Salisbury NHS Foundation Trust

British Nuclear Medicine Society 2010 Spring Meeting

Using web-based technology To develop a new approach to learning and assessment

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bettertogether

Background

- Post Graduate programme delivered at UWE, Bristol for 14 years
- Providing traditional based learning, teaching & assessment approaches
- Re-validation of nuclear medicine programme in 2008 prompted an initial evaluation of traditional learning techniques

National Drivers

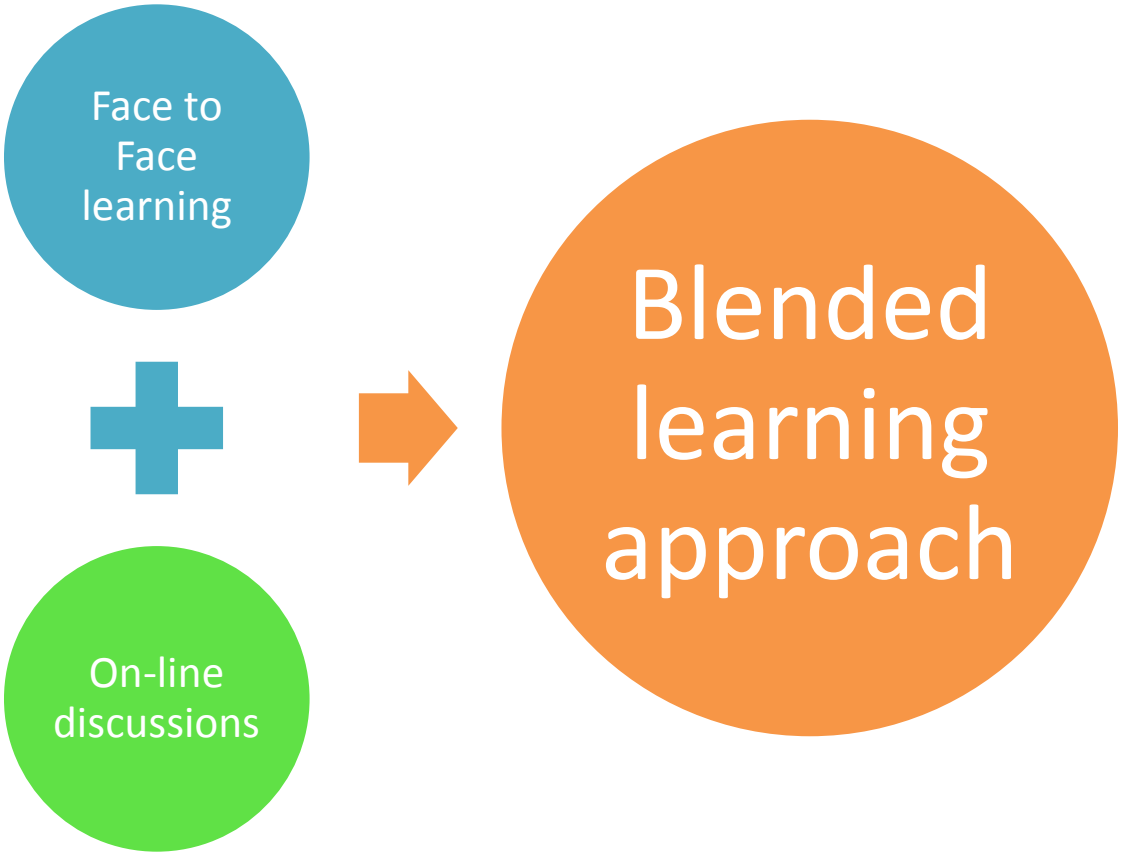
- Department of Health
  - 2004 "*Working together, learning together*"
  - 2004 "*The NHS knowledge and skills framework and the development review process*"
  - 2008 "*High Quality Care for All: NHS Next Stage Review Final Report"*
- *SCoR*
  - *2009 "Scope of Radiographic Practice"*
- MSC Report
  - 2010 "*The UK Way forward*"
- Service improvement
  - 2006 "Skills for Health" Drive

Consultation phase

- Involvement of clinical stakeholders
- Student evaluation and suggestive models for future pedagogies
- Investment in web based technology and consultation with industry representatives

New Models of Learning

- Enquiry based learning using BlackBoard:
  - Student were involved in the evaluation of working practice relating to the management of radioactive spillages
- Contact teaching was supported with discussion forums on Blackboard
- Distance based learning approach also adopted:

