



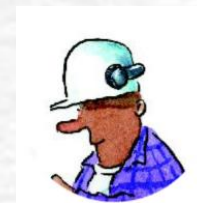
Cutting accidents and ill health

The successes and failures of the quarries hard target initiative

'Rob Pearce'



Robbie Robertson – ‘an improved safety performance
Has been reflected in an improved financial performance
Confirming the adage that “Good safety is good business”’



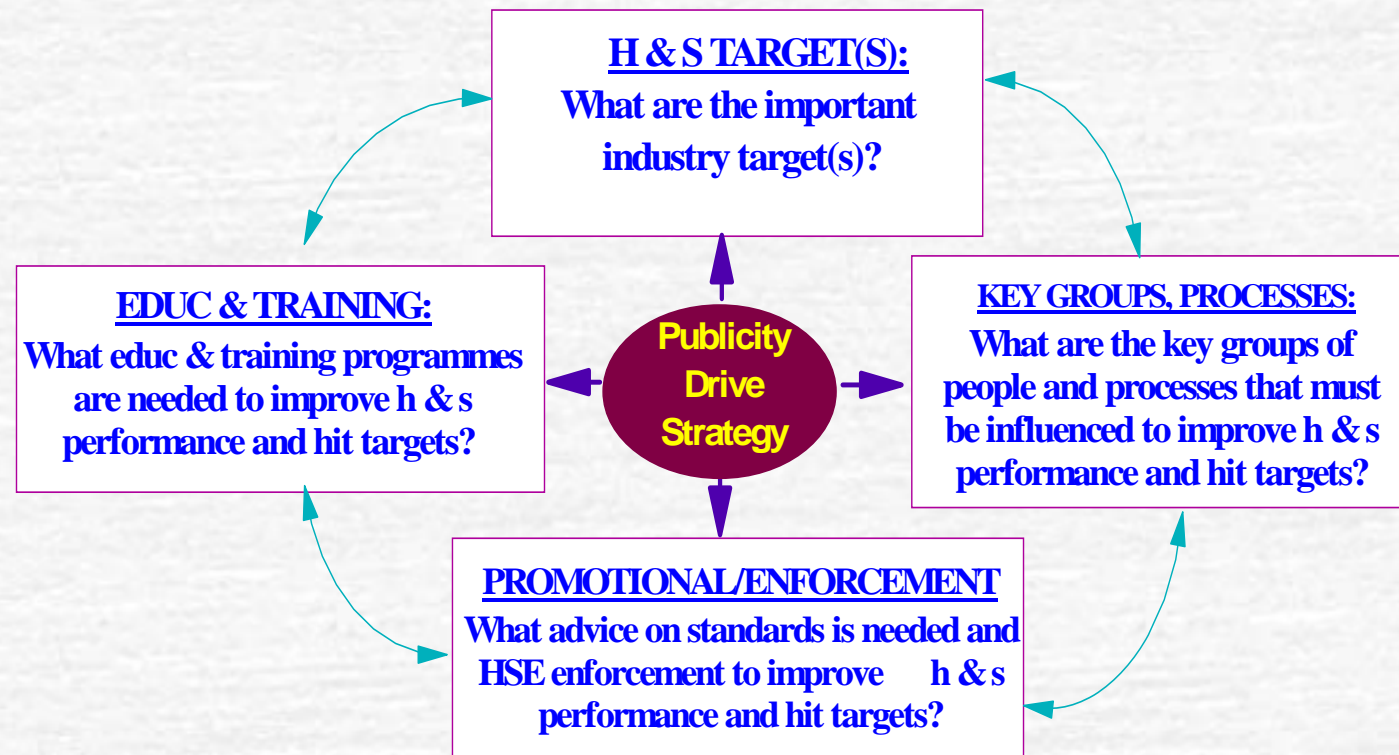
CUTTING ACCIDENTS AND ILL HEALTH

THE BALANCED SCORECARD:

