, advising on possible relationship problems as well as on progressing with one's CPD, becoming chartered, and establishing a career plan.

Mode 3: (Shared, chartered status, mentoring) mentoring that is directly, and exclusively, related to the achievement of chartered status, e.g. with the Institution of Civil Engineers. In this case mentoring is split between a supervising engineer, who offers advice from the standpoint of the Institution,

and a delegate engineer within the graduate engineer's branch. The supervising engineer may not work in the same branch or firm. The delegate engineer is an immediate work colleague who can usually provide advice on both technical and general developments, as well as having the delegated responsibility of guiding the graduate engineer towards becoming chartered.

Mode 4: (Person-centred mentoring) a long term relationship with one mentor, usually in the same work team, who is expected to provide technical guidance, and possibly supervision on the path to becoming a Chartered Engineer, but not necessarily the more general career advice and guidance available under Mode 2 above.

Mode 5: ('De-centred' mentoring) a mode in which any of the graduate engineer's work colleagues may be asked for help – technical and most other kinds. This was a kind of 'unofficial mentoring' because it lacked the label, but it was at least semi-official in that it under-pinned a deliberate policy of creating a 'just ask' culture. This mode may operate alongside any of the other four modes described above.

Smaller companies had to double up on both roles and functions: one person being expected to carry several responsibilities. The main roles of 'buddy', coach, technical adviser, career guide and chartered supervisor still need to be covered, but there are fewer colleagues to provide 'de-centred' mentoring. However, large companies are not problem free in relation to mentoring. In at least one large company, mentors were not being assigned, or the process was very slow indeed.

In other situations, graduate engineers were not getting the guidance they had been led to expect. Someone had the role, but was not carrying out the functions, perhaps because the functions had not been adequately defined. Considering the five types of mentoring described above, the differences in what they offer, and possible overlaps, it is not surprising if there is some confusion about role and function. Without clear guidelines, differences in expectation are quite possible between mentors and graduate engineers.

In some companies mentors can be important sources of **feedback** for GEs; and this helps to bolster trainees' confidence and maintain their commitment. But feedback must serve at least two purposes. A graduate engineer needs relatively quick, on-going feedback on performance to support the learning of how to tackle particular tasks. But there is also a need for a more 'normative' kind of feedback that will tell them how well they are meeting their employer's expectations.

This normative kind of feedback usually comes in the form of **appraisal**, and formal appraisals normally come after set time periods, for example at the end of an initial period of probation, and every few months thereafter. Modern performance management systems also tend to use appraisal sessions for individual target setting, and the achievement of targets will often relate to obtaining pay rises. At the interim stage of our project there was too little information to tell us clearly how these systems were working.

Mentors, who have developed a good relationship with their mentees, can give good general guidance; but more immediate feedback on work performance has to be provided by those closest to the work, probably by the graduate engineer's team leader or line manager. However, we found major differences in the frequency with which graduate engineers received feedback and in the way it was provided.

In many instances (13 of 29), graduate engineers claimed to have received very little, sometimes no, feedback. But there are reasons to resist taking this at face value. For example, 28 said they received support, guidance and supervision from a senior engineer, and the one person who said 'no' to this question, was in fact sitting next to his/her direct manager, and had mentioned on other occasions that he/she was receiving support, guidance and supervision from him. Now it is difficult to understand guidance in the complete absence of feedback. So, a graduate engineer's perception of what counts as feedback may well conflict with their managers' perception. Managers will often say, 'Thank you' or 'Well done'; but this may be perceived by the graduate engineer as politeness rather than feedback. Indeed, one graduate seemed to see feedback as an essentially negative phenomenon! Some found other cues about their progress, including how much work they were given, the challenge of that work, and who gave them their work. Other graduates provoked feedback, e.g. by sending brief progress emails to their team leader. On the employers' side it seems as if responsibility for giving feedback can sometimes fall between managers, mentors and team leaders; or just gets overlooked because of general work pressures. We will return to this issue in the concluding section of this paper.

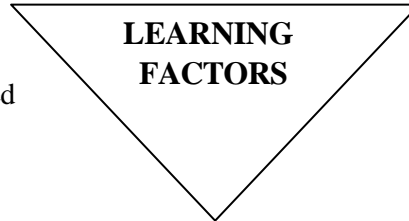
We can debate whether feedback is the most important part of communication with one's manager, but it critically depends on mutual understanding. In several cases this was absent, for example:

Sometimes he (my manager) tends to underestimate (me). He thinks, I don't ask questions ...and he thinks, because I don't ask questions, I'm not curious; and he thinks that I'm not trying to learn, because I don't ask questions. But I ask questions of Harry because he just sits next to me, and of John, the engineer I work with at the moment, not of my manager...I don't know [if he appreciates my work], he's never told me. Yes, I have had feedback, but it's not on my performance it's on my training, it's on the report that I write for my training; but it doesn't say the job you are doing with us is good ...it's not feedback on my work.

The Learning Factors for graduate engineers are summarised below:

Challenge and value of the work

Variable types and levels of challenge
Depends on work available
Isolation from clients resented
Chartered status valued only by some



Feedback and support

GEs suss out most helpful people in close range
GEs track down company expertise beyond their office
Many designated support roles, few of them active
Quality of support varies with immediate locality
Normative feedback weak

Confidence and commitment

Confidence ebbs with lack of challenge
Commitment to chartered status ebbs if not valued in local workplace
Concerns about general progress
Range of career choices

The most critical features of this learning environment stem from the type of work allocated to trainees, the looser structure of the work environment requiring trainees to be very proactive and the frequent lack of normative feedback which might assist trainees in adapting to these circumstances and challenge their managers to give greater thought to the work they allocate to trainees.

