



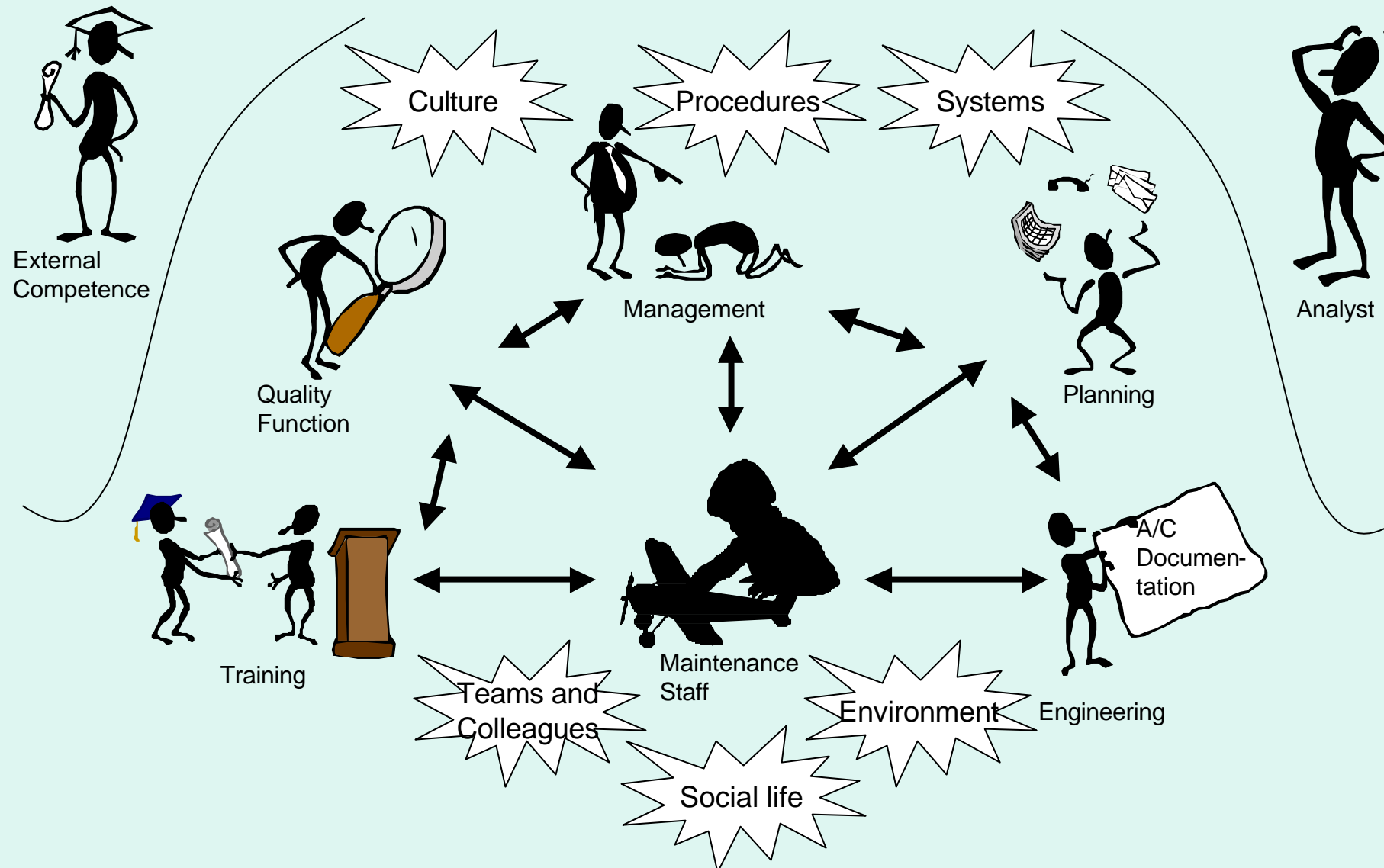
Training Standards for Human Factors Practitioners