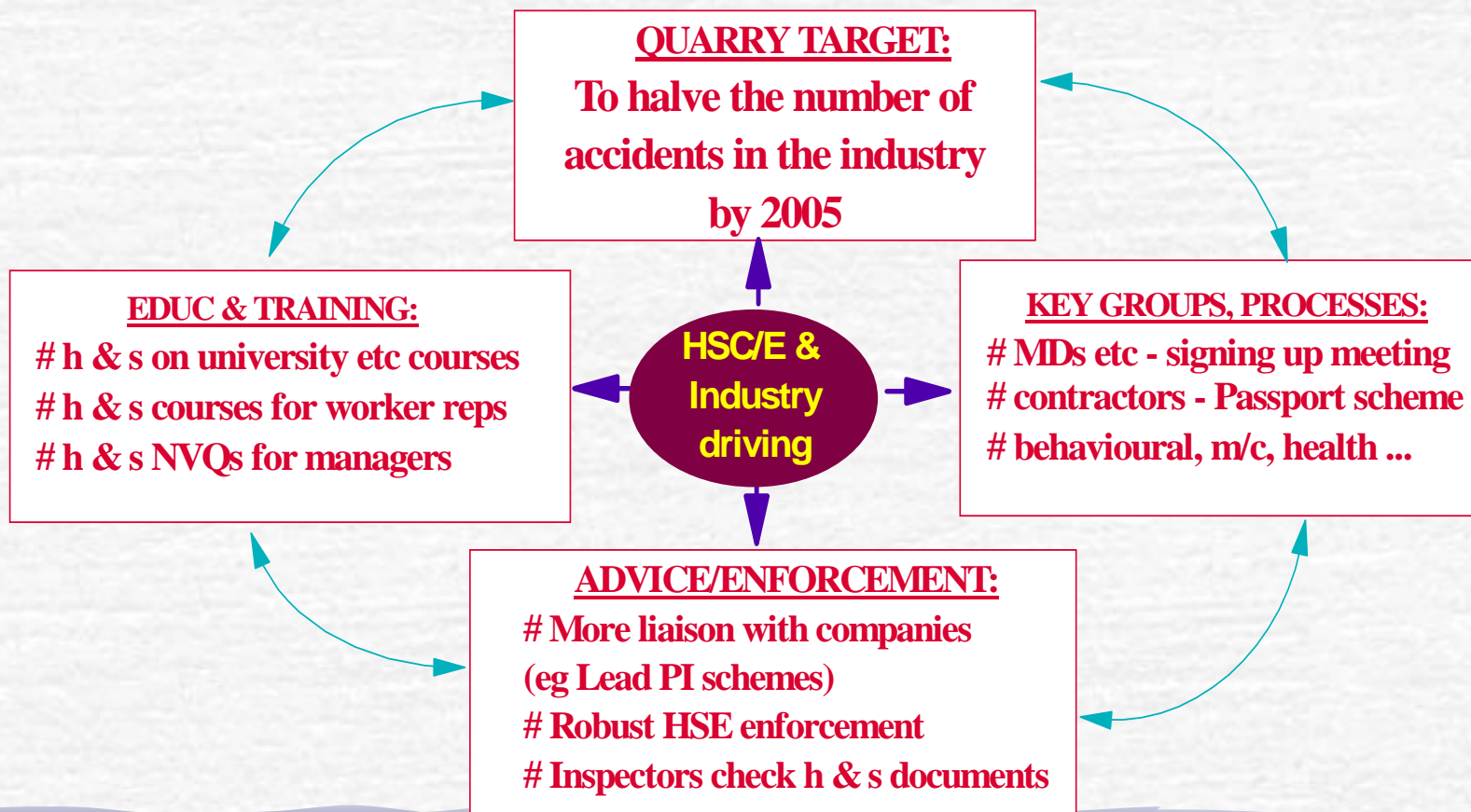
Norton & Kaplan: Translating strategy into action