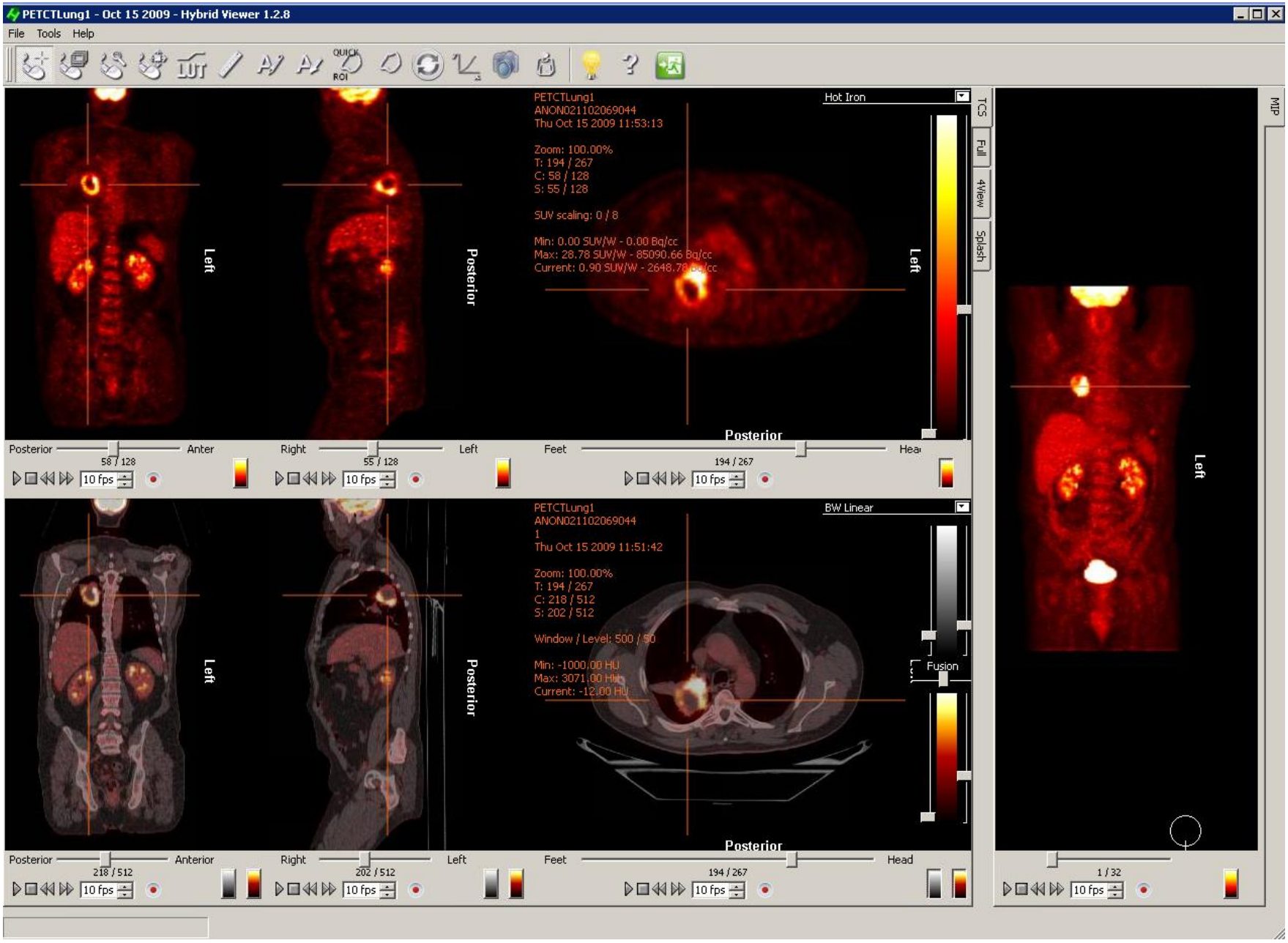

Face to Face learning
On-line discussions
Blended learning approach

Clinical scenarios

- Use of clinical scenarios reinforced the students learning
- Students critically evaluated clinical scenarios developing:
  - Reflective skills
  - Analytical skills
  - Critical thinking skills
  - Problem solving abilities

Web based processing / manipulation of data

- TeleHERMES software installed in May 2009
- Initial architecture developed as a teaching tool at UWE
- Vision to develop a virtual image manipulation & processing platform remote from the academic environment
- Initial findings promising and on-going developments taking place with industry colleagues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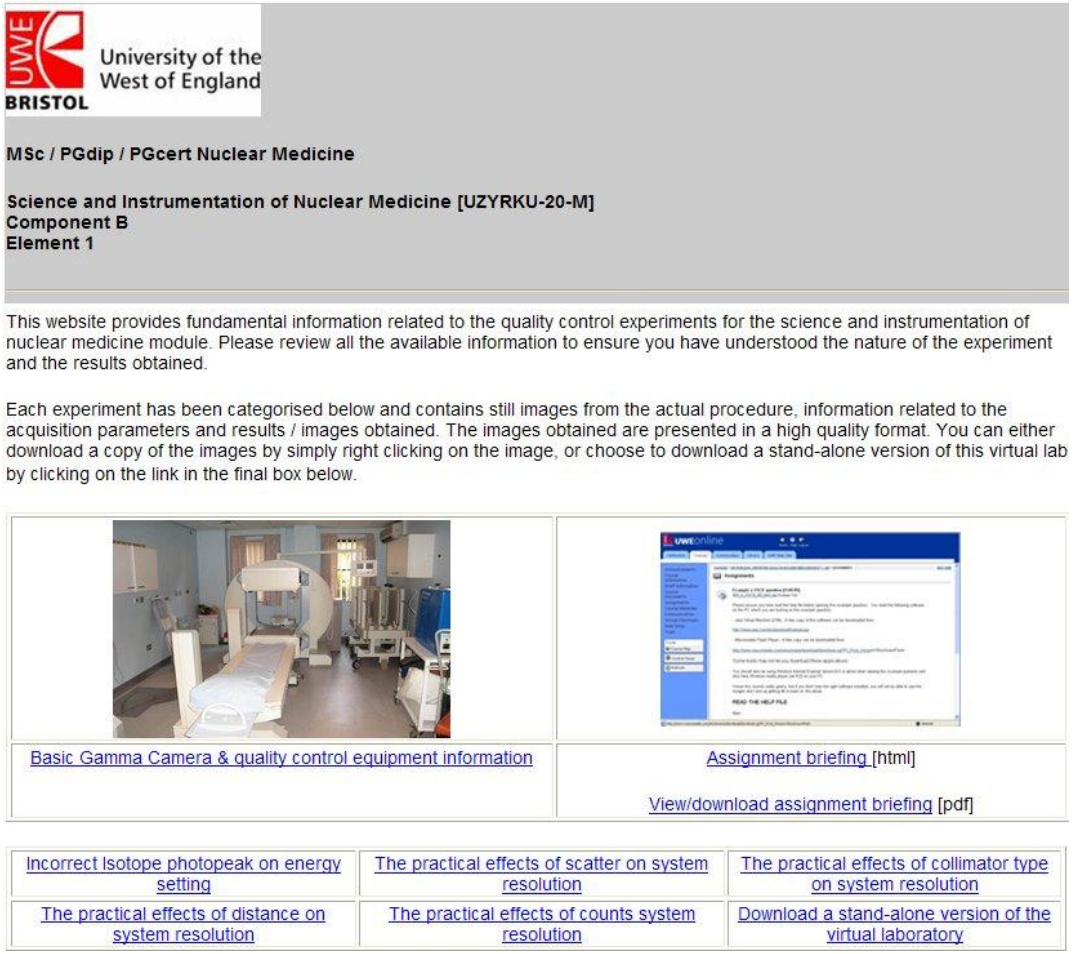
Distance based learning

- Structured learning utilising BlackBoard
- Extra cohort of Nuclear Medicine Technologists in Scotland accessed a science and instrumentation module
- Blocks of educational material released to the students
- Interwoven with discussion board threads & staged self-directed study
- Assessments related to practice & supported using a web-based resource (virtual lab)

Web-based resource

The main experimental component of the module was made available via the BlackBoard interface, but also on a stand-alone web site.

