An epistemology of practice

1. Four distinct but interconnected elements of professional practice:

- **Assessing clients and/or situations** (sometimes briefly, sometimes involving a long process of investigation) and continuing to monitor their condition;

- **Deciding what, if any, action to take**, both immediately and over a longer period (either on one's own or as a leader or member of a team);

- **Pursuing an agreed course of action**, modifying, consulting and reassessing as and when necessary;

- **Metacognitive monitoring** of oneself, people needing attention and the general progress of the case, problem, project or situation; and sometimes also learning through reflection on the experience.

2. The contexts in which the practice takes place

3. Three modes of cognition, which depend on the speed and conditions in which the practice is conducted

Modes of Cognition

Type of process	Instant reflex	Rapid intuitive	Deliberative analytic
Assessment of the situation	Pattern recognition	Rapid interpretation	Prolonged diagnosis Review, discussion and analysis
Decision making	Instant response	Intuitive	Deliberative analysis/discussion
Overt actions or scripts	Routinized action	Routines punctuated by rapid decisions	Planned actions with Periodic progress reviews
Meta-cognition	Situational awareness	Implicit monitoring Short reflections	Monitoring of thought and activity Reflective learning

The Scope of Tacit Knowledge

Understanding
Implicit or incidental learning
Implicit aggregation of episodes
and impressions
Hidden constructs

Knowledge use
Transforming & resituating knowledge
Retrieving knowledge from memory
Recognising when to use knowledge
Sensing how to use some knowledge

Skills
Routinised
Non-verbal or meta-verbal
Intuitively monitored

Decision-making
Rapid and intuitive
Holistic assessment
Judgement in complex
uncertain situations

Research questions for ESRC projects on mid-career and early career learning at work

- What is being learned?

- How it is being learned?

- What factors affect the level and direction of learning efforts?

Research Methods

Project 1: Development of knowledge and skills at work
Two interviews (6-9 months apart) with 120 professionals, managers and technicians in the business, engineering, and healthcare sectors.

Project 2: Early Career Learning at Work
A longitudinal study of the learning of Accountants, Engineers and Nurses at the start of their careers, with four1-2 day visits over 3 years, during which researchers:
- Observed activities and the work-place context
- Talked to mentors, preceptors, managers and trainers
- Interviewed the main participants

Status of main participants in second project

The **graduate accountants and engineers** were formally contracted trainees

- Their employers have systems of organised training support
- Engineers have related degrees, but trainee accountants do not.

The **newly qualified nurses**

- Start work with more practical experience
- May have their learning needs neglected, despite official provision of induction and mentors.

Advantages of Observation

Educating the observer/interviewer about the working context, and thus enriching subsequent data gathering

Enabling us to use workplace documents and activities as starting points for conversations about embedded knowledge and its acquisition that would otherwise have been impossible

Providing 'clues' to the use of knowledge that must have been previously learnt, thus making it easier to track down implicit learning

Allowing complexity to be appreciated, even if it was not fully explained to, nor fully understood by, the observer

Discouraging the painting of 'ideal pictures' by informants when they know reality has been observed.

Numbers of main informants and interviews

	Newly Qualified Nurses	Graduate engineers	Trainee Accountants
Initial interviews	40 (6 male)	36 (10 female)	14 (3 female)
Third year interviews	21 (4 male)	34 (10 female)	11 (3 female)
Total interviews with participants	91	121	53
Interviews with managers, team leaders, mentors	40	92	22

Typology of Learning Modes

Work processes with learning as a by-product

Learning processes at or near the workplace

Learning actions within either type of process

Work Processes with learning as a by-product

- Participation in group processes
- Working alongside others
- Consultation
- Tackling challenging tasks and roles
- Problem solving
- Trying things out
- Consolidating, extending and refining skills
- Working with clients

Learning Processes at or near the workplace

Being supervised   Being coached

Being mentored   Shadowing

Visiting other sites   Independent study

Conferences   Short courses

   Working for a qualification

Learning actions within either type of process

Asking questions

Listening and Observing

Getting information

Learning from mistakes

Reflecting

Locating resource people

Giving and receiving feedback

Use of mediating artefacts

Settings for Feedback

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

Informal conversations away from the job often convey indirect and/or unintended messages as well as intended advice.

**Formal roles such as mentor or supervisor** involve:
  Some responsibility for a learner's short to medium term progress
  Obligation to provide formative feedback on a regular basis.

Appraisal is a process where designated appraisers are expected to:
  Give normative feedback on personal strengths and weaknesses
  Ascertain views on learning opportunities and meeting expectations.

