Interim Report to the College of Radiographers July 2009

CoRIPS research award 020 - Utilising PDAs to support and enhance the clinical learning experience for the benefit of student therapeutic radiographers and practice educators.
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Background.

In order to improve the clinical learning experience for the mutual benefit of both students and practice educators, Higher Education Institutions and professional bodies advocate the need for the development of innovative learning opportunities, flexibility in the design and delivery of educational programmes and the utilisation of available technologies to support learning. To address these points, this project intends to develop new initiatives within the clinical learning environment, utilising IT technology in order to engage with and enhance the learning experience of student therapeutic radiographers whilst streamlining administrative and assessment processes to make more effective and efficient use of practice educators' time.

Study Aim:

To explore the use of handheld computers (PDAs) to deliver learning resources and assessment/evaluation tools in the clinical learning environment in order to support and enhance clinical education practice within therapeutic radiography.

Method

Participatory action research will be undertaken, working with and involving students as partners in the development and evaluation of learning packages and administrative tools for use with the PDAs. Initial questionnaires will be followed up with focus groups and face to face interviews with students and practice educators.

Work and findings to date

PDAs: 9 HP IPAQ Classic 114 Handheld Computers and portable keyboards were purchased following a successful bid for funding from the Higher Education Academy Accessible Technologies projects group.

Learning resources: Learning packages have been developed using PhotoStory and PowerPoint software to facilitate the integration of theoretical and practical knowledge within the clinical learning environment. A range of resources was created to be suitable for all 3 levels of learning.
- Tutorials related to radiotherapy and emergency trolley equipment.
- CT anatomy
- Radiotherapy technique for gynaecological malignancies.

Packages were created with a selection of audio, text and images in order to evaluate student preferences in accordance with individual learning styles as well as the practicality of each format for use in the clinical departments.

Assessment /evaluation tools: The current web based software package, InPractice, was developed with the collaboration of a software consultant into a mobile format for use with the PDAs. Firstly, behavioural assessment were completed on the PDAs by practice educators and uploaded to the web. The next stage involved students creating reflective logs on the PDAs to be uploaded to the web.

Pilot
Stage 1: Initially, only the learning packages were trialled with 3rd year students who were asked to complete questionnaires relating to the preferred format for the learning packages and to highlight strengths and weaknesses of using these on the PDAs.
Findings: The evaluation of these was positive with feedback suggesting ideas for improvement and further development.

Stage 2: Following on from this, a selection of students from the 2nd year cohort was allocated the PDAs to evaluate:
1. learning packages;
2. ease of use of uploading documents from the PDA to the web.
Students' opinions/views were gathered via self administered questionnaires.
Findings: Analysis of the questionnaires suggests some confusion and contradiction in the evaluation of the PDA itself as a tool, the learning packages as resources and the use of the software computer package for admin purposes. Although not part of the initial methodology, focus groups with this cohort sample will now be undertaken in order to clarify issues within the questionnaires

The pilot work with the learning packages has been presented at the Higher Education Academy Annual Conference and will be published on the JISCTechDis HEAT3 projects web pages.

Work in progress
Learning packages: Further packages are being developed and current resources are being modified in accordance with suggestions within the evaluations. Future development of resources undertaken in partnership with students is being considered.

Software development: Problems have arisen over the initial costings given for development of the InPractice software and as a result, no further development of the assessment and evaluation tools will be undertaken by the software consultant. However, sources of funding are being sought in an attempt to overcome this issue.

.**Future Plans**
- To induct practice educators to the use of the PDA to upload formative assessments to web based system. (Sept/Oct/Nov 09)
- To introduce the learning packages and document upload to 1st year students (Sept/Oct/Nov 09)

- To conduct final evaluation of all resources for analysis. (Nov 09)
- Continue negotiations and seek further funding for development of the mobile software package to enable all formative assessments to be uploaded via the PDA.
- Produce final report to College of Radiographers (Dec 09)
- Prepare presentation of findings for the SCoR Annual Radiotherapy Weekend (Jan 10)
- Prepare report for publication within professional/educational journals.