Learning Contexts for Newly Qualified Nurses

The 40 nurses participating in our research began their first jobs as qualified nurses in eight different hospitals in London and the South East. The sites include small, district general and large inner city hospitals, serving different populations. They had trained in ten different locations on 3 year university programmes, which devoted 50% of their time to learning in practice settings. Only one employer was able to provide an accurate list of the location of newly qualified nurses, so novices were usually traced via ward managers and everyone identified was invited to take part. Those who agreed to join the Project worked in fifteen specialist areas at the time of the first visit. All had received some induction at hospital level, and most were aware of at least some of the training courses and study days offered through the hospital's staff development programme. However, access to these events depended on their ward being prepared to release them, and this was a major constraint for some novices. Their working life was almost totally determined by the working conditions, leadership and support offered within their wards.

A high proportion of the wards, in which our participants worked, were crowded and extremely busy, constantly challenged to find bed space for new unexpected patients and sufficient time from appropriately skilled staff to cope with their patients' needs. They were frequently short of staff, used a lot of agency and temporary staff, and had a skill-mix on the margin of safety. Novices' practical and emotional capacity to survive in these environments depended on their ability to learn many vitally important new practices very rapidly, while coping with a very challenging job. Their survival strategies are perhaps best described as "trying to learn in a pressure cooker".

The transition from student to staff nurse was typically seen by newly qualified nurses as being massive. At the start of their ward experience they recounted four main areas of concern: striving to achieve tasks, such as technical tasks like drug rounds; being accountable and responsible; 'doing everything'; and getting to know new people and equipment.

- 1) To be actively engaging in a task was equated with successfully getting on with the job of being a nurse. They were concerned not to look inadequate and to make a good impression as competent nurses.
- 2) Novices felt responsible for the total care of the patient. In their relative inexperience, this was seen as a daunting task; especially as they believed that they must show that they could do everything well.
- 3) The increased accountability and responsibility that came with qualification dominated their thoughts and feelings, yet was barely anticipated. As students, they had always had the safety net of having someone to ask, without the burden of being ultimately responsible for the patients.
- 4) The new nurse wanted to get to know the ward, the members of the team and the routines, the visiting professionals and links with other parts of the hospital; and to orient themselves within that setting and learn its language and its practices.

They found themselves having to learn many new clinical skills, learning what to look for when monitoring patients and, above all, learning to prioritise, with or without helpful advice from more experienced colleagues. Taking on ultimate responsibility for patients and presenting themselves as competent, confident and calm nurses, while struggling to survive, caused anxiety and stress. This was recognised and supported in some wards, but ignored or repressed in others.

Another problem was that novices expected to be caring for patients most of the time; and were surprised to find a multitude of hidden tasks that they were also expected to perform, such as finding a patient's drug chart, escorting patients to procedures and waiting for them, filling in forms and waiting for doctors to call back after being bleeped. These scenarios may well be the reality that they have to accept but, as new nurses with high expectations of themselves and insufficient comparative experiences to draw on, they often ended up frustrated at not being able to give more time to their patients and blamed themselves for not doing their job properly.

Knowing where to start is a major problem because they feel so overwhelmed by their patients' needs. As one ward manager said,

I mean the worst of all is if you see a very junior staff nurse come on the ward with eyes like a frightened rabbit and looking round and it's like... "You've got 1 to 5 OK... so throw all the numbers up in the air and whichever one comes down... I'll look after that patient now" ...if you see that, that's not the kind of thing...you want, you want them to have some kind of way of planning their care and they're only as good as you teach them.

One of the few novices who had been taught how to prioritise as a student still found it difficult to deal with changing circumstances, especially when the change happened fast and was beyond her control,

Things can change very quickly...if you've got a post-op patient that is scoring quite high on the MEWS [early warning scoring system] or is a bit unstable and you might have somebody else...who might be confused or the doctors have been round and they've changed something and.. You're trying to do a lot of things at once...and you're trying to get the sick patient reviewed and you're trying to do this and you're trying to take phone calls and you're trying to talk to patients' relatives...sometimes you just feel like "Ohh...stop..."

Situations such as this overwhelmed the novices because they had very rarely encountered so many conflicting priorities before. This led to them feeling that they did not have control of the situation; and this could only be achieved by gaining more experience of similar situations. Gaining such experience was a gradual process for which learning support was particularly helpful. The novices also felt that they would improve their ability to recognise and respond to situations with time and experience, and that reflection would enable them to do this,

If you've been in the situation before, you can remember what happened last time...and what you could change, and perhaps do it differently then when you have that situation again.

At this very early stage of their career, novices needed to be able to recognise that something was wrong with a patient and give priority to passing that information on to a senior to deal with, rather than feeling that they should be dealing with the problem themselves. This was quite traumatic for some of the novices,

It's very easy to panic when something doesn't go quite right ... I tend to panic a bit especially if something goes wrong in a situation I've not experienced before. ... It's very stressful to know that something is wrong but not know what to do about it. ... I was looking after a lady whose urine output dropped quite substantially...I was panicking but it was something that needed observing and not something I could do anything about immediately ... it's about knowing what needs immediate medical attention and what needs to be observed.

The novices who were past the initial stage of being overwhelmed by patient needs, learned how to prioritise their patient care from what they were told during handover at the start of their shifts,

You do get used to, once you're in hand-over, picking out those that will need medication, or those that have been particularly poorly, or those that are going to theatre; and obviously the theatre starts early so they're bit of a priority, but you do pick it up.

They deduced from the information given, which patients they would be looking after and what their needs were for the day; and from this, they could usually tell what they needed to do first. The novices also annotated their patient handover sheet to remind themselves of what they needed to achieve during the shift,

After the morning handover I always just take 2 minutes, sit down and write myself out a little separate list of all the medical jobs that I need to do for them, then all the social things, or referrals that I've got to write, all the things that I've got to ask the doctor when they come round...I do it every day without fail because I can't function otherwise.

Novices' priorities for the shift were heavily influenced by the ward routine, for example, they knew that they had to do the drug round at certain times of the day; so other activities were arranged around these times. If the novices had the same patients as the day before, then they found it easier to plan their time since they already had some idea of the patients' condition and likely needs.

