Passive Design is a key element taught in the Environmental Design of Buildings (EDB) MSc. It also has a strong relationship to the major project module. Traditionally the module was based on passive learning, with several hour-long presentations made to local students and recordings made available for distance learners. Responding to student feedback criticizing the long, theoretical lectures but praising the single new workshop which I had introduced on inheriting the module, I embarked on a transformation exercise. After exploring educational theory and supporting technology options, Experiential Learning was selected as the aim for both modules.

A flipped classroom approach was selected to allow contact time to be used for formative quizzes and interactive activities which conclude with student groups presenting their findings to the complete cohort (supporting reflection and kinesthetic learning styles).

The materials to be reviewed prior to the contact sessions contain a series of concise, pre-recorded presentations along with traditional written materials. These support
visual, aural and verbal learning styles. It also gives an opportunity for students with language difficulties to resolve these before the contact sessions.

The summative assessment gives an opportunity for conceptualization by inviting students to consider one passive design strategy in a new context, while the major project module gives opportunities for further exploration using building simulation software.

After the first implementation of the transformed module, students were invited to comment on the module delivery. There was strong support from the whole cohort for the concise recordings and having the materials available prior to the contact session. Local students also valued the increased proportion of interactive learning activities. There was even a slight rise in the average mark achieved over the previous 2 years.

• Author(s) Biography (200 words each):

Vicki Stevenson has been involved in STEM teaching at a range of levels since joining Women into Science and Engineering in 2005, when she was a co-founder of the Discover! clubs for teenage girls in Wales.

In 2013-15 she was a driving force behind the development of CPD modules based on research from Welsh Universities through the Welsh Energy Sector Training project. She has also organised a range of development activities for Energy Institute members – ranging from student presentation competitions to visits to PV manufacturing plants and the Hydrogen Research Centre.

Since appointment as a lecturer at Welsh School of Architecture in 2015, she has taught various MSc modules on sustainability in the built environment to multidisciplinary cohorts of predominantly international students. She has developed teaching strategies to support both local and distance students.