This site was complete with data that could be used if local results were not available. Hyperlinks allowed access to further and complementary information to assist in completing the experiments and also engage in the learning intended



University of the West of England
BRISTOL

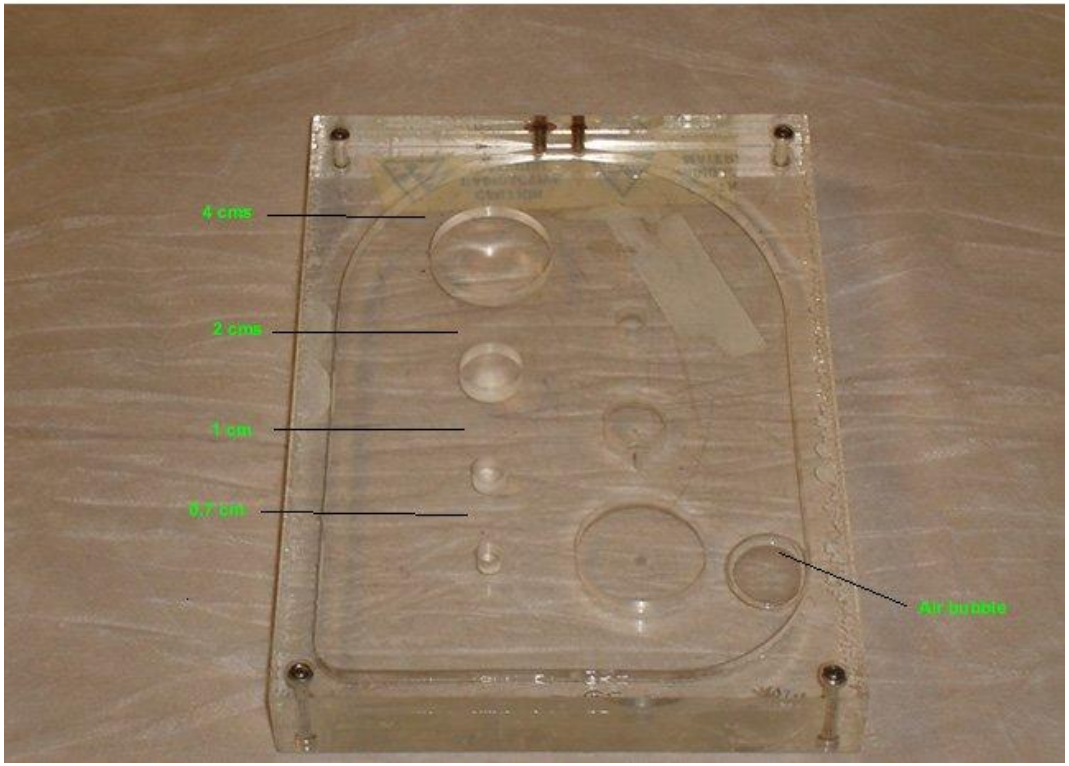
MSc / PGdip / PGcert Nuclear Medicine

Science and Instrumentation of Nuclear Medicine [UZYRKU-20-M]
Component B
Element 1

This website provides fundamental information related to the quality control experiments for the science and instrumentation of nuclear medicine module. Please review all the available information to ensure you have understood the nature of the experiment and the results obtained.

Each experiment has been categorised below and contains still images from the actual procedure, information related to the acquisition parameters and results / images obtained. The images obtained are presented in a high quality format. You can either download a copy of the images by simply right clicking on the image, or choose to download a stand-alone version of this virtual lab by clicking on the link in the final box below.

Virtual Lab: Sample Image



Sample images for students who had not met items of equipment in their studies or workplace to date.

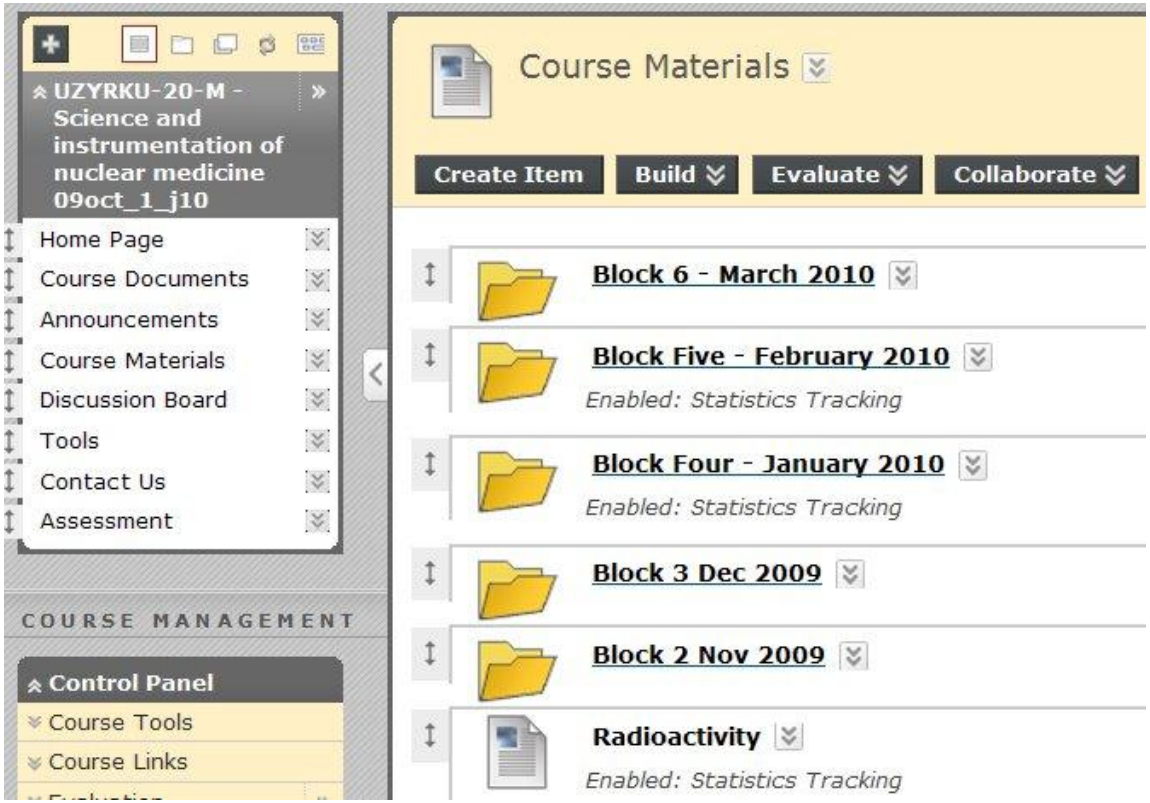
Many of the students found this useful.