It's always a good advantage if you know the patient or if you've looked after them the day before, so at least you've got something to compare it to. I remember looking after one gentleman who was deteriorating and I'd only met him that morning. ... [So]I asked another nurse and she said "Well no he wasn't like yesterday, he wasn't that sleepy", so then you take action from that as well ... You get to know them and you pick up on their personalities and their conditions especially; so you would notice any changes rather than just coming on shift and meeting someone for the first time.

The initial stance that novices take is that they should be doing everything, and completing all of the tasks that have to be done. They realise after a couple of months that, in order to meet their expectations of getting everything done, they need to

delegate to others, such as health care assistants. This means that they have to distinguish between tasks that they should do and those that health care assistants could do. They also have to be confident that the person they ask to do a task for them will respond positively and not challenge them. They do not want to look lazy or bossy, and are keen to show that they can pull their weight. Thus it takes the novices a while to size up other people on the ward, to know who is approachable and who will help them out in different situations.

At first, novices are not confident enough to ask others. They may not know everyone in the team. They may be worried about the reaction they might get if they asked for help. Some do not feel knowledgeable enough to ask others; because they may have to justify why they need another person to do the task. Some may be too shy to ask,

Because you don't have the knowledge, the confidence, the experience, you just think, "If I ask anyone to do anything and they question me", not even in a nasty way but in a genuinely nice way, "So do you want me to do it this way or that way" and you [have to say] "I don't know"...you feel completely incompetent.... You just think "I'm just going to shut up and say nothing" if you can't back up what you're asking, you just kind of don't ask.

However in working on the ward she soon started to realise that she needed to delegate in order to get her work done, and that asking for help did not reflect badly on her,

You learn over a 6 month period teamwork, how important it is; and it is not a reflection upon you. If someone else is free, use them. I should be able to say, "My patient in bed 6 has got chest pain, can you do a set of observations and an ECG, and I'll be there in 2 minutes or 5 minutes" or, "I can't make it there, because I'm with a patient who's unwell with a vaso-vagal". Another person with chest pain and I'll say, "Show it to another nurse or go and find a doctor", and I'll expect that person to be able to cope with that because it happens to me and I don't feel, "Oh they're not coping, I'm having to do their work load"... We all just have to get on and help each other.

This nurse thought that experience and watching other, more experienced staff nurses on the ward helped her to work this out. Once she had realised this she felt much happier about her workload,

I don't think there was one thing in particular, something just kind of clicked about how a ward worked. Even just watching other nurses, ... I thought, "God they're really good, they've got so much knowledge base". ...You see that they do delegate. ... You just think "Aah that's the way to do it", yeah and that also kind of made sense to me... I was so exhausted, I was having to delegate and I found that delegating actually worked very well. I was coping much better with my workload. I was happier, I wasn't as exhausted by the end of the day, the patients were happier, I was getting a chance to sit down more often.

The novices seemed to adopt a variety of learning approaches including asking questions, practising or having a go, trial and error, observing others or getting them

to demonstrate or even coach, and reflecting on their experiences. Which method they used depended on what it was they were learning.

Asking questions or **seeking advice** from a more experienced member of staff was the most common way of finding out information and often the quickest, but was not always possible when the ward was very busy.

Many nurses said that **practising skills** was the only way to learn: 'doing it themselves', 'having a go' or 'picking things up' as they went along. One novice said,

I think the best way to learn it is to practice it, it's like a lot of things with nursing, I think the only way you get a feel for things is by actually doing it with the proper support.

Without such support it becomes simply **trial and error**, and this was not always the best method for learning,

A lot of it is being blind...and plunging in...I've found on this ward ...that, when I make a mistake, then they tell me what I should have learnt ... instead of [helping me to] learn first.

However there may not be much choice'

People haven't got the time to teach you and you're always constantly being thrown in the deep end. I think if you're thrown in the deep end, to a certain extent it's a good idea; but there's only a certain amount you can take...I feel, yes, there's some things I do feel I have progressed with but then, on the other hand, a lot of this has knocked my confidence...I started off quite confident and I've gone backward; because I don't feel as confident now as when I first started, and I think it is because I just constantly don't feel I can ask for help. ... I think it gets worse as the time goes on, because in that first month or so everybody expects you to ask for help; ... after a couple of months things still occur that you don't know or haven't done before...but by then everybody thinks "Oh gosh she's been here long enough now".

Many new skills require **coaching** or at least a **demonstration**,

Yeah [I] just watched people do it to begin with and then I got people to watch me doing it and now obviously I feel absolutely fine with doing it; and the suctioning, the other day now I've had a go at that a few times, I'm feeling a bit more OK, I don't need to get someone to watch me to do it now.

Well-supported nurses in well-run wards were able to overcome the shock of transition, and the concomitant responsibility, more quickly than some of their less well-supported peers. We gave a long account of a paediatric nurse learning to prioritise in Appendix B of Eraut et al (2003). Here we cite an example of a nurse moving after only 3 months from a slow, ultra-careful, order-following, approach to the drug round to a more pro-active questioning of whether one of her patients' prescriptions was appropriate. First she asked a senior nurse then, on her advice, raised it at the next doctor's round. Her explanation to the observing researcher described her progression very clearly:

She's [the patient] only on one anti-hypertensive and that's quite rare for the ward; normally they're on at least ACE inhibitors as well and different types of ones.... I'm going to speak to the doctors about that and see... maybe it's inappropriate for her, maybe she's had ... previous things or maybe she's got renal failure that I don't know about, or something I don't know. ...They've probably picked it up but that's kind of an instinct thing now, whereas maybe before I wouldn't have been thinking about that. ... I think it's something that I've just learned and that's even been pretty recently over the last...month or so, just kind of looking at peoples' drugs and realising why they're on them and questioning with the doctors whether they still need to be on them or whether the doses need to be upped or downed or things like that. That is something that...I've observed in other nurses... the basics are starting to really click now and I'm just thinking "Well, why does this person need to be on this drug", for instance,...yeah, I think just practice and ...questioning the doctors and being told the rationale as well and I think that rationale is beginning to stick now for why certain patients are on certain drugs and what the correct doses should be.

