



Using SOLAR in a Renewable Energy programme at Dundee and Angus College

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The Institution

Dundee and Angus College offers an SCQF Level 6 programme in Renewable Energy within its Construction and Technology Faculty. The programme of study incorporates ten Units in renewable energies, each of which has associated SOLAR assessments.

The college has a particular specialism in renewables and was responsible for designing this curriculum and writing the Units that are now on the SQA catalogue. In the first year of operation of this programme at the college, staff at the college created instruments of assessment for these Units. Subsequently the college was contracted by SQA to create a bank of test items for these renewables Units and to upload them to the SOLAR system.



The Challenge

The introduction of a new programme to the college brought with it the additional workload of creating teaching resources and devising valid and reliable assessments. With ten units for which assessment and re-assessment instruments would have to be created, the renewables team at Dundee and Angus college decided to adopt on-line testing wherever possible with the specific objective of realising efficiencies in future implementations of the Renewable Energy programme.

The Activity

In recent years Dundee and Angus College has invested in IT resources that are located in teaching departments, removing the need for staff to book resources in the central IT facilities when they wish students to access online information and/or testing. As a result, the Construction and Technology Department has two computer suites that are available for use with SOLAR assessments, and so there is no additional administrative overhead when lecturers are arranging their assessment events.

In the current session (2013/4), the set of SOLAR assessments created by Dundee and Angus staff has been used to carry out the assessment of the component units of its Renewable Energy programme.



The Outcomes

The use of SOLAR for assessment in the Renewable Energy programme has led to considerable efficiencies for staff in the Construction and Technology Faculty. In the original paper system the organising and conduct of an assessment would consume a 3 hour teaching slot, including the collection of the SQA-provided NAB from the Typography Unit, setting out of the classroom and conducting the assessment. Using SOLAR reduces the conduct of the assessment to a 1.5 hour event. The keycodes for the SOLAR assessment are provided to the lecturer by the Senior Lecturer, who is responsible for logging the assessment event and generating the keycodes.

Scott Warden, the Faculty Head, estimates that the marking of a paper-based NAB for a typical Unit for a group of 20 candidates would take 3 hours of a lecturer's time. Providing feedback on the outcomes of the assessment would vary depending on the group performance, but typically would be in the range 1 – 2 hours. Using the online SOLAR assessment reduces the marking time to zero, and the time for feedback to help remediation to 0.5 hours.

The quality assurance procedures at Dundee and Angus College require a 25% sample of marked scripts to be moderated. When the college used paper NABs this moderation process would take 1.5 hours. Since SOLAR assessments are prior-moderated, this time was also saved.

Learner Perception

The college students valued the opportunity to undertake their assessments online, as it matched well with the use of technology in their learning on the Renewable Energy programme. The computer suites in the Construction and Technology Faculty were utilised regularly for learning and for finding up-to-date information on energy products and components, so it was convenient for the students to be also assessed using this familiar technology. The availability of immediate and relevant feedback on assessment performance was also valued by students.

Lessons Learned

The Construction and Technology Faculty is fully committed to the use of online assessment (via SOLAR) for the renewable energy Units that constitute its programme in Renewable Energy. The efficiencies gained amount in total (over the 10 Units) to around 75 hours of lecturing staff time. This time was used by teaching staff to enhance the teaching and learning resources available for the delivery of this and other energy-related programmes at Dundee and Angus College.

In addition, the data on pupil performance proved helpful to teaching staff to target their feedback and improved the effectiveness of their engagement with students.

Useful Links

For information on SOLAR assessments see: <http://www.sqasolar.org.uk>

Contributors/Key Contacts

For further information about the approach at Dundee and Angus College, contact Scott Warden s.warden@dundeeandangus.ac.uk

For SOLAR advice contact: solar@sqa.org.uk or telephone the Help Desk at 0345 270 1213