BlackBoard

All lecture materials were made available to allow students to concentrate on engaging with the lectures, rather than struggling to make notes as the lecturer spoke.

This is also an excellent revision resource.

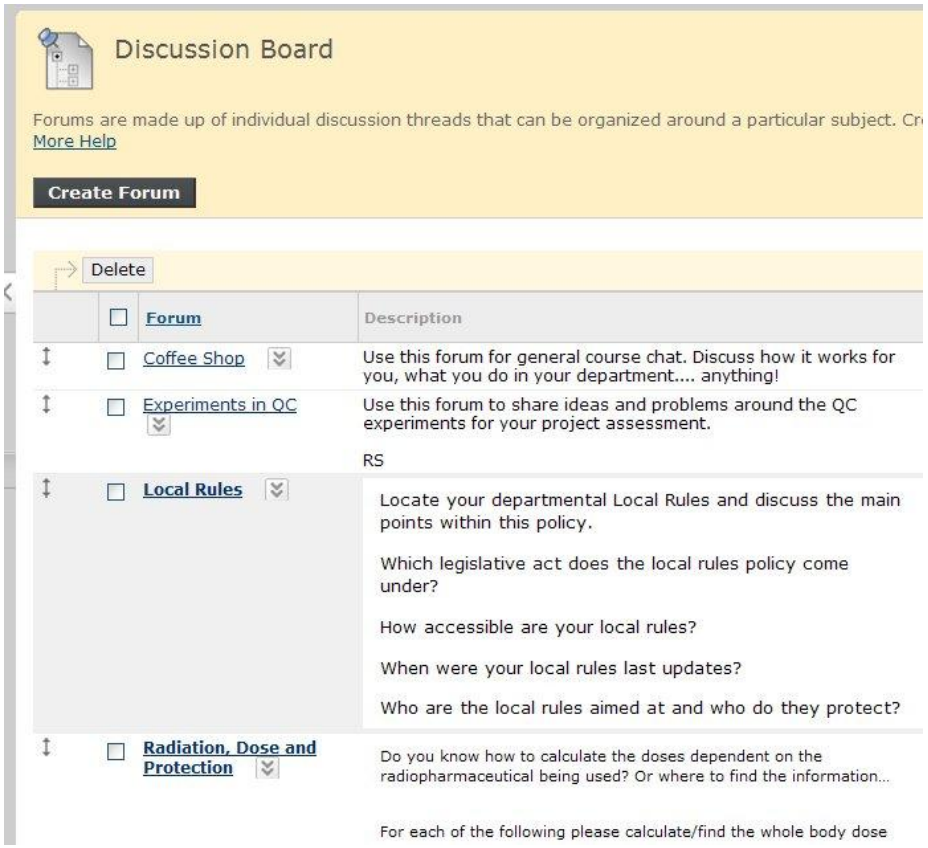
Developed students analytical and reflective abilities



Discussion Boards

Use was made of the discussion boards to allow students to query their understanding on current issues. This elicited feedback from staff and their own peers. This strongly re-enforced working relationships and made some students very much aware of just how much knowledge they actually had.

The boards were also used to set work out of class and allowed asynchronous study to take place.



e-OSCE assessments

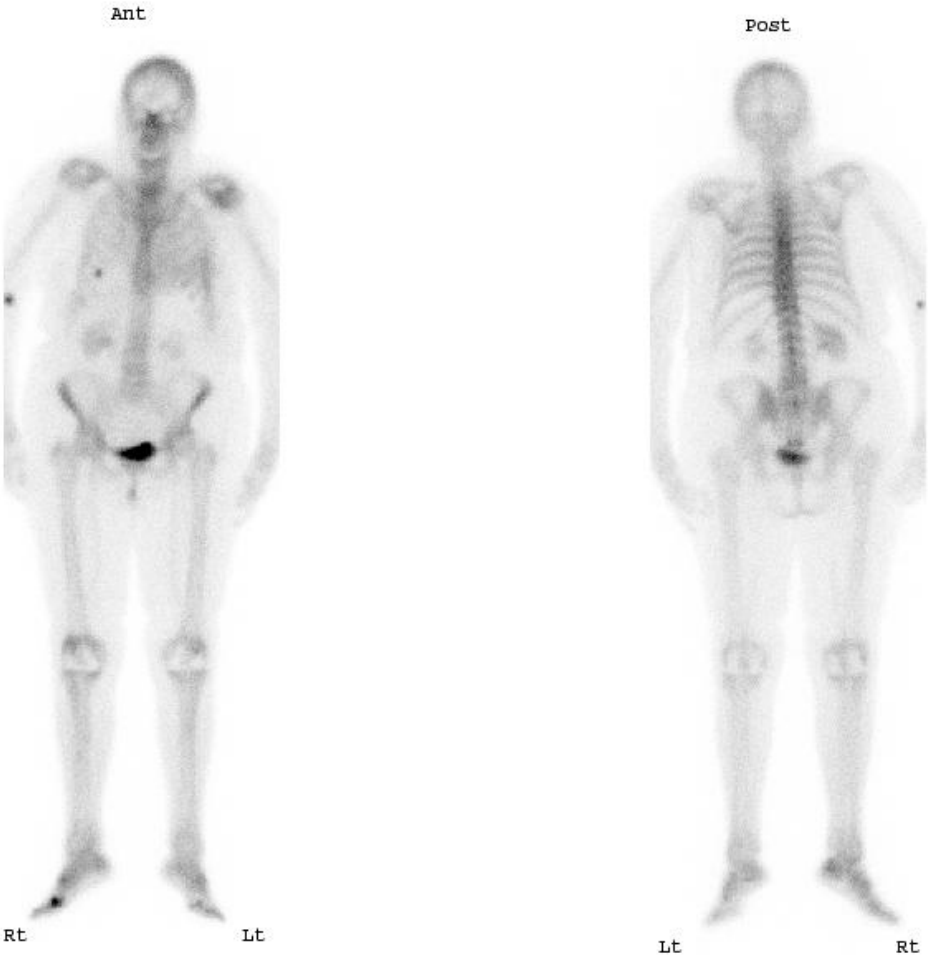
- Opportunity to provide assessment environment which reflects clinical practice
- Students access a number of virtual cases which include some decision making processes:
  - Care of the patient
  - Administration of radiopharmaceutical agents & dose limits
  - Acquisition parameters
  - Image quality / artefacts