The Context Factors for the learning of newly qualified nurses are summarised below:

Allocation and structuring of work

Ward based shift work
 Full responsibility on arrival
 Pressure cooker environment
 Prioritisation critical
 Multiple brief contacts with other health professionals



Relationships at work

Variable ward climates
 Ward leadership critical
 Variable contact with peers
 Delegating to health care assistants

Participation and expectations

Unreasonably high at start
 Transition problems underestimated
 Ultimate responsibility for key decisions
 Overwork is the norm

The hospital nursing environment is relentlessly busy; and newly qualified nurses are pitch-forked into the same job as an experienced nurse with full responsibility and very little induction. Many clinical skills still have to be learned, but the greatest new responsibilities are prioritisation and the drugs round. The high risks, high pressure and nature of the work make the emotional dimension especially significant, and the need for supportive mutual relationships with colleagues correspondingly higher. The extent to which this need is met varies considerably between wards, as the climate of a ward can be very positive, very negative or more often quite patchy. The leadership of the ward is critical for developing both a positive climate and appropriate support for new arrivals. Contact with other new arrivals in the same hospital is also variable. At the same time successful prioritisation depends on good relations with colleagues and healthcare assistants, as well as learning from experience and ideally, but rarely, receiving some coaching.

Designated Support for Newly Qualified Nurses

All novice nurses were employed by local NHS Trusts with more than one hospital site. Given their responsibilities, the induction process was more important for these nurses than for the trainee accountants and graduate engineers. However, although all forty novices received some form of formal induction to the hospital in which they were working, their early experience varied enormously at ward level: in initial orientation, in access to staff development, in time with supernumerary status, in use of competency booklets, in allocation of mentor, and in feedback on performance.

Induction at hospital level usually consisted of formal lectures covering hospital policies and procedures such as sickness and annual leave, plus mandatory training days including fire, security and basic life support. This should have been followed by an **orientation to the ward** in which they were working, but only twenty one novices received this and there was no consistency in its length and content. Those orientations which were seen as most helpful involved going to visit linked areas of the hospital to meet people with whom the ward normally worked such as the dietician, stoma nurse, outpatients and theatres. A majority of the novices had worked on the ward previously as a student; so sometimes it was assumed, often wrongly, that they had already met the staff in these linked areas and visits were not arranged for them. However, these visits were valued for helping novices to get to know the people with whom they would be working in the wider hospital environment.

Twenty-eight novices said that they were **supernumerary** when they first started on the ward but this period ranged from one day to six weeks. Sometimes it was longer whilst novices waited for their registration documents to arrive. During their supernumerary time the novices usually worked alongside their mentor or another member of staff.

Although all Trusts offered some form of **staff development programme**, only eleven newly qualified nurses were aware that such a programme existed. Of these, two were on a rotational programme, which consisted of moving them to different wards every six months. Both programmes consisted of a series of study days that allowed the novices to update their mandatory training skills and to learn new ones, such as IV administration or venepuncture and cannulation. However access to, and attendance on, these study days depended on staffing levels and the busyness of the ward area. Most novices had to learn these skills in a more haphazard way.

Ten novices were given a **competency booklet** to complete during their supernumerary time on the ward. Such competencies related specifically to the area in which they were working and covered aspects such as taking a blood pressure or taking a patient back from theatre. Completing such competencies seemed to give the novices something to work towards and clarified expectations of them at this stage. However booklets were not always completed, and competencies not always assessed, which caused some novices to doubt their abilities,

When I first started, the clinical practice facilitator...was the person that was actually meant to go through the ...booklet and every time we met she would say to me "We must go through the book, I must sign stuff off in your book", and never did ... so I did feel very unsupported when I first got here.

35 newly qualified nurses had **mentors**² allocated when they started work. However, seven never actually worked with their mentors, and a further two had limited access to them in clinical areas (n=9). Only 19 novices, just below a half of our respondents, felt that their mentors had fulfilled their needs. For example,

I was given a mentor straight away and she was excellent, she showed me around, she would help me with my patients and everyone has just been really helpful. If you don't know anything they'll help you, if you're feeling that you're not doing something right, they'll help you, they're just really good here.

Less successful experiences included (1) a delay of six months in getting any time together, followed by a “supernumerary” day when her mentor paid occasional visits that felt more like being policed than helped; and (2) a mentor who denied her role,

I said to her in the first week... “How does this work? Do...we set up meetings...”; and ...I always remember her reply, she said “Oh...I'm not actually here to teach you, I'm here in case you get a problem...it's not like when you were a student...I'm not actually here to teach you things...”. So I never asked after that...I don't know what she thinks the role of the mentor is.

Where a mentorship relationship was lacking, novices often looked to other members of the nursing team to provide them with the support they needed. Such informal support was conditioned by the ethos of the team,

I've always felt that no matter what, even the most stupid question, I can quite happily go and ask one of the other nurses here and they always...sometimes they're busy, and it might take a bit of time before they can come and help you out; but sooner or later they'll always come and get you sorted.

In one ward area “team mentorship”³ had been recently adopted, because the poor staffing levels meant that there were not enough senior staff to mentor all of the new staff and students. In another ward, within an inner city hospital with a high staff turnover, one novice had three mentors, which also seemed to work:

We've had a massive, massive change of staff which started off as one or two people leaving and now a big wave has happened...so we've almost had a complete change over, right from the F grades right the way down to the D grades. ...So yeah the support is still there but it's difficult when you haven't got the same, you haven't built up the same relationship with the people that were supportive before. ...I know there is always support from my manager, that's never changed...because we all support each other, especially when there's new people or new, say for instance, E grades and they're asking us who are the D grades what is happening so...I mean yes there's definitely support.

² In most English hospitals mentors of newly qualified nurses are called “preceptors” to distinguish them from mentors of student nurses, but we are using the common term “mentor” to facilitate comparison with similar roles in other contexts

³ Elsewhere we have called this “de-centred apprenticeship” and will continue to do so

A third approach was observed when a mentor was away on extended sick leave and another junior sister took over the role. It was a very informal arrangement, and both gave her the support she needed when the first sister came back.