Dr. Sam Cromie
Trinity College, Dublin

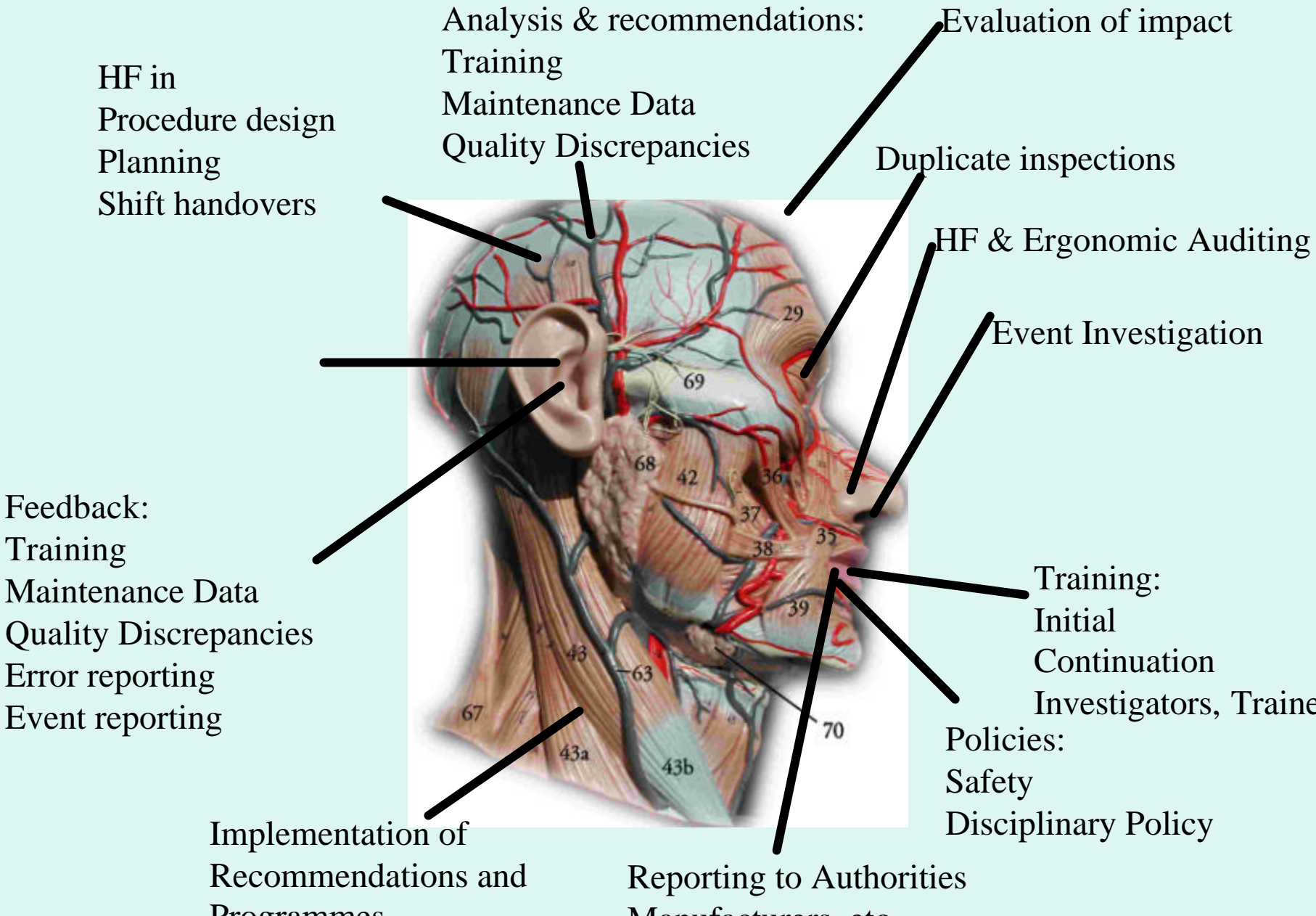


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Human Factor Issues in Maintenance Organisations



Anatomy of a Human Factors Programme



Competence?