STRATEGIC PLAN FOR METALS & MINERALS SECTOR



STRATEGIC PLAN FOR QUARRIES

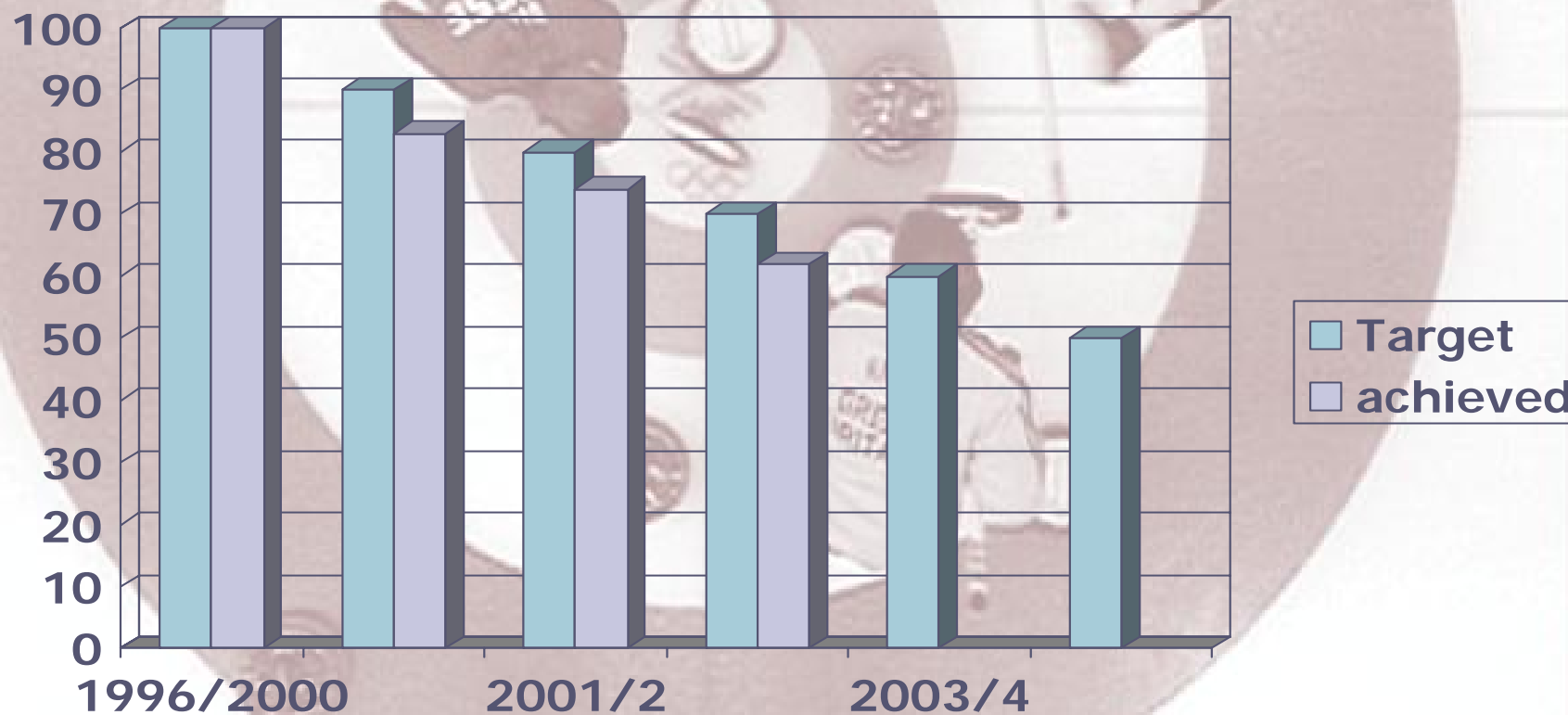


Signing up to reduce injury by 50% in five years



Hard target 50% reduction in 5 years

