

Matrix System Marking in Simulated Based Medical Education (SBME)

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Objectives

- Who are we?
- Who do we train?
- What are the limitations of video debrief?
- StudioCode and CODA
- Interactive Demonstration
- Future Developments

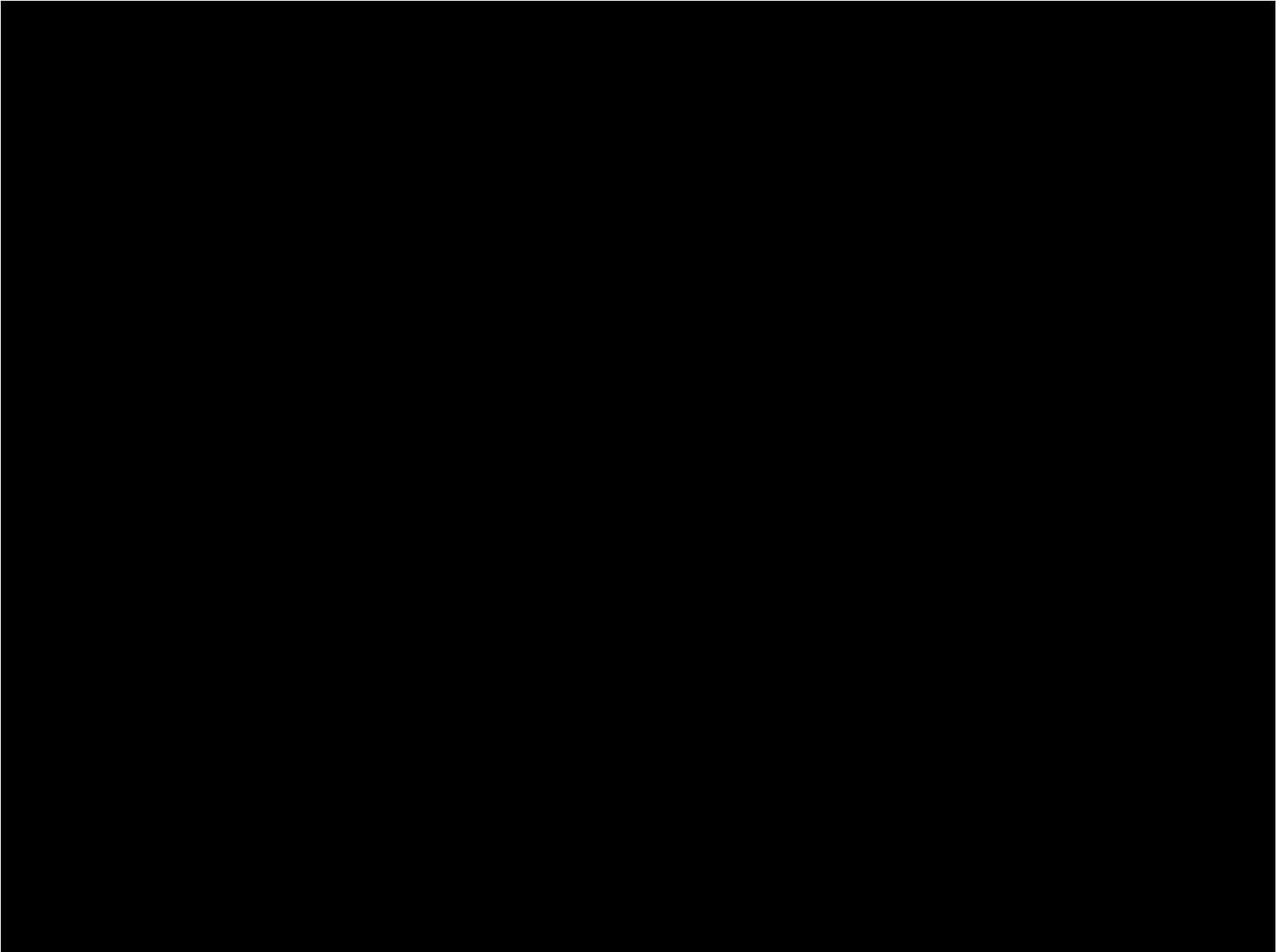


Lancashire Teaching Hospitals NHS Foundation Trust



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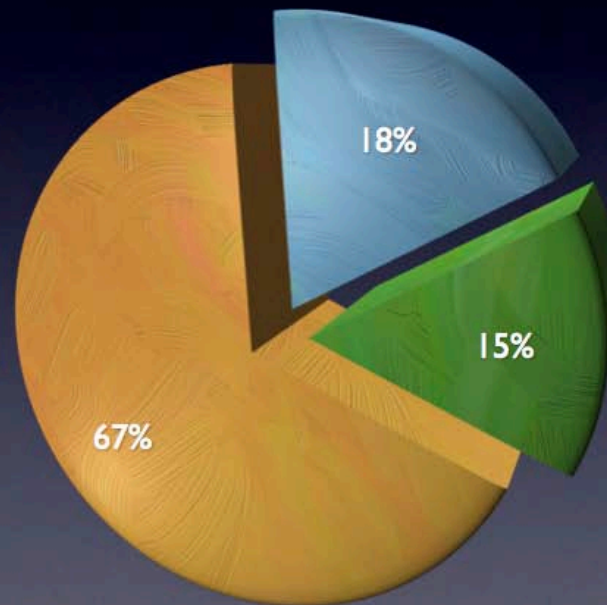
How Many ?

Human Patient Simulation Training

● Year 3 (114) ● Year 4 (92) ● Year 5 (421)

Total number of Undergraduate Students who attended training delivered in Human Patient Simulation between April 2009 - April 2010

638



Others

April 2009 - 2010 (456)

FY 1 & 2

Anaesthesia

Emergency Medicine

Medicine (NIV)

Critical Care

O&G

Paramedics

Nursing Staff

Radiologists

AHP's



Human Factor Training

“Undergraduate and early professional education in non-technical skills....showed significant improvement in error rates in both technical and non technical skills..”
(Patey 2009)

“ no industry in which human lives depend on the skilled performance of responsible operators has waited for unequivocal proof of the benefit of simulation before embracing it”

(Gaba 1992)



What are Human Factors ?

- Leadership
- Communication
- Delegation / Decision Making
- Teamwork
- Situational Awareness
- Safety



Video debriefing

- Video debriefing has been shown to be of benefit in many areas of training, not least of which is SBME but also extremely useful in :
 - Sport – individual or team analysis
 - Aviation – emergency situation management
 - Law – questioning and interview techniques



Criticisms of Video Debriefing

- Cost
- Video debriefing is a specialised skill.
- Time Incumbent
- Superfluous video footage needs to be reviewed to access salient areas.
- Editing is labor and time intensive
- Archiving may be difficult



VHS



DVD



Matrix Marking System



- Collect vital statistics and information
- Analyse individual and team performances
- Save hours and hours of time through multiple input devices
- Customise your own analysis templates
- Enter data on your Desktop, Laptop, iPad, iPhone or iPod Touch devices