We identified five aspects of a positive mentor-mentee relationship that appeared to be especially important for enabling novices to settle in more quickly and learn more:

Time Together: The amount of time the mentee spends working with their mentor in the clinical environment.

Interest: The mentor shows an interest in the mentee as a learner and in their development as a staff nurse.

Trust: The mentor encourages the novice to practice their skills and to 'have a go' in a safe environment, thus providing both challenge and support.

Questioning: The mentor actively questions the mentee, encouraging them to think about their practice,

The way that teaching's done on this ward is very much a two way discussion, for instance asking questions "What do you know about this and how does this work", rather than verbally talking It is very much getting you to think about ... things.

Feedback: The mentor gives formal and informal feedback on a regular basis, thus allowing the novice to take stock of their progress.

If most of these aspects were present in the mentor-mentee relationship, then the novice seemed to settle in well and learn from their mentor. If very few of them were present, then novices felt that they *worked things out for themselves* and that it had taken them longer to learn. Indeed, how well newly qualified nurses settled into their role was largely dependent on how supported they felt; and this, in turn, varied according to where they worked and the attitude of their ward manager/ward sister.

The **ward manager** plays a critical role in supporting novices' learning, both directly and indirectly. The key roles are in the allocation of **appropriately challenging work** and in developing **a ward climate of mutual support and mutual learning**. Work beyond a novice's capability could have a serious effect on their confidence and even on the retention of these new employees, while lack of challenge led to stagnation and slowed down their learning. For example, one novice was rotated around the different areas within the ward so she got the opportunity to nurse patients with different conditions and dependencies, and also given the support she needed to do this. But another novice was confined to working on just one bay in one ward, nursing the same types of patient all the time. She was not given the opportunity to nurse more acute patients because of poor staffing levels on the ward and lack of support.

Another nurse said that she was having similar problems because there was not enough support available to enable her to look after sicker patients,

I took the job here because I do want to learn and I'd like to be good at what I do and I'd love the opportunity to work in Bay 1... We have a lot of patients with epidurals

that come from ITU, but you really can't do that on your own, you really need to work with somebody.... I would have loved to have done that with another staff member, but that's not ... realistic. So I'm thinking of other things... moving on again for some different experience.

More serious still was the position of a nurse, who was told at interview that she would not be in charge for six months, then found herself in charge in her third week with only an agency nurse. She found this a terrifying experience,

I used to ring her up (a nurse friend) and say how frightened I was, "They keep making me be in charge and I don't want to be in charge".

She asked to do the high dependency study day in order to cope with this responsibility, but was told there were too many others in front of her in the queue,

I must say nobody ever sees it but I'm panicking inside...I need to get used to managing a patient who's ill.

In contrast, a novice in another ward received good feedback and supervision from a very supportive manager and senior nurses. She also got significant peer support, both socially and at work, from a group who joined the unit at the same time as her and had 'gelled'. After 9 months she had already had two appraisals from her manager, who was very keen on professional development and had a policy of growing her own senior nurses 'in house', rather than suffer from a failure to recruit at senior level. Her manager was also well aware of the pressures faced by novices, and was frequently urging them to ask for help. She inducted new nurses through all the ward areas to give them experience of working for a variety of patients with different dependencies.

This novice had stopped receiving supervision after 8 months, and had started self-directed reading on relevant issues. She had become IV trained and had been on several short courses - basic life support, advanced life support, pain management, central lines. She had begun to mentor students, and had taken on management responsibilities when people had not turned up. She had quite enjoyed it, and had, *picked up aspects of what is expected of a co-ordinator or team leader*, but was not seeking that role yet. Her manager's policy of growing her own senior staff was clearly working.

Another insight into the ward manager's role came from a nurse whose ward had acquired a new manager after a long period without one,

I think things are definitely more organised whereas before we just sort of floated along and, although everything got done, it was a bit hit and miss sometimes; whereas now if we want to change things, she can actually give us the go ahead. She can give us more leadership really, things like staff appraisals ... were very hit and miss and very informal, whereas now we have a yearly appraisal plus. If she's aware that staff are wanting to ...go for the next grade up, or do certain courses, she will make time to sit down and do a bit of a development plan; so that we can hopefully all make the most out of the courses that are available and things ... In that way, it's a lot more structured;...and just getting new equipment and things, again we couldn't get

anyone to sign our (laughter) requisition forms and things, it's small things like that really that have just made life so much easier.

The new manager also brought valued new clinical experience from her previous job in a special care unit.

This ward already had a 'fellowship' of senior sisters who had sustained a climate of mutual support. For example, they gave our respondent advice on where she should focus her learning before she applied for her E grade, e.g. taking charge of the ward and feeling more confident dealing with other professionals; then they organised a dummy run for her,

Before I was left in charge on my own, when I was just doing a dummy run... they went through who to phone if we ran out of beds, who to phone if there was a security problem, who to phone if... we already know like the emergency bleeps, if there's a child who crashes or anything. So it was just more the managerial side, like who to phone if we ran out of beds, if we needed cubicle cover, that sort of thing really... The rest of the time I got on with it; but obviously they also knew what was going on in the ward, so they were there if I needed to ask them anything.

A contrast between good and poor support is given by this summary of the experience of the same nurse in two different environments within the same department.

The ward context (after 5 months)

- ◆ One week supernumerary, working alongside her mentor.
- ◆ Usual rotation of shift times and days.
- ◆ Do not pay overtime.
- ◆ Very short of staff, low quality of care, no time to talk to patients.

- ◆ Impossible to do job properly, or feel you have done a good day's work.
- ◆ Low morale.

- ◆ Eight patients at a time, huge range of tasks.
- ◆ One co-ordinator tries to achieve continuity of care (nurse sees same patients again), others do not.
- ◆ Gets little support or feedback. Hence reluctant to take on sicker patients.

- ◆ Disillusioned with nursing.
- ◆ Missed induction day and first 3 study days, through lack of staff.
- ◆ Shown how to run ECG machine but without relevant clinical knowledge.
- ◆ Training day on peritoneal dialysis machine, but no follow-up, now forgotten.
- ◆ Mentor does not go through competency booklet with her.