Progress to date



The Balanced Strategy, 2000/01 -

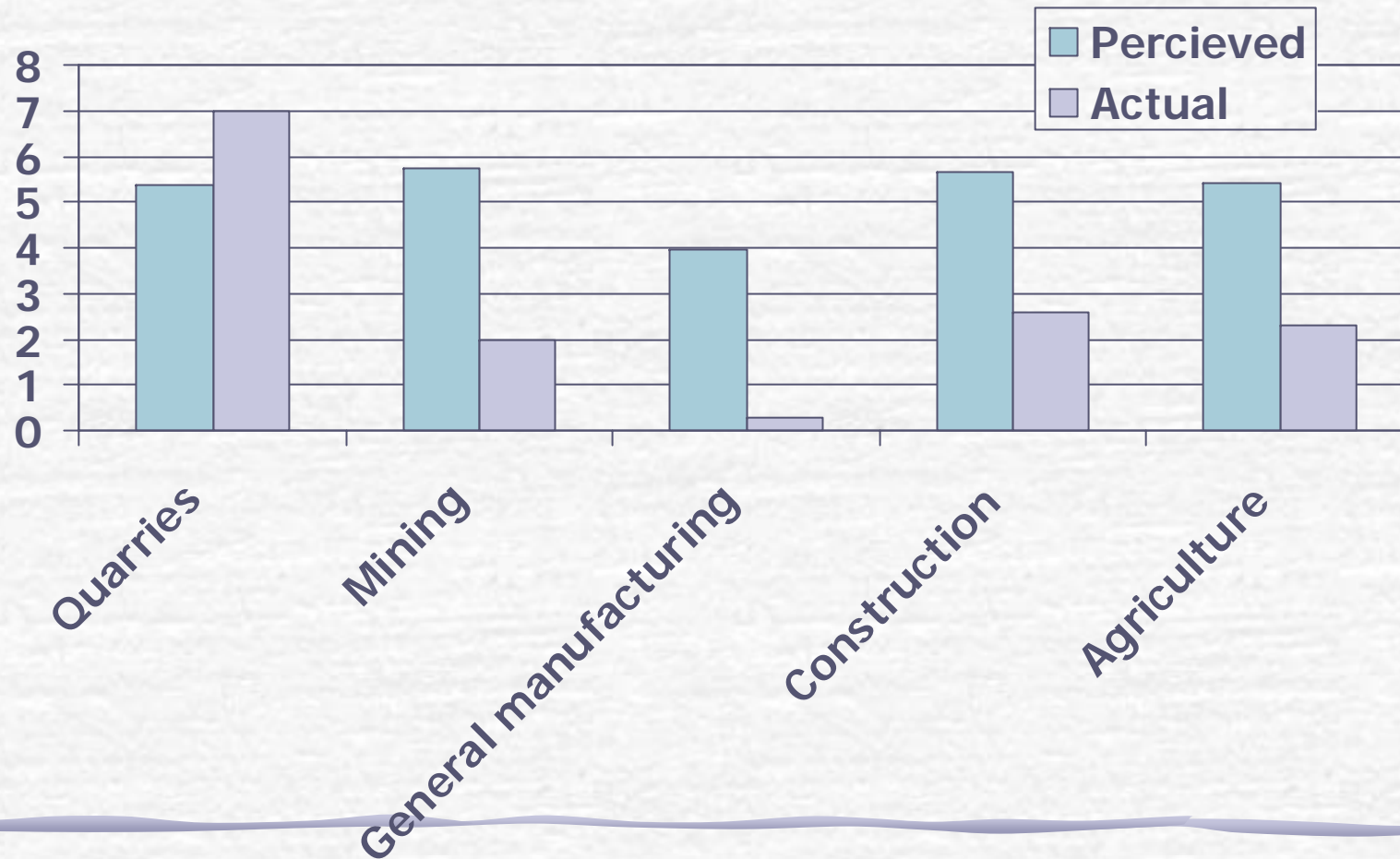


Failures

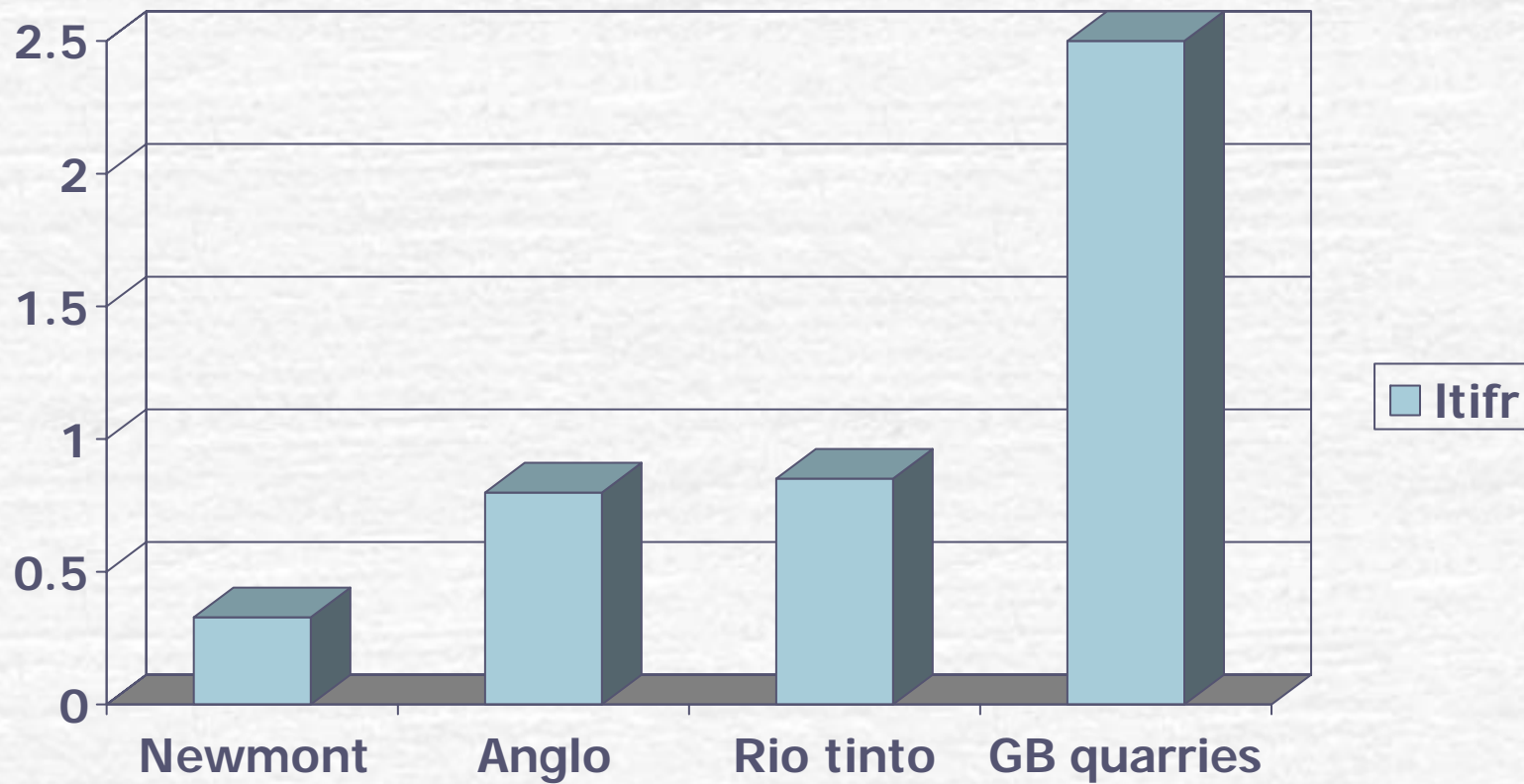
Education and training

- Failure to support higher education 80% loss in provision
- Failure to embrace worker representation training
- Slow take up of the NVQ's

Perceptions of risk in comparative industries



Comparison of world mining and GB quarries



Why are people killed and injured?