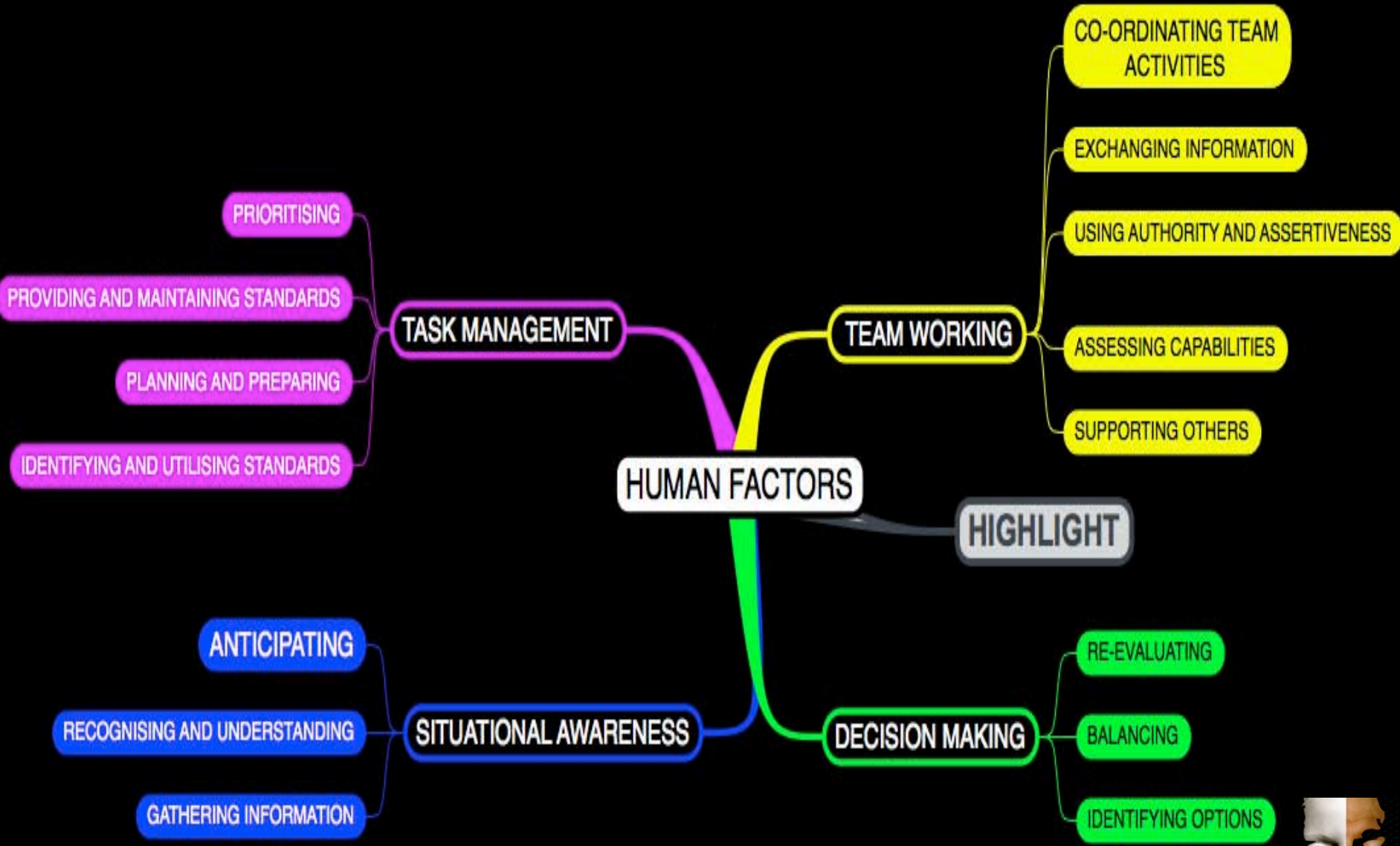


Matrix Marking System



- Link data to video through StudioCode
- Export data for further analysis
- Dramatically improve productivity
- Easily edit data during and after an event
- Online Coding for