- ◆ Not assessed before undertaking new activities, e.g. drugs round.
- ◆ [after interview got 1 day IV training and got 7 x 1 day renal course.]

The Unit context (after 13 months)

- ◆ Six week dialysis course before starting.
- ◆ Four days a week, longer day shifts (only open during the day).
- ◆ Pay overtime.
- ◆ Much better staffed. No staff want to rotate back to ward.

- ◆ Greater job satisfaction.

- ◆ One or two patients at a time. Single focus on dialysis process.
- ◆ System tries to organise continuity of care (assists fine tuning of dialysis process).
- ◆ Good support from all around (de-centred).

- ◆ Sense of developing expertise.
- ◆ Attention to both machine dials and patient becomes routine.
- ◆ More rationale and reasoning now, more time to think.
- ◆ Patient folders provide useful framework for questioning.
- ◆ High dependency training day.
- ◆ Much adjustment of process according to needs/risk factors of individual patients.

- ◆ Not allowed to take patient until assessed on relevant procedures.
- ◆ [long 9 month renal course next year with rotation around the unit.]

Our previous research had highlighted the importance of **feedback** and its considerable impact on confidence and learning. This was even more important for nurses assuming full professional responsibility for the first time. The overall problem is lack of consistency. Nurses generally received informal feedback from their mentors, seniors and colleagues, mainly by way of informal chats or passing comments at the end of the day. While welcomed as a sign of interest, concern and encouragement, its status was uncertain and it certainly did not seem like a considered judgement on their progress,

I get feedback from the 'E' grades and...the coordinators...sometimes after a shift they'll make a comment and say, "You've done very well" or "Thanks for your help".

About twice formally sat down...we do talk about things but they're just general conversations over coffee...Sometimes I've actually asked, "Did that go okay and did I do that right?" ... Most of it's just been sitting down and people have said, "Oh how do you think you've been getting on?"

Only twelve of the novices had had formal appraisals with their ward managers/ward sisters, which involved discussing how they were settling in, their progress and setting objectives. If the ward manager/ward sister was aware of the novice's capabilities, was encouraging, and focussed on progression, then the novice felt challenged,

I'll be pushing you to learn more things, to do more things, to start thinking about management, to start thinking about maybe pushing up to your 'E' grade in a year's, maybe a year and a half time. So she's like "Don't get too comfortable, I'll keep you on your toes".

But if managers/sisters showed little interest in the novices' abilities and were unaware of their learning needs, then the novices felt lacking in direction. Lack of feedback also seemed to trigger feelings of self-doubt,

I've asked people, like just occasionally said, "Am I doing alright?" Because I am a person that I think I do need feedback, because sometimes I think I'm 7 months into my ward, into my trained career and everything and I think, "Am I at the stage I should be?"

One novice, who seemed to have a good support network – a mentor, an education package, competencies to complete and a good team, had not received any feedback on his performance and so did not feel supported at all,

I feel the department have let me down...because they haven't really been supporting me, I didn't feel that they'd been supporting me; but they felt...that they didn't have to, because they felt I was too confident, well not too confident, they felt I was exuding so much confidence that I was...coping well, when in reality I wasn't.

The fact that this novice felt unsupported was a complete surprise to the unit staff, because they had misinterpreted his confidence and thus did not feel that he needed feedback. As a consequence, he became anxious and lost his confidence. All the nurses needed some form of reassurance as to whether or not they were 'on the right track', as this helped them to take stock of their progress.

The nature of the feedback and how it was given was also of importance. Constructive feedback was seen as important in helping the nurses to reflect on their practice and improve patient care,

I do find myself getting feedback from people...both kind of positive ... “I thought you handled that situation really well”. ...I’ve also had some negative feedback from one of the senior nurses...for something that I did wrong...It wasn’t a criticism, it was like “Next time you could probably do it better if you did it this way” ...and so I found that really useful and I didn’t feel I was getting a telling off.

Learning can therefore be seen to depend largely on the support that newly qualified nurses receive from their manager, preceptor/mentor, seniors and colleagues. Without such support, novices lack direction and are unsure of their capability, which affects their confidence and influences whether they stay in their present post. So far three of the sample have moved elsewhere, specifically because of lack of support, although our observations suggested that their work was of good quality.

Crises of confidence

Twenty novices, half of our sample said that at around four to six months, they came to a point where they found themselves still having difficulties prioritising and delegating and found it hard to cope. They began to have serious doubts as to their abilities as nurses – and started to ask themselves “Should I be in nursing, am I doing okay, have I made the right choice?”

I think six months was when...I went through that stage of “Oh my God what have I done, why am I here, what am I doing, do I really want to do nursing?”... kind of that critical bit but after that I settled into things and everything clicked into place... from around then really.

At this point good feedback and acknowledgement of their efforts became absolutely vital. Support from mentors, managers and colleagues to confirm that their work was along the right lines, and that they were doing a good job, gave them the confidence to continue in their efforts to learn the skills of prioritisation and delegation. This process was facilitated by clinical supervision and by sharing experiences with peers,

Other nursing staff that started around the same time as I did...had gone through it, or were going through it as well, and just talking about it; and it’s quite strange because my friend started about four months after I did and it was like the six month period and exactly the same thing happened to her ... it’s quite strange it seems to be that six month period where you just have a bit of a crisis and get over it and then everything’s OK.

When I talk to my friends everyone’s found it a struggle, everyone’s had days when realistically “Oh I can’t go back to work” or “I want to quit” but most of my friends have gone over that six months period and we’re sort of “Yeah it’s not so bad, we’ve survived”

Although this crisis of confidence can be experienced as very negative, it is a sign that the newly qualified nurse is recognising a need to reassess how they are coping and that they need to delegate more effectively. Such crises are often the precursor to

change and can be a positive stage if handled well. It seemed that this was an opportunity for the novices to reframe, to take a good look at their job and reassess their position. Those who were well supported were able to move on, to make progress and develop, whereas those who were not supported left their posts and sought employment elsewhere.