- We found that many witnesses, not excluding those who were intelligent and anxious to assist us, had been oblivious of what lay before their eyes. It did not enter their consciousness. They were like moles being asked about the habits of birds.
- The report tells not of wickedness but of ignorance, ineptitude and failure in communications.

Royal Commission on Quarries

- ‘in many cases, management was in the hands of persons who were better acquainted with the commercial rather than the working side of quarries so that safety did not receive its proper share of attention’.

Silica

- 39% of quarries do not know the design of their extraction systems
- 15% of quarries expose personnel to over the MEL
- Of those 73% did not know the parameters of the engineering control
- Of the 85% which were below the MEL the dust levels could easily of been reduced further.

Design

✔ Design and maintenance details	58%
✔ Tips appraised	70
✔ Assessed	63
✔ Stockpiles as sig haz	49
✔ Tip +ex rules	47
✔ Undertaken stability recommendation	62
✔ Safety committee reviewed design	59
✔ Workforce understand control meas	77

What do the regulations want?

☛ An operator who

- Designs
- Equips
- Commissions
- Operates
- Maintains

the quarry so that it is safe and healthy and an involved workforce and management structure that is competent to do this



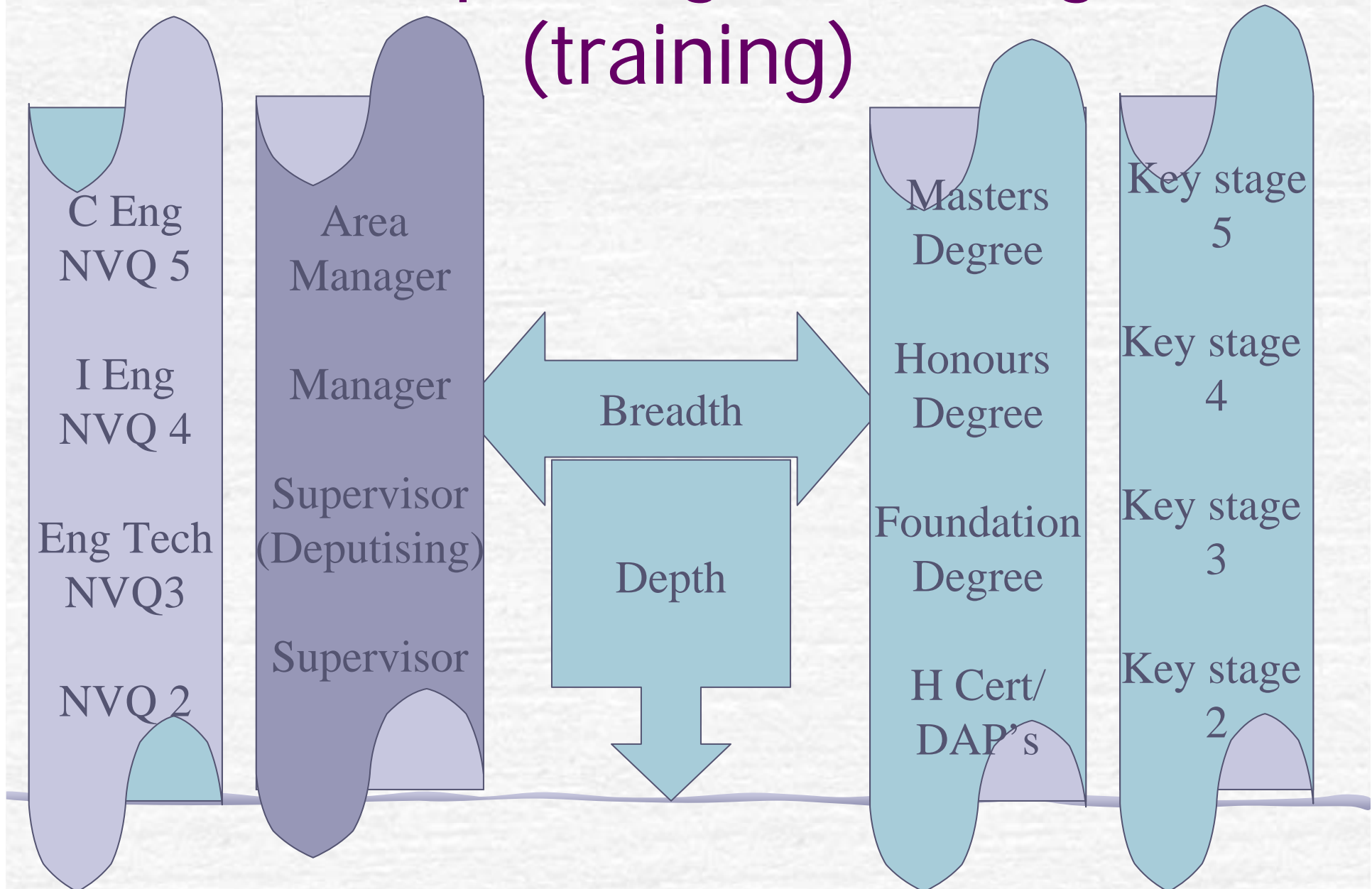
Competence

- Surveys of quarries and inspections show a lack of underpinning knowledge and interpretation of that knowledge is the main reason for injuries.
 - This shows it self in
 - Poor design
 - Poor awareness
 - Poor geotechnical controls
 - Use of wrong equipment
 - Poor maintenance systems
 - Under valuing of roles of staff
 - Lack of workforce involvement

Breadth of Training

Quarry design; electrical and mechanical engineering, Environmental assessment, finance, geology, geomechanics, marketing, personnel management, plant design, production processes, project management, sustainability, ventilation, health and safety

Underpinning knowledge (training)



National qualifications framework

Level H