Question Four

A 74 year old female patient presents for a skeletal examination, querying metastases. The patient has previously undergone surgery, has reduced mobility and difficulty laying supine for long periods. A whole body bone scan was undertaken and the practitioner carefully administered the appropriate radiopharmaceutical.

Click here to review the radiopharmaceutical details
Click here to review the acquisition parameters

Click here to launch the magnifying glass application

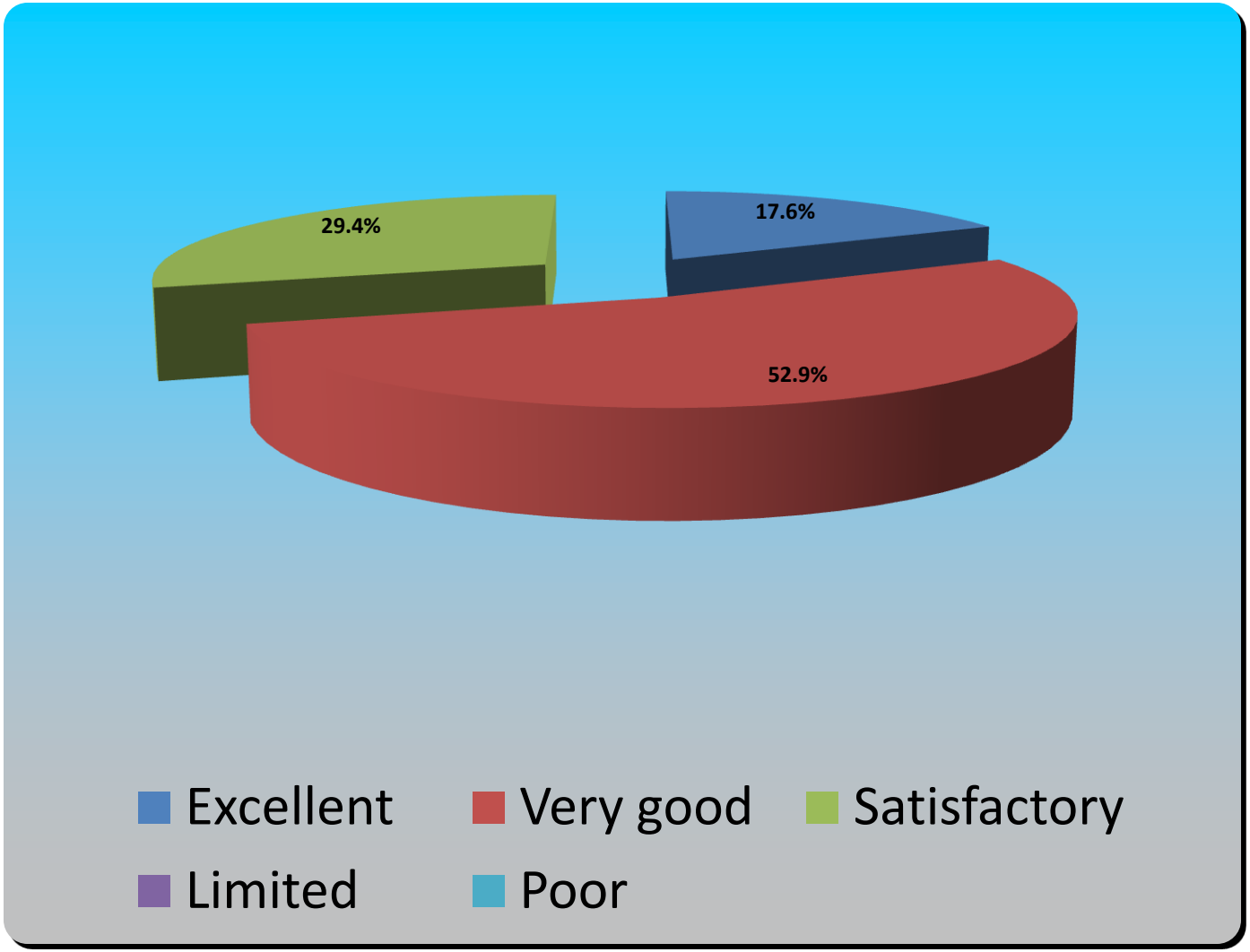


Main Page

Capturing the students feedback

- Essential to evaluate the implementation of web-based education
- TurningPoint technology used
- Digital recording of students qualitative responses
- E-mail communication / Google Documents to obtain extra feedback

How would you rate your overall access to BlackBoard during the course?