HF in
Procedure design
Planning
Shift handovers

Competence?

Analysis & recommendations:
Training
Maintenance Data
Quality Discrepancies

Competence?

Evaluation of Impact
Duplicate Inspections

Competence?

HF & Ergonomic Auditing
Event Investigation

Competence?

Feedback:
Training
Maintenance Data
Quality Discrepancies
Error reporting
Event reporting

Competence?

Training:
Initial
Continuation
Investigators, Trainee

Competence?

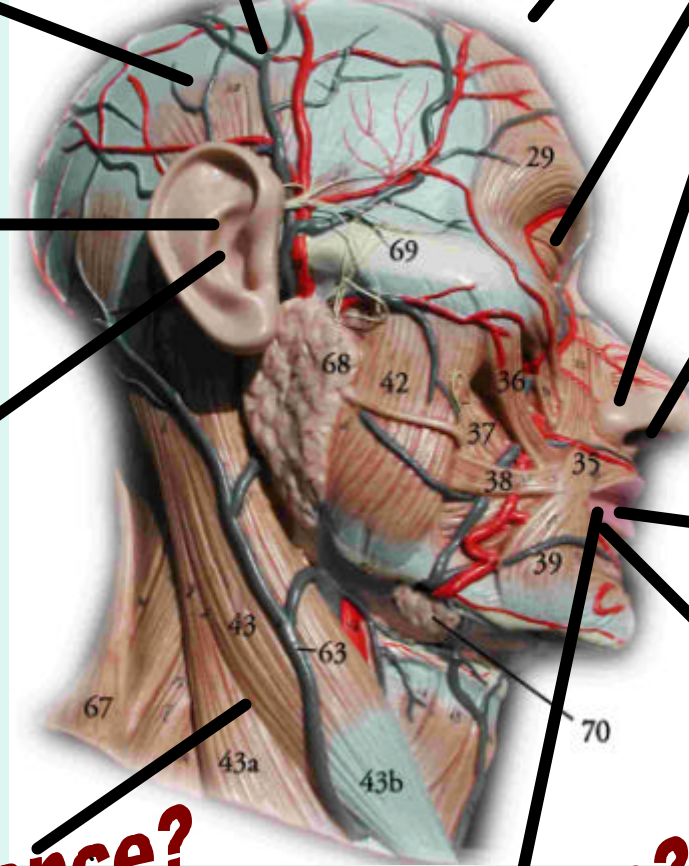
Policies:
Safety
Disciplinary Policy

Competence?

Implementation of
Recommendations and
Programmes

Competence?

Reporting to Authorities
Manufacturers, etc

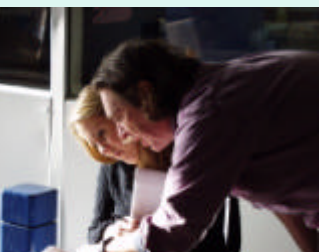




The regulatory context



- “...competence must include an understanding of the application of human factors and human performance issues appropriate to that persons' function in the organisation” ECAR Part 145.30e
 - On-the job competence assessment
 - Job descriptions for each job role
 - Assessed for the need for initial training
 - Receive continuation training



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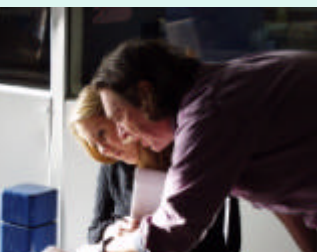




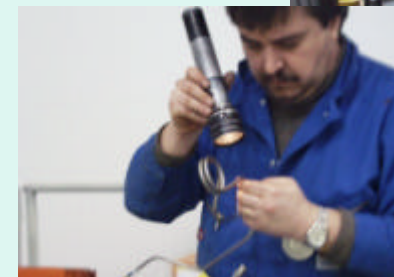
Competence Standards for HF Practitioners



- No specific regulations – up to the company to “ensure competence”
- Authorities not being proactive in specifying standards – leaving it up to the industry
- Companies ambiguous about standards:
 - Unnecessarily raising the bar
 - Portability of qualifications = poachability of key staff
- Industry bodies unwilling to push the issue
- Individual practitioners enthusiastic