- requiring the exercise of initiative and personal responsibility
- Requiring decision making in complex and unpredictable contexts and
- Requiring the learning ability needed to undertake appropriate further training of a professional or equivalent nature

Level C

- Requiring the exercise of some personal responsibility

The principles that underpin good education and training.

- ☛ The design and coverage of the training should be clear to the candidates, employers, and other stakeholders. It should have clear aims, objectives and opportunities for progression, and intended learning outcomes
- ☛ It should be at a given level so that the candidate can identify what prior knowledge or preliminary training is required, or what training it can build on.

The principles that underpin good education and training.

- The training should be designed to fit with progression routes, and identify where it satisfies or is recognised by further qualifications.
- Its should demonstrate clear relationships with the legislative, occupational and professional competencies
- In addition to the discipline or occupational aspects it must also enhance the persons skills and abilities
- It must provide recognition of the contextual issues relevant to the areas of coverage – environment, health and safety, profitability, equal opportunity.

Structured training must address

Group 1

Experience but no academic training

Group 2

No experience and no relevant academic training (graduate in arts or other subject)

Group 3

Limited experience and relevant training (honours degree in mining or quarrying)

Group 4

No / limited experience and training in a minerals related degree

Future targets

- Structured schools links programme
- A structured and integrated training programme, supporting CSM/Leeds/Doncaster
 - ? DAP's students
 - 20 Foundation degrees
 - 50 undergraduate degrees
 - 20 Conversion degrees
- Assured competence by 2010
- Safety representatives trained to QNJAC standards (2 each site?) 2010

Future targets

- Cut accidents further 50%
- Compliance with occupational health standards by 2010.
- Rehabilitation programme by 2010.