One novice made a rather different point about types of support,

To me there's sort of two lots, there's like the formal support which is study days etc.; and I don't seem to be able to get on those because we are so short-staffed. Then there's the emotional support, now everybody on the ward is really, really friendly and they're always saying "Oh how are you" this, that and the other; so the emotional support within the team, I think is quite good.

She also felt supported by her peers who she trained with,

Quite a good network is fellow 'newly qualified'. We ring each other up and have a good moan down the phone. "Oh no they don't do that on my ward". "Oh well, they do on mine. What am I gonna do about it".

Earlier, however, she recounted an incident when she was alone on a night shift with only a Health Care Assistant to support her. An elderly patient died after calling out all night that he wanted to die and being periodically comforted by her. She had rung his son twice, who was understandably very distressed, and arrived just as she was going home, so she was able to speak with him again. Not one person asked her how she was feeling, even though she said that she was going home to have a good cry about the situation.

Two nights later she was told that the son had made a complaint, but nobody told her, until she asked a week later, that the matter had been cleared up quite quickly,

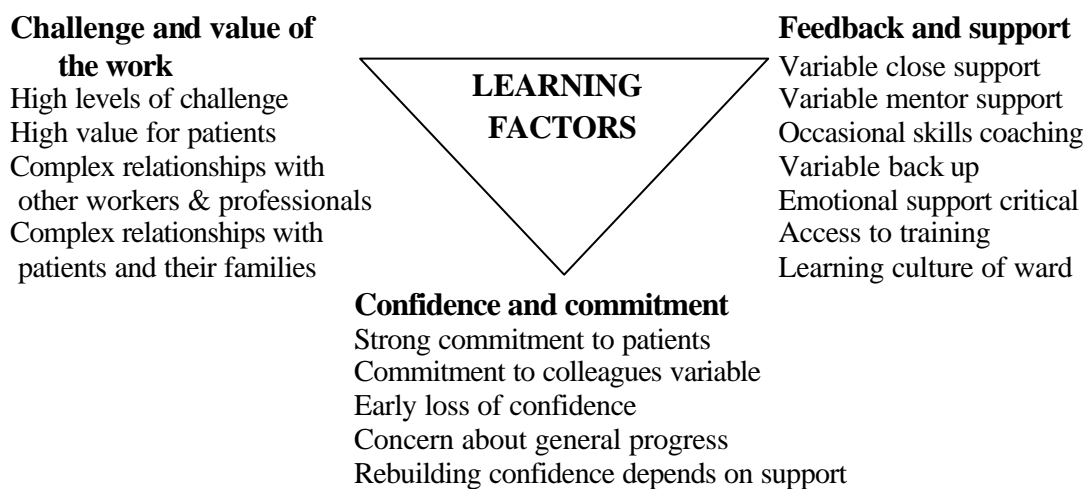
I said "God, I've been sitting at home for a week thinking I'm going to be suspended, I'm gonna lose my pin number" and one of the nurses turned round ...and said "Well, if that's the worst thing that happens to you, then you're not doing too bad", ... which I didn't think was very supportive at all, that probably means I'm in for a life of complaints being made against me.

Her final comment was understandable in the circumstances,

Nobody asked me if I was alright; and that's probably one of the things that has made me make up my mind to go [leave the job] as well, it seems as if death is taken sort of as a familiarity here and they don't like [to] have a debriefing or anything afterwards. I mean ... they all go down the pub and drink themselves stupid but I can't deal with it like that.

The key issue raised here is that emotion-rich incidents of this kind are not just something to be offloaded onto clinical supervision, where it exists. Emotional support is central to developing and sustaining a culture of caring.

The Learning Factors for newly qualified nurses are summarised below:



The combination of very high challenge, very high value and unreasonably high initial expectations is both risky and emotionally draining. Retention problems are predictable. Good back up, strong support for rapid learning and a positive and supportive ward climate are essential. There are also complex clinical and communication skills to be acquired to attain a reasonable level of performance. Continuing feedback on both specific skills and general progress is important for sustaining morale throughout the early career stage, but often in short supply. Management development and support needs to be directed towards these issues, if progress is to be made.

Conclusions

Our analysis of the learning experiences of trainee accountants, graduate engineers and newly qualified nurses confirms the importance for learning of the structuring of work, participation in an appropriate range of activities, and supportive relationships in the workplace. Decisions affecting the structuring and allocation of work may be determined by any combination of the following factors:

- 1) The nature of the work, the way in which the organisation handles 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 may or may 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 are currently working with the novice, and probably best able to judge the appropriate level of challenge if they think that it is important.

Whether these decisions benefit the learning of the novice professional will depend on the disposition, imagination, competence (in making these kinds of decisions) and available thinking time of those who make them.

The accountancy organisations have managed to provide appropriately challenging work for most of their new trainees for most of the time; we have yet to find out if this continues to the end of their traineeships. This is achieved by the structuring of the work and a strongly supportive organisational culture. Some engineering companies have had more difficulty in providing the appropriate level of challenge for much of the time, not because of a lack of corporate commitment to their graduate trainees, but because much of the work does not lend itself to tasks requiring different levels of expertise that can easily be matched to trainees' needs. Thinking of alternative strategies for designing and allocating work is not a priority, but some local managers have come up with new ideas. Ward managers are probably those under the greatest daily pressure. They also show the greatest variation in their responses, some making learning a major focus of their work because they recognise its importance for morale and retention, while others are too overwhelmed to give it much attention. Thus learning cultures differ greatly between wards in the same hospital. In both accountancy and nursing it is clear that supporting learning is a good investment, because it increases the capabilities of novice professionals very quickly, makes them more useful and gives a good return on their investment in learning. In engineering, progress is somewhat slower and the return on investment takes longer to materialise. This matches the longer timescales of our partner engineering companies involved in major construction projects and/or a significant amount of R&D; but not the short term responsive work of a local authority department.