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Professional Development for Human Factors Practitioners

The STAMP project:
Specialised Training for Aviation
Maintenance Professionals



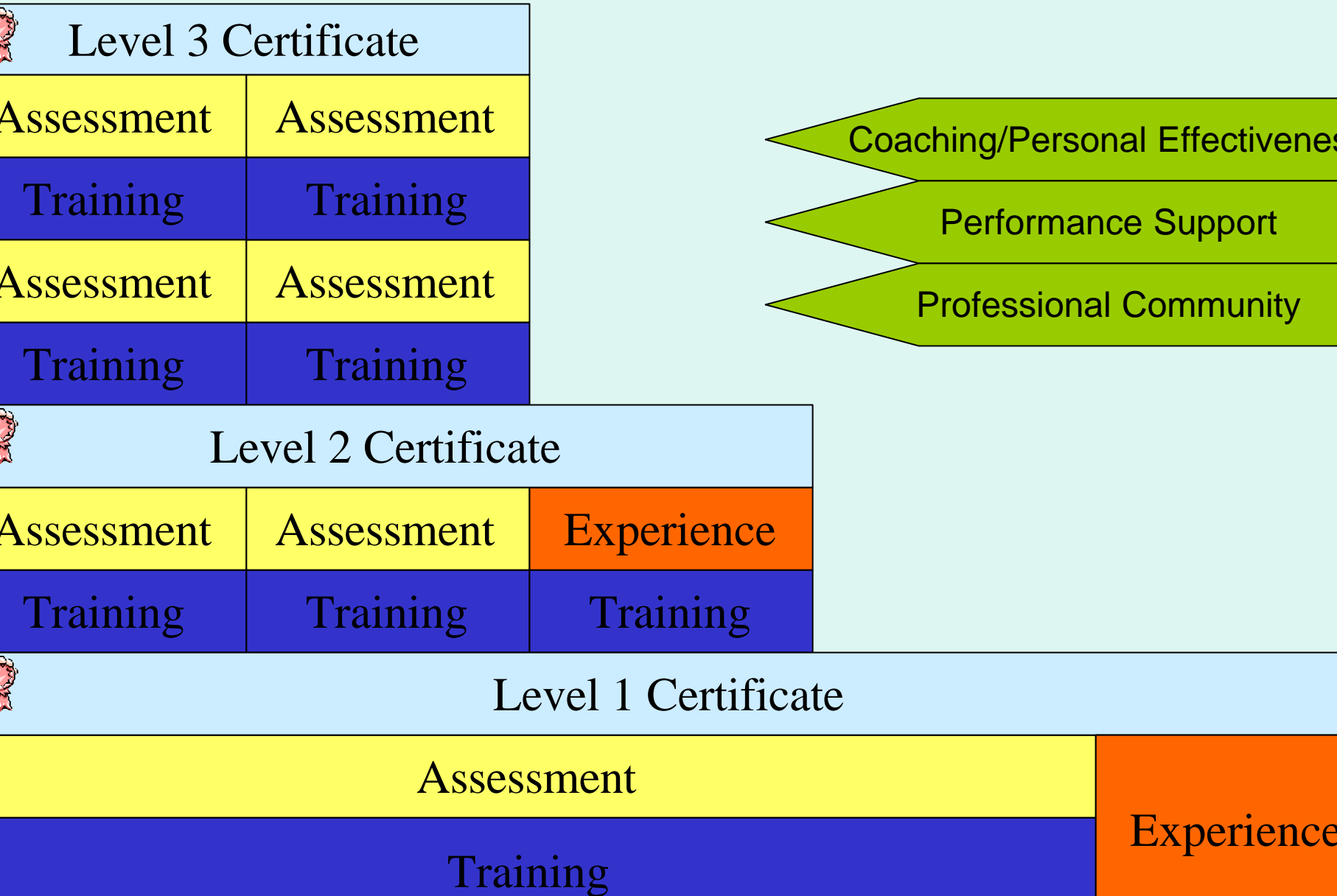
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Haphazard
Not systematic
No progression
No competence assessment
No industry standards
No records kept