Factors affecting learning in the workplace # 1

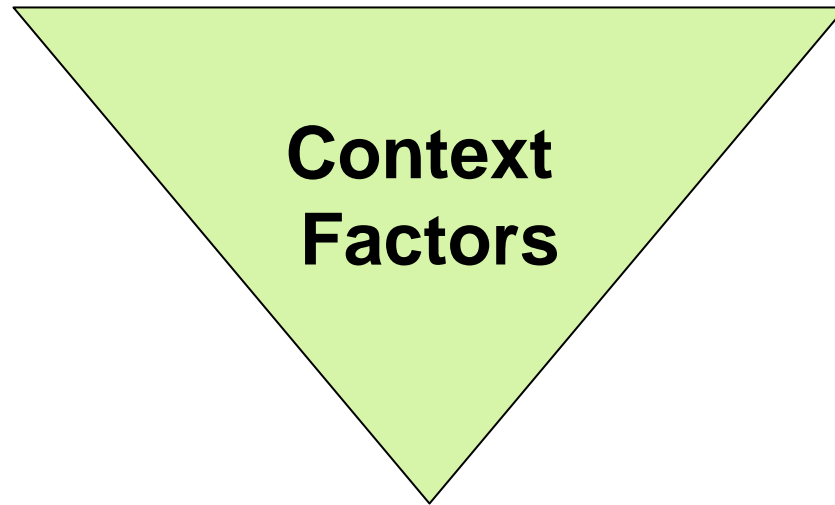**Challenge and value of the work**

Feedback and support
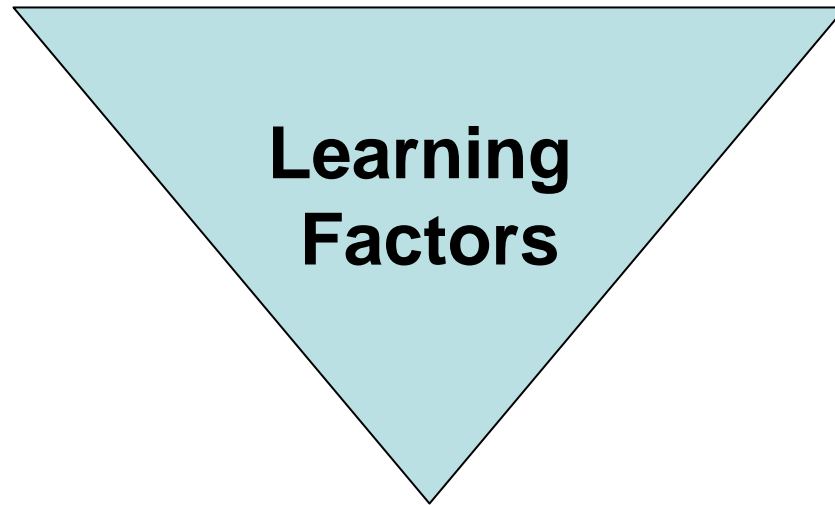
Learning Factors

Confidence and commitment
Personal agency and motivation

Factors affecting learning in the workplace # 2

Allocation and structuring of work

Encounters and relationships with people at work

Context Factors

Individual participation and expectations of their performance and progress

Attributes of a Learning Culture

Confidence and trust in managers and colleagues
Mutual learning and support
Giving and receiving **feedback without blame**

Learning from experiences, positive and negative, at both group and
individual level
Learning from colleagues, clients and visitors
Locating and using relevant knowledge from **outside sources**

Attention to the **emotional dimension** of work

Discussing and reviewing **learning opportunities**, their
appropriateness and their use
Reviewing work processes and opportunities for **quality improvement**

The Role of Managers

To demonstrate **learning leadership** and be **trusted** by their staff

To **know their staff** and **trust** them

To be aware of their **concerns** and **communicate** with them appropriately

To appraise and give **feedback** on both work and learning

To develop **mutual support** within the group for learning and a **learning culture**

To use their authority for and/or influence on the organisation and **allocation of work** to create **opportunities for learning** and quality improvement

To enhance and extend the **understandings and capabilities of the work group as a whole** and its individual members.

Conclusions and Recommendations

The same management style and capability improve **learning in the workplace**, **retention of staff** and **quality improvement. Managers need training** for promoting all three outcomes in an integrated manner.

Hence **the organization needs to develop effective approaches to planning, conducting and evaluating such training**, and **ways of encouraging and supporting managers in this new role.**

This approach should be an **integral part of management development and appraisal** in both private and public sector organisations, and **incorporated into Management Qualifications.**