In addition to appropriately challenging work, novice professionals require support and feedback; and we have introduced the term 'helpful others' to describe those people in the workplace that provide it, most of whom did not have designated helper roles. In all three professions support was provided by people within the same team; but this support varied in quantity, quality and timing. It was most readily available in accountancy, because senior trainees were close at hand, often working alongside the novice, teams were small and their objective was a jointly constructed product- an audit report for a specific client. There were clear, usually non-negotiable, deadlines; and valuable time would be wasted if trainees got stuck and caused delays, however small their tasks. Moreover, it was normally possible for more experienced trainees to pause or find a convenient stopping point in their own task to answer a question or advise on a problem. Their seniors knew from their own recent experience that such help would be needed; and providing it was a taken for granted part of the organisational culture.

In nursing the urgency was just as great, but support more difficult to find, because those able to provide support were busy attending to the needs of their own patients. Qualified nurses are not working to a common outcome, but working in parallel with a different group of patients. The level of cooperation depended on the skill mix in the ward (if this was low, more experienced nurses were badly overstretched), the disposition of the senior nurses, and their ability to keep an eye on nurses working nearby while still attending to their own patients. This almost tacit supervision becomes much more difficult when the ward layout restricts inter-visibility. The ability to spread one's attention widely, and prioritise according to one's perception of an ever-changing situation, is a critical aspect of nursing expertise for senior nurses. Another factor in nursing was the need to rapidly acquire new skills. Usually the most appropriate method was coaching; but this meant that a 'coach' had to be released from their ongoing responsibilities for a significant period of time. This requires that either a senior nurse, or the coach herself, has to negotiate some cover for the coach's patients. In some wards the mentor is expected to take on this coaching role, in others it might be the local expert or just the person who volunteered or just decided to help on the spur of the moment. The consequence was a well planned skills development system in some wards, but a dearth of coaching in others.

In engineering, graduate trainees were usually working near other more experienced team members in an open plan office. Tasks were usually part of a medium to long term project, so there was more time for choosing a convenient time to ask a question and the best person to approach. Within a few months, graduate engineers had become aware of who had what expertise, how well disposed they were to answering questions and how well they explained the key aspects of the problem; and this extended beyond their own team and sometimes, through the intranet, beyond their own site. It was up to them to hunt down and use the most appropriate sources of support, which might or might not include their manager or their mentor. They might even be described as hunter-gatherers of knowledge and resources.

Accountants were the most likely group to get immediate feedback, because their completed tasks were checked and incorporated into the audit document, and they could easily track increases in the complexity of the tasks they undertook. Nurses were more likely to be taken for granted, both because they were already qualified and because they were less often observed by others. However, this did not prevent mistakes from being noticed. In many wards they were more likely to get negative feedback on a mistake, than positive feedback on everything they did well or constructive feedback in areas where their performance was adequate but capable of being improved. In other wards people were careful to avoid this imbalance. This was most likely when membership of a ward community provided access to a great deal of social and emotional support. Such support appeared to be a necessary condition for a positive learning climate, but it was not always sufficient. Strong learning support and leadership from senior nurses was also necessary. A small number of wards did not provide either social support or learning support, although some individual nurses were able to transcend this largely negative climate. Some ward managers understood that the best way to improve their skill mix and the quality of their collective care was for novices and E grade nurses to develop their capabilities as rapidly as possible. Others did not see this as a form of investment or were just too daunted by the problem of trying to implement it.

Engineering teams had a rather looser structure, tasks were longer and a wider range of expertise was often involved. People spent more of their working time on their own with occasional meetings of small sub-groups with related tasks. However, their open plan offices and informal social meeting at lunch, by the coffee machine or after work provided a context in which graduate trainees could meet a wide range of people, whom they then felt able to approach later, either to get advice or to find out whom to get it from.

These patterns of work meant that accountants could get excellent immediate short-term feedback, but found it more difficult to get medium to long-term feedback, because they had no continuity of contact with more senior staff. Nurses received varying amounts of short-term feedback, depending on the culture of their ward; but tended not to get much medium-term feedback, because most senior nurses were very busy, and inclined to think that feedback was superfluous once the novices had been integrated into the ward. Thus progress tended to be taken for granted, rather than openly discussed in a formative manner. The engineers' experience was similar to that of the nurses, except that they had fewer informal cues if they were not engaged in challenging work. Very few of the people they encountered seemed to be concerned about feedback, and those without a discernable learning trajectory were left feeling rather rudderless. Thus access to feedback could be a problem for novices in all three professions.

While a sense of progression is closely linked to recognition of learning, it is possible to know that one is learning without knowing that one is making good progress. How does my progress compare with that of other trainees, present and past? Am I meeting the expectations of significant others in my organisation? Making such comparisons depends on getting feedback that extends beyond immediate actions to make general normative judgements about a person's strengths and weaknesses. Thus it is useful to make a distinction between quick feedback on performance that supports learning how to do particular tasks, and a more deliberative kind of feedback on general progress. The former is best given by people present at the time, and is reported above as playing a key role in the development of confidence and hence of learning. The latter is thought to require someone more senior and experienced who knows the trainee but has also consulted other people about his/her progress. One of the most telling lessons of this research is that even when novice professionals appear confident and are working competently, they still need to have a discussion of their own views of their progress. For example, we found that nurses who were contemplating leaving often doubted their capabilities or had other problems associated with their management on the ward, which, if acknowledged, might have been rectified.

Giving medium to long-term feedback is usually associated with appraisal; but we encountered relatively few examples of appraisal, if it happened at all, being valued by our participants. This may be part of a wider problem, because earlier research on the learning of mid-career professionals (Eraut et al, 1999) found a similar range of responses - a few positive examples and many that regarded appraisal as a wasted opportunity. Indeed, many of our partner organisations in that previous project confessed that appraisal was not working as intended and said that they were trying to reformulate it. We intend to investigate this issue further in the next phase of our research, in particular (1) whether there needs to be some continuity of relationship

between novice and appraiser and (2) whether appraisers have the information they need for engaging in the kind of discussion that novices are seeking.

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