Additional comments

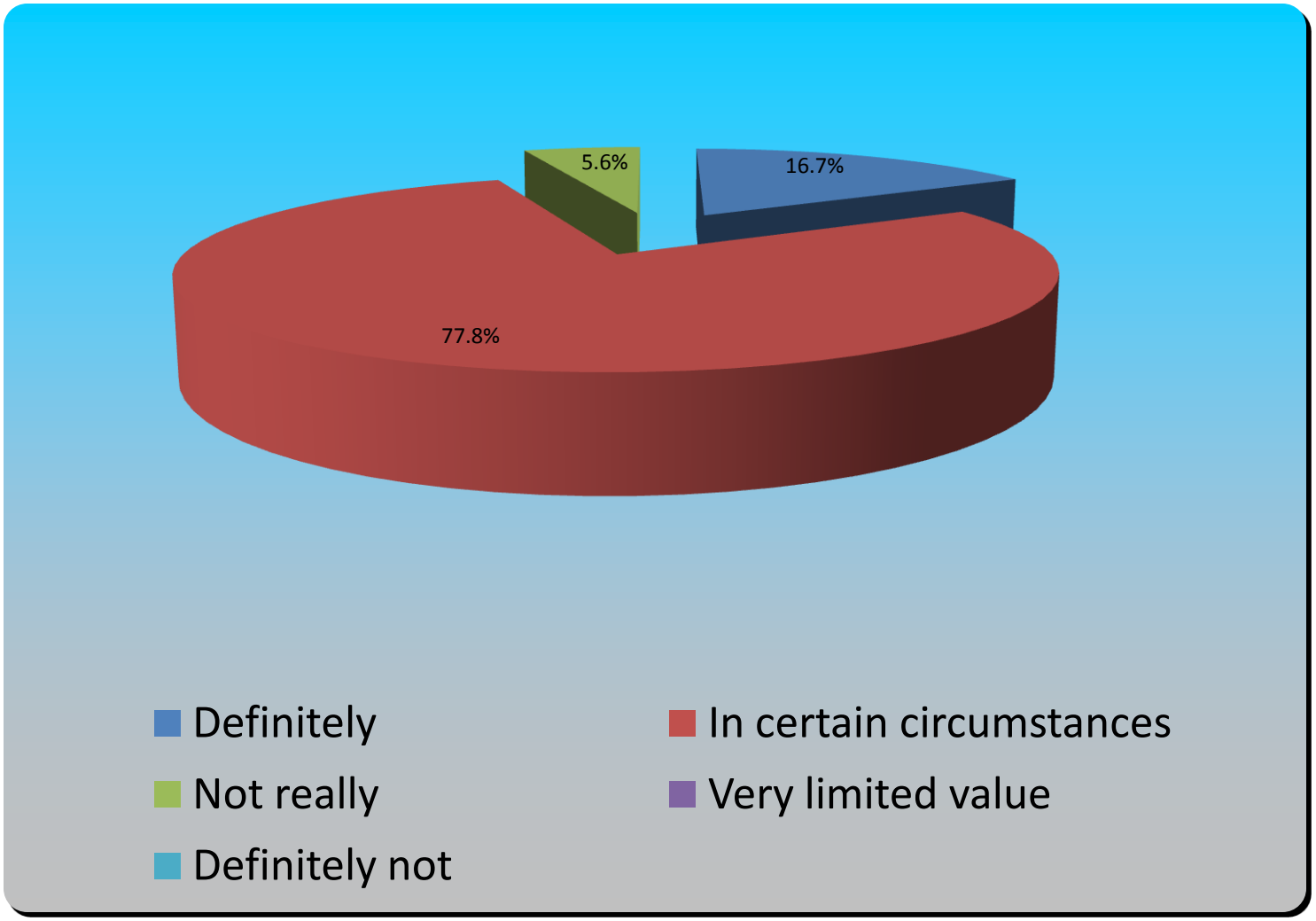
"Easy to access from work, no firewall problems"

"Useful to access the lecture notes / clinical scenarios"

"Provides an additional learning in between academic blocks"

"Block release fits in with my learning style and suits my department"

Has the use of the discussion forums within BlackBoard been useful in term of your learning?