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Marking

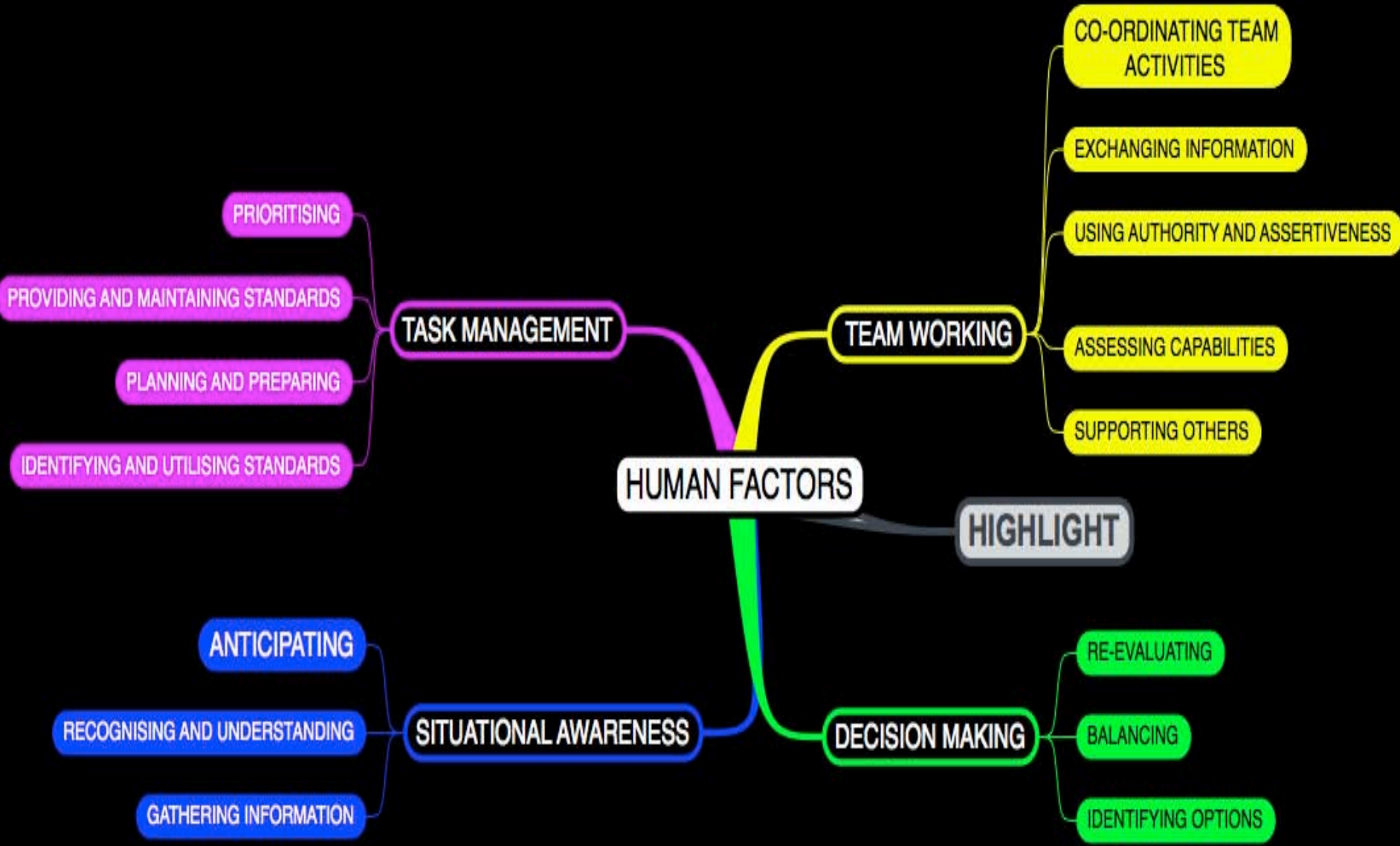


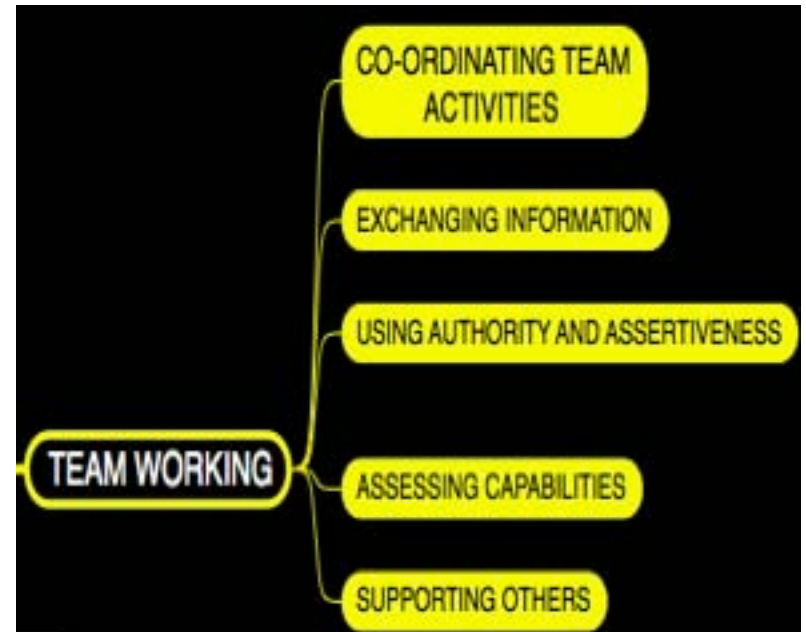
Marking

The image shows a video player interface with a video frame on the left and a marking interface on the right. The video frame displays a medical setting with a person lying on a gurney. The marking interface is a vertical stack of colored boxes. At the top is an orange box labeled "Identifying and Utilising Standards". Below it is a blue box labeled "Situational Awareness", which contains three sub-items: "Recognising and Understanding", "Anticipating", and "Gathering Information". At the bottom of the marking interface are two colored boxes: a green box with the number "2" and a yellow box