

## Solar-powered maths and English GCSEs on the horizon with NEC's Open School in a Box

Thursday 10 April, 2014

Some of society's most vulnerable groups of learners – prisoners, travellers, young people excluded from school, adults struggling with literacy and numeracy – will soon be able to study for GCSEs in English and maths without logging on to the internet or going anywhere near a classroom.

Distance learning pioneer The National Extension College (NEC), which has been helping adults and young people learn new skills for more than 50 years, is developing Open School in a Box, a year-long project which will make maths and English GCSEs available to thousands of people through a plug-in device operated by a low-cost 12-volt solar-powered wireless appliance. No internet means no contract for users - and no technology problems to struggle with when they can't get online. Open School in a Box will be user-tested during the summer term, with the aim of it being ready in time for the start of a new academic year in September.

The project has been funded by Nominet Trust in partnership with Founders Forum for Good, through the £1 million Social Tech, Social Change challenge fund, which supports new social ventures to move ideas from prototype to growth. By developing the Open School in a Box prototype, digitising NEC's GCSE maths and English International GCSE courses and testing them with learners, the project aims to demonstrate how innovative digital technology can improve educational chances and have social impact.

Some of the most digitally disadvantaged learners in the UK are learners in prisons and young offender institutions, those working in the armed forces and serving abroad; pupils not attending mainstream school; and people living in remote areas where there is no high speed broadband connectivity. There are also schools and colleges in the UK that want to provide access to digital GCSE content but where there are concerns about e-security. Open School in a Box will provide people who did not pass GCSE English and maths first time around with a second chance at gaining qualifications that are vital to employers, for doing an apprenticeship and to going on to higher education.

With almost every smart phone, tablet or laptop having Wifi, Open School in a Box is ideally suited for 'Bring Your Own Device' (BYOD) projects targeted at GCSE provision as it can enable group online or 'flipped classroom' learning with text, audio and video course materials being made accessible by a mobile wi-fi appliance in a range of places.

Open School in a Box is the brainchild of Dick Moore, a former director of technology for national skills and training provider learndirect. It is highly portable – smaller than a cabin suitcase and weighing less than three standard bags of sugar (dimensions 32cm/13 inches wide, 27cm/11 inches high and 12 cm/5 inches deep, weight 2.5kg). It has the capacity to hold up to 100,000 books – far more than the 1,500 carried by a typical mobile library.

Open School in a Box will eventually give users access to all NEC's 80 courses as well as to 60,000 ebooks from Project Gutenberg, free audio-visual learning content from Khan Academy and Open Educational Resources (OERs) that support course content, enabling teachers and tutors to tailor what they teach to the needs of individual learners.

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### A typical digital delivery system?



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NEC :: National Extension College :: Open Learning ::  
GCSE Maths :: GCSE English ::  
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