A Professional Development Framework



Elements of STAMP

Professional Development Framework

- Training needs analysis, competence profiles for professional groups
- Training Curriculum & Methodology
- Competence Assessment
- Certification Strategy
- Performance support – tools, expertise, information resources
- Coaching/personal effectiveness
- Professional Community



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Training Needs Analysis

STAMP project:

- Developed TNA methodology
- Established competence profiles for Trainers and Managers
- Profiles can be used for competence assessment, training design, training content and selection criteria

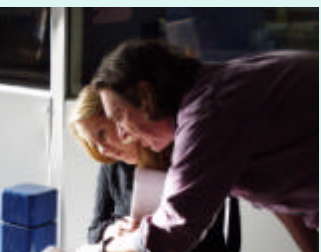


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Training Curriculum & Methodology



- 3 Levels of training
- Tracks –
 - Core modules plus specific modules for professional groups: Trainers, Managers, Planners, Investigators, etc.
- Methodologies:
 - Competence focussed
 - Active
 - Problem centred



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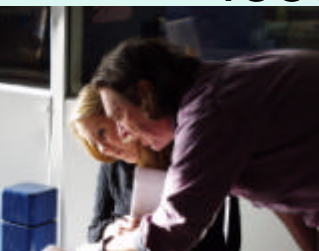




Assessment Methodology



- Different Methodologies for different competence objectives
- Sample methodologies:
 - Observation of skills, e.g. facilitation skills
 - Tests of knowledge
 - Case-study projects
 - Demonstration of application of particular tools, e.g. incident investigation
 - Documentation of performance evaluation feedback



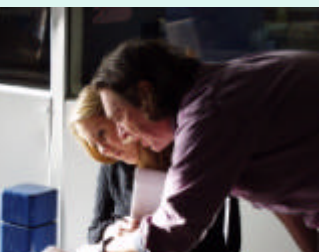
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Certification Strategy

1

- Portfolio based assessment process:
 - Training
 - Assessments
 - Experience
 - References



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Certification Strategy 2



- Levels 1 & 2 – Vocational Certification; Possibly City & Guilds, London
 - Level 1 = Licentiateship
 - Level 2 = Graduateship
- Level 3+ Academic Certification, Possibly Trinity College
 - Level 3 = Graduate Diploma
 - Level 4 = Masters
 - Level 5 = Doctorate



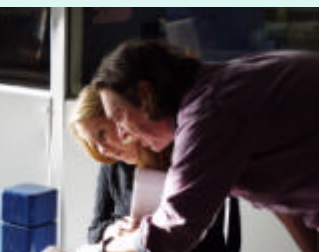
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Performance support



- Tools
 - TNA, event investigation, auditing, organisational learning
- Information resources
 - Reports, Case-studies, Presentation
- Training contexts
 - Classroom-based modules
 - E-learning
 - E-supported collaborative learning
- Access to expertise

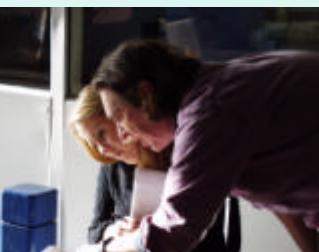


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Personal Effectiveness

- Mentoring
- Coaching
- Personal Effectiveness training
- Personal effectiveness counselling
- Self-management, stress management, conflict management



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Professional Community



- E-collaboration:
 - Discussion forums, etc
- Conferences
- Newsletters
- Working groups



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- STAMINA Core Maintenance Human Factors Course May 12-14, Dublin
- STAMINA Human Factors Trainers' Course 9-11 June

Partners



Associates

- Fraunhofer Gesellschaft Institut Fabrikbetrieb und-automatisierung <http://www.iff.fhg.de/>
- Joint Research Centre, Ispra, Human Factors Centre <http://humanfactors.jrc.it/>