with the number "1". A mouse cursor is pointing at the yellow box. Below the video frame is a timeline and a control bar. The timeline shows a duration of 00:09.37. The control bar includes buttons for "merge rows", "Make movie", "Append slow", "Text tracks", "Static text", "Overlay text", "lines" (set to 2), "Find", "Database", "Matrix", "Text", "New row", "New row +", "Organizer", and "Transcript".

Demonstration











Concept

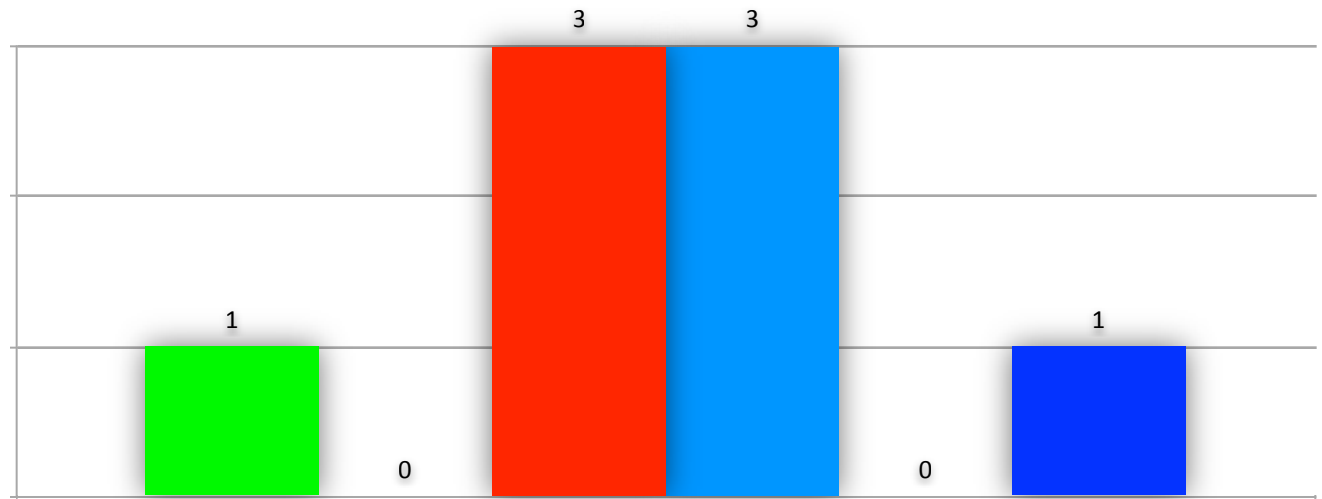
- Assessment (formative) - standardised marking schemes
- Peer review – allows observers to become more actively involved in a scenario
- Progression and development of an individual or a team can be documented and logged as part of a review or personal development program