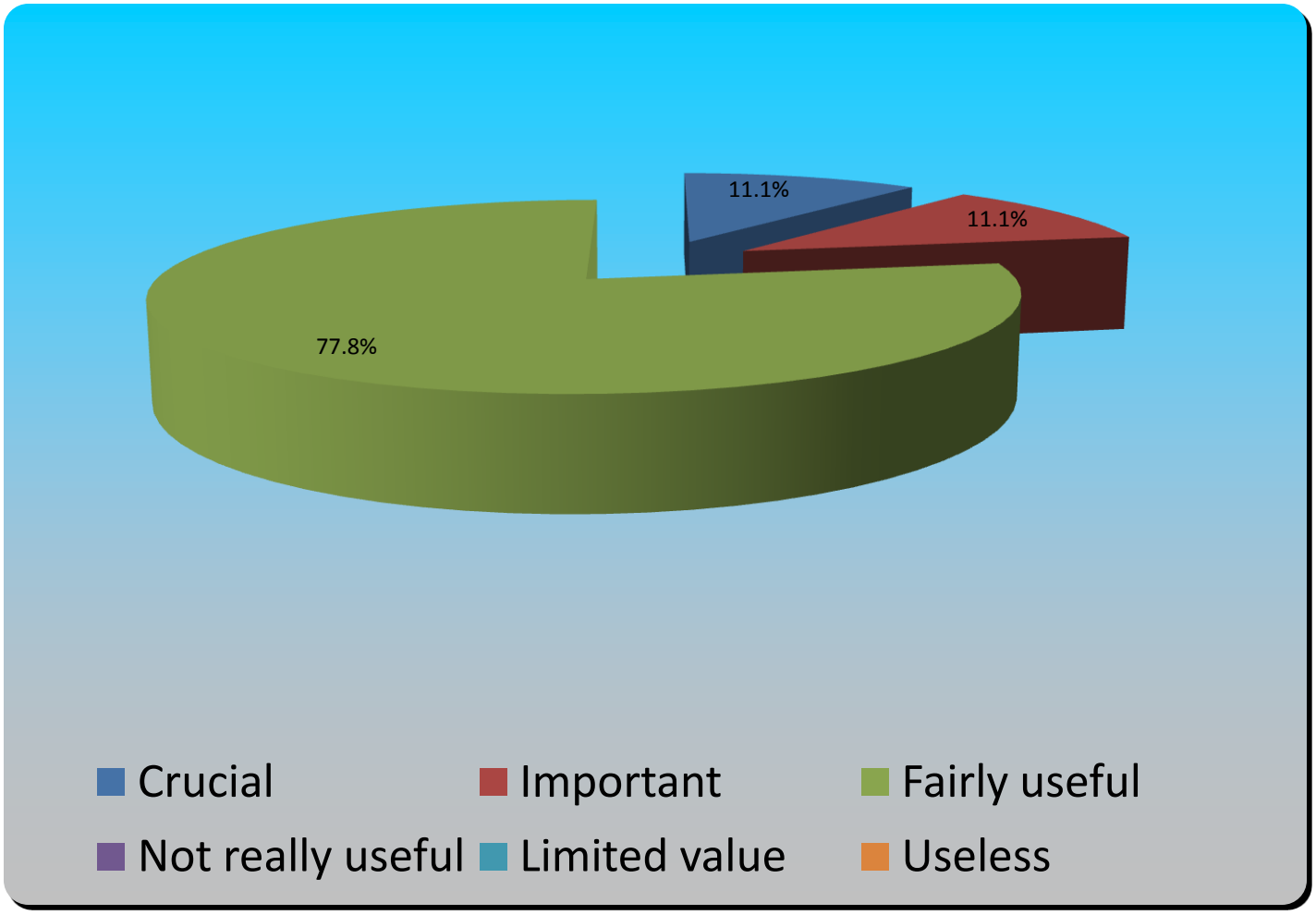
Additional comments

"Face to face interaction still essential, however BlackBoard allows you to go back and review knowledge base"

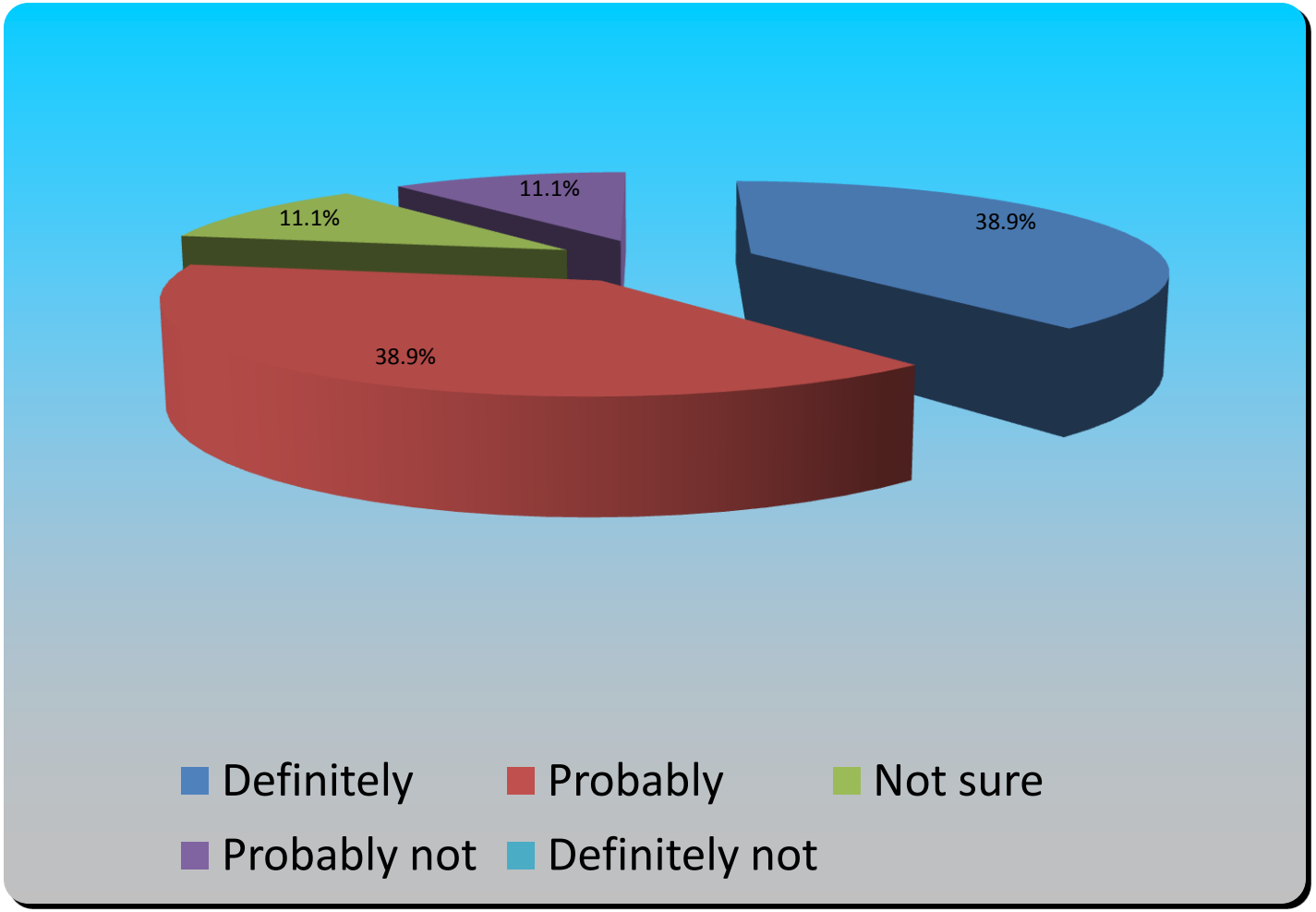
"It's helped develop my links with other students on the course"

"Allowed me to compare my own practice with others on the course"

From your own personal learning perspective, how important has BlackBoard been within the Nuclear Medicine programme?



