

Assessment Case Study

Towards collaborative assessment design: Enhancing assessment literacy in an online foundation engineering module

Practitioner: Alexandra Petre, ac7413@coventry.ac.uk,
Lecturer for the Engineering and Digital Technologies Dept.
Course: Engineering Foundation **Module:** Z11EN Electrical and
Electronic Engineering Fundamentals **Student Level:** Foundation



AN EXAMPLE OF ASSESSMENT THAT INVOLVES...

- Authenticity
- Ongoing assessment/feedback
- Group work
- Promoting assessment literacy

AIMS

This module covers a lot of ground during its six week delivery period, and attracts students from a wide range of backgrounds, cultures and countries. Two factors prompted a reconsideration of assessment practices. Firstly the structure of the foundation course changed so that the module would become the **first unit of study** for students. This meant that students would need more support to develop their academic skills in a shorter time. Secondly, Covid-19 meant that a swift transition to fully **online delivery** had to take place.

ACTIONS

The lecturer implemented a range of strategies intended to enhance **students' assessment literacy**, i.e. to support them in developing explicit and tacit knowledge about assessment (Rust et al. 2003).

At various points in the assessment design process, the lecturer **consulted** with professional services colleagues (lab technicians); academic colleagues; and students to enhance the design of various **materials** relating to the assessment. For example, the assessment brief was modified, and rubrics were developed, whilst lab activities and quizzes used in the module were made available online so that they could be marked automatically.

In addition, an e-portfolio element was introduced to the module, in which students could use OneNote to capture screenshots of their simulations, notes and lab work. A greater degree of **ongoing assessment** was implemented, with both the quizzes and e-portfolios contributing towards this.

Activities to support assessment were also enhanced, e.g. mock versions of tests and presentations were offered to students, and quiz questions were revised in response to student feedback. A dedicated session to explore the connections between the different forms of assessment and their criteria was also provided.

IMPACT

The innovations did help to enhance students' **assessment literacy**, as well as their degree of engagement in the module. As the assessments had a continuous form, with students working towards a formative or summative task each week, their engagement and participation in the module was enhanced. Students felt **challenged and developed** a wide range of skills.

A further change for the future development of the structure of the module is giving **more time and one-to-one support** to the students, potentially making use of a single form of assessment such as an e-portfolio or presentation as opposed to splitting the assessments in several parts.

SCALABILITY

The actions are not only suitable for other disciplines but can be successfully implemented in an **online environment** with a face-to-face element. Activities can be adapted depending on the topic area so as to make them suitable for the skills targeted for development.

STUDENT FEEDBACK

Students appreciated the support provided in the live and lab sessions, especially the high amount of resources available that **stimulated them intellectually**, as well as the benefits of having coursework instead of exams. Students found the module "engaging", having "learnt so many things" and especially valuing the "simulation work" (as stated in MEQ data).

MESSAGE TO PEERS

Continuously participating in events, assuming different roles (e.g. moderator; assessor) and **sharing best practices** with colleagues can go a long way towards enhancing your assessment practice. Meanwhile, embracing tools and technologies has proved beneficial for enhancing students' learning experience. Participating in CPD opportunities can assist with both these aspects.

Also try to use the online resources available, e.g. create **ice-breaker sessions on AULA** in the form of a question that the students answer. These sessions are the ideal opportunity for you and your teaching colleagues to interact with the students by commenting or liking the student's posts.

REFERENCE

Rust, C., Price, M. and O'Donovan, B. (2003) 'Improving Students' Learning by Developing their Understanding of Assessment Criteria and Processes', *Assessment & Evaluation in Higher Education*, 28:2, 147-164, DOI: [10.1080/02602930301671](https://doi.org/10.1080/02602930301671)

EXTRACT FROM DRAFT ASSESSMENT BRIEF: see next pages.