YEAR 3

| | -1 | -2 | 1 | 2 | ABG's | Adequate Excursion | Auscultation | AVPU | Blood Pressure | Cannulation and Bloods | Capillary Refill | Glucose | Haematology | Percussion | Pulse Check | Pupils | Respiratory Rate | |
|------------------------------|----|----|---|---|-------|--------------------|--------------|------|----------------|------------------------|------------------|---------|-------------|------------|-------------|--------|------------------|---|
| Airway Management | | | 1 | | | | | | | | | | | | | | | 1 |
| Breathing | 2 | | 1 | | | 1 | 1 | | | | | | | 1 | | | 1 | 2 |
| Circulation | 1 | 1 | | 1 | | | | | 1 | 1 | 1 | | | | 1 | | | 1 |
| Disability | 1 | 1 | 1 | | | | | 1 | | | | 1 | | | | | 1 | 1 |
| Exposure | | | 1 | | | | | | | | | | | | | | | 1 |
| Investigations / Medications | 1 | | | | 1 | | | | | | | | 1 | | | | | 1 |
| | 5 | 2 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

- AIRWAY
- BREATHING
- CIRCULATION
- DISABILITY
- EXPOSURE
- INVESTIGATIONS

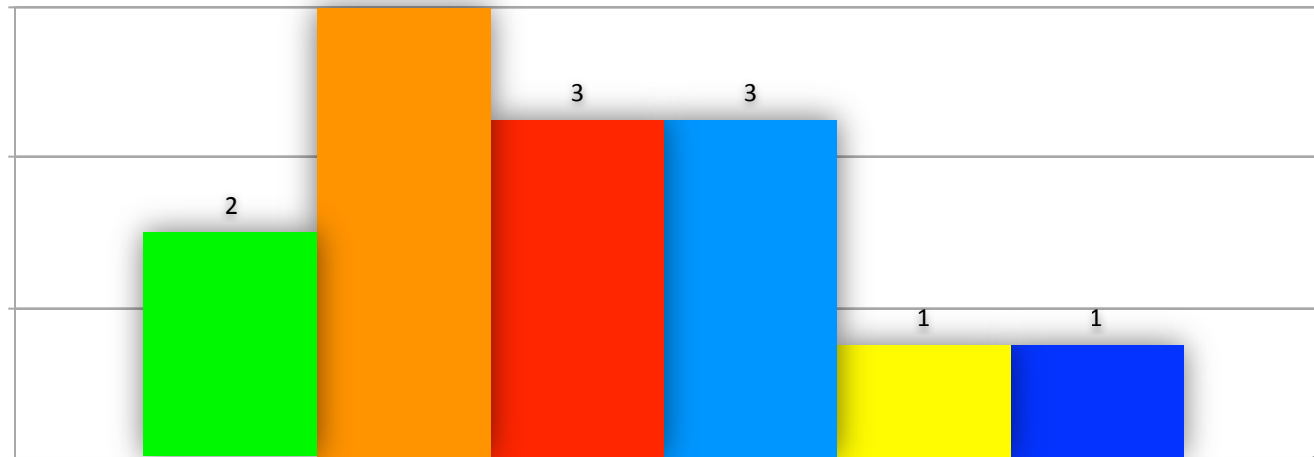


YEAR 5

| | 1 | 2 | Adequate Excursion | Auscultation | AVPU | Blood Pressure | Cannulation and Bloods | Glucose | Haematology | Open Airway | Percussion | Pulse Check | Pupils | Respiratory Rate |
|------------------------------|---|---|--------------------|--------------|------|----------------|------------------------|---------|-------------|-------------|------------|-------------|--------|------------------|
| Airway Management | | 1 | | | | | | | | 1 | | | | 1 |
| Breathing | 2 | 2 | 1 | 1 | | | | | | | 1 | | | 1 |
| Circulation | 2 | 1 | | | | 1 | 1 | | | | | 1 | | 3 |
| Disability | 2 | 1 | | | 1 | | | 1 | | | | | 1 | 3 |
| Exposure | | 1 | | | | | | | | | | | | 1 |
| Investigations / Medications | 1 | | | | | | | | 1 | | | | | 1 |
| | 7 | 6 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

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- AIRWAY
- BREATHING
- CIRCULATION
- DISABILITY
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Future

- Clinical or No Techs Templates can be developed or modified to suite any speciality
- Proficiency levels can be set so potential longitudinal summative assessments using SBME are feasible.
- Whole concept could be portable opening the system for use in clinical areas

Questions ?



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“reflecting reality”