Has your ability to learn / reflect using web-based methods improved as a result of this module?



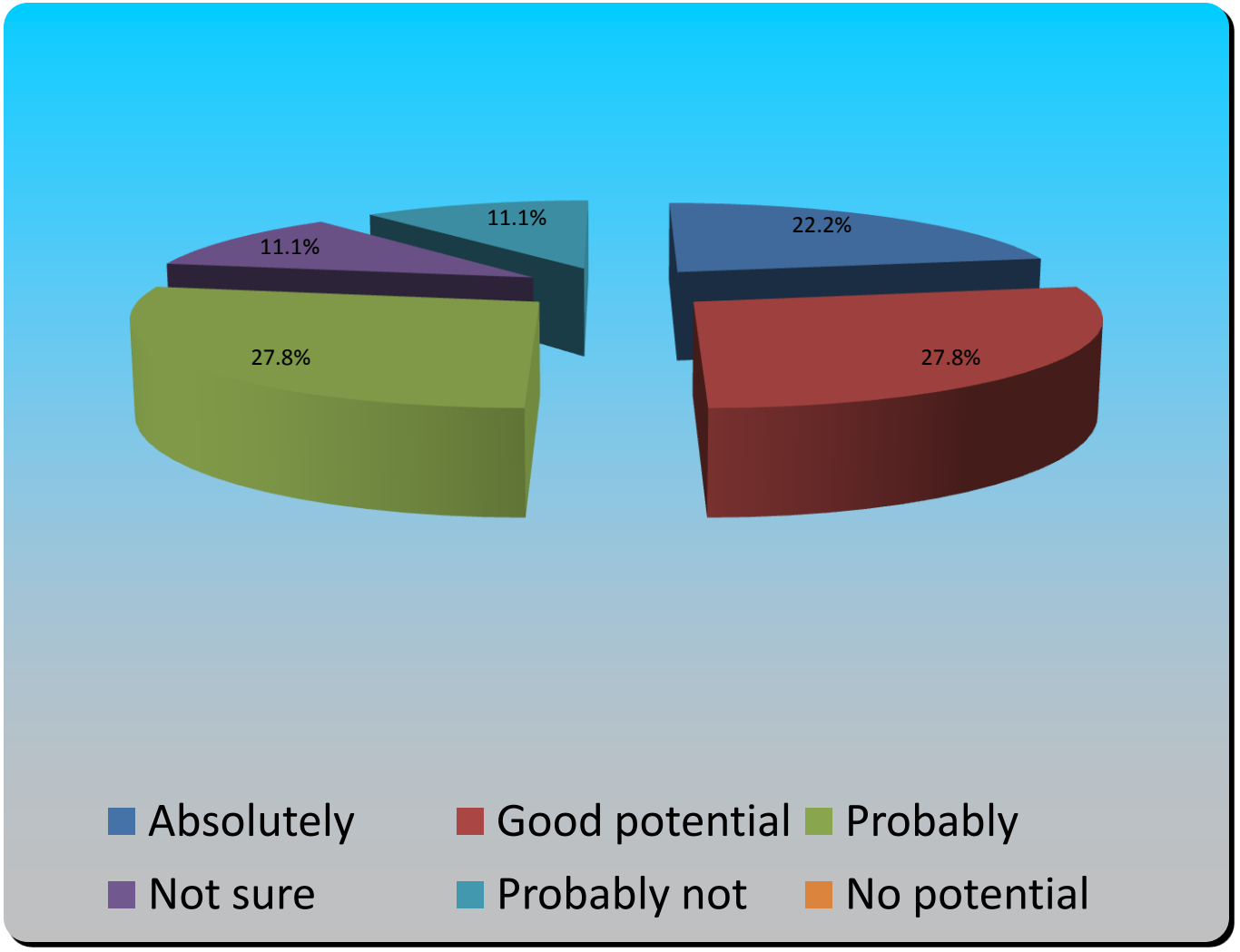
Additional comments

"Great to able to review the lecture notes at a later date, as it allows you to engage during the lectures"

"A great revision tool"

"Sometimes the discussion boards were a bit overwhelming & not easy to navigate"

Is there potential for distance based learning for future Nuclear Medicine courses?



Additional comments / Thoughts

- For certain areas on-line learning is great
- However the cohort really valued:
  - Face to face learning
  - Group interaction / peer support
  - Sense of community
  - Dedicated protected time away from the workplace

Conclusions

- Feedback from students generally positive
- There is a role for web based education within nuclear medicine
- Web based learning / assessment in the workplace appears to develop peer support, review and encourage networking
- However, this evaluation is on-going, with scope for future development

Future developments

- Webinar technology (OCS / Skype)
- Inclusion of discussion board threads within the students clinical portfolios of evidence
- Critical engagement with clinical stakeholders to develop short courses / focused skilled development
- Continue to work in partnership with clinical departments to engage in on-going service improvement

Nuclear Medicine Programme

Continuing Professional Development

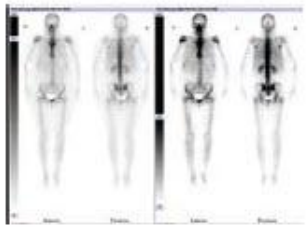
Reporting Skills and Service Enhancement Module

This 20 credit Masters level module is aimed predominately at Nuclear Medicine Practitioners working within a nuclear medicine environment, who are either currently involved in service development and/or wish to develop their reporting role.

The module is delivered via a blended learning approach with six individual days of attendance at the School of Health and Social Care and encompasses a range of experienced clinical nuclear medicine practitioners, radiologists and academic staff. Taught dates are supported via the use of an on-line learning environment and enquiry based learning approaches.

The module syllabus covers ethical and legislative aspects of reporting, information governance and data protection, developing a reporting framework in clinical practice, technical reporting of core examinations and how a department begins the journey of service re-design and workforce development.

This module would suit a nuclear medicine practitioner who is working towards an enhanced level of practice and wishes to further develop their theoretical knowledge and clinical skills.



Course Dates

Available from October 2010

Venue

Glenside Campus, Bristol

Contact details

For further information and cost, please contact

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