EXTRACT FROM DRAFT ASSESSMENT BRIEF (Page 1 of 2)

Towards collaborative assessment design: Enhancing assessment literacy in an online foundation engineering



Extract from Draft Assessment Brief

*This document is for CU Group students for their own use in completing their assessed work for this module and should not be passed to third parties or posted on any website. Any infringements of this rule should be reported to registry.cuc@coventry.ac.uk

Module Title: Electrical and Electronic Engineering Fundamentals			
Module Code: Z11EN/ Z11ENEL/Z11ENSC			
Assessment Type: Case Study	Assessment Number: 2	Study Mode: Full-time	Weighting: 50%
Submission Date: Choose Date	Submission Time: Choose an item.		
Introduction:			
The assessment is a case study that combining several parts. The first part will assess your continuous development through the module and your participation in solving the problems, quizzes and tutorials set out for you. The second part will test your presentation skills for explaining usage of electronic components (LO4) in combination with your ability to use appropriate software for circuit design (LO3). The third part will assess your practical skills related to solving Boolean algebra for logic gate implementation (LO4) and AC circuit design (LO1).			
Completion of this assignment will address the following learning outcomes:			
LO1	Identify and solve problems on DC and AC electrical circuits.		
LO3	Utilise engineering software to design and test electrical circuits.		
LO4	Explain the usage of semiconductor devices and implement basic Boolean algebra and logic gates.		
Task:			
The assignment comprises of three parts, at the beginning of the module you will be asked to group yourselves in teams of maximum 4 members , you will have a group number assigned to you by your tutors and a team name chosen by yourselves . You will be required to solve specific elements either individually or as group . The three parts of the assessment are as follows:			
Part A (15 marks): WEEK 4			
You are individually required to:			
<ul style="list-style-type: none">• attend all lectures and practical sessions• practice and complete simulation design using Multisim• track your progress via OneNote as a logbook method• answer the laboratory quizzes and materials provided to you by the tutors			
As a group you will also:			
<ul style="list-style-type: none">• have a 12 minute online presentation (via Teams or BigBlueButton) on one of the following topics that will assess your knowledge on Electronic and Electrical Engineering and your professional presentation skills. The topics include:<ol style="list-style-type: none">1. Transformer Types2. Ideal transformers3. Transformer applications (<i>plus other items in full version...</i>)• you will need to prepare a power-point presentation with a minimum of 5 relevant references, which you should upload on your OneNote			
For a successful submission you should include the link to your OneNote in the Case Study Report following the provided template (make it accessible to all your lecturers).			

EXTRACT FROM DRAFT ASSESSMENT BRIEF (Page 2 of 2)

Towards collaborative assessment design: Enhancing assessment literacy in an online foundation engineering



Part B (20 marks): WEEK 5

In your **group** of four, prepare and deliver a twenty-minute (20 minutes) **video commentary**. Your group management skills as well as your design and practical knowledge of circuit development are going to be assessed through this task.

The presentation should include:

- a. an explanation of the component values used (and why)
- b. the theory behind such circuits
- c. a clear picture (or set of pictures) of your circuit (*plus other items in full version...*)

For a successful submission you should follow these steps:

1. Include the number and name of your group
2. Appropriately label your file with the number and name of your group.
3. Upload your video and simulation file on OneDrive folder (appropriately labelled) and make the link visible to all Coventry University members. (*plus other items in full version...*)

Tutors will only mark the submitted commentary, they will not mark performances. Note marks are awarded only for the technical content of the commentary, however if the recording cannot be accessed a "0" mark will be given.

Part C (65 marks): WEEK 6

You will be required to answer **individually** all the elements of this part into your Case Study Report. This part consists of the design and simulation of electric circuits using the industry-standard software, Multisim. You will have to complete the following steps:

1. Specify clearly in your report the last digit of your student ID.
2. Select the parameter of the questions based on this digit and clearly include these parameters in your report.
3. Ensure that each different simulation is saved in a separate file with the question number and your name as part of the file name. (*plus other items in full version...*)

In your report provide answers to all the questions, include appropriate sketches, tables and diagrams and include screenshots of the simulations with the appropriate captions and in-text citations.

In your report provide answers to all the questions, include appropriate sketches, tables and diagrams and include screenshots of the simulations with the appropriate captions and in-text citations. A complete Case Study Report will gain you 5 marks.

Remember to include the link of the Multisim files within the Case Study Report!

Also provided:

- *Guidelines for the report, and for the commentary and presentation*
- *Guidance notes and considerations regarding submission (e.g. plagiarism)*