

U3A: making people scientifically literate

By Ian Nash

Tens of thousands of adults with poor levels of scientific literacy are benefiting from new learning networks which open doors to studies at all levels from basic awareness to doctorate-level research. The expanding programme under the University of the Third Age (U3A) is made possible by a range of new initiatives including the introduction of massive open on-line courses (MOOCs) and partnership links with universities and other specialist institutions. It also reflects the groundswell in U3A membership, which has risen from 250,000 to over 350,000 in eight years and it from 250,000 to over 350,000 in eight years and it expected to top 400,000 by 2017.

The increase reflects something more fundamental, however, according to many of the 900-plus U3As nationally, which say they have to work hard in order to keep up with demand. "It's not just the numbers of people interested but the fact that they know they need to be more scientifically literate, with all the talk of the ailing environment, climate change, health threats from resistance to antibiotics and the like," said one U3A convenor.

Len Street, former national chair of the U3A, retired college principal and a member of the Institute of Physics, said: "Twenty years ago, many 60 to 70-year-olds, who would have left school at 14, unless they specialised in something like nursing, would have had no science education. Things may have improved since then but the need to improve science literacy in adults is still considerable."

As national chair he launched an initiative to reinvigorate science, with three newsletters a year, summer schools, inclusion of science education debate at AGMs and encouragement of more members who were former scientists to provide discussion groups and workshops on the principle of U3A Laslett dictum – those who teach will also learn, those who learn will also teach. "But retired members were no longer at the cutting edge of their subject and we needed something more, he said."

So a further set of initiatives led to the creation of a Royal Institute annual lecture in 2001 and education programmes linked to national campaigns such as Brain Awareness Week. More recently, partnerships between the U3As and traditional universities and other specialist institutions have flourished, ranging from science studies at Birkbeck to horticulture through Rothamsted Research, the former Institute for Arable Crop Research. Similar partnerships are developing with the universities of East Anglia, Newcastle, Plymouth, Sheffield and London (Kings College and UCL).

Barbara Lewis, current national U3A chair, says such achievements are made without compromising the founding principles, which are that the learning is informal, there are no campuses, teaching and learning takes place anywhere from hired halls to peoples' sitting rooms, administrators are unpaid (apart from head office staff), there is no question of adding to the nation's economic competitiveness and the members themselves decide what to learn, what to teach and what fees to pay. "We want wide access and therefore aim to keep fees to a minimum."

There are indications that U3As may have gained members as a result of record spending cuts in adult education of 40% under the Coalition Government. Hilvary Robinson, a trustee for the South East Region and chair of Lymington U3A, said: "Adult Education Courses have shrunk considerably in the Lymington area. Those that do run are really expensive. You can't always get the course that you want. So in that sense U3A is a 'godsend'."

There is now a growing focus within the government Department for Business, Innovation and



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Skills (BIS) and national adult learning organisations, particularly NIACE, on the U3A approach to informal and non-formal learning. Recent work by former A-level teacher and a director of City & Islington College, Andrew Morris, to waken adults to the joys of science (reported in Education Journal No226) proved immensely successful.

Disillusioned with the sterile and uninspiring exam-driven school curriculum, Dr Morris had quit teaching for management and decided to run creative science workshops at the Mary Ward Centre in London. He abandoned the traditional method that had grown since the Enlightenment and instead treated science as one of the humanities. The approach is to start with basic questions of curiosity such as “Why are clouds white?” “How do vaccines work?” and “Why are blondes predominantly blue-eyed?” Evidence of the effectiveness of the work is published in his new book, *Getting to Grips with Science: A Fresh Approach for the Curious*.

Commenting on this work, Len Street said: “That is pure U3A method. I did run a science group some while back here in my home, but I never had the necessary skills to promote discussion in the way I wanted. It was a more didactic approach.”

However, in doing so, he spotted the need and the shortcomings of many science experts within the U3A and the need to open wider opportunities to members to learn through a highly informal initial approach and to progress to whatever level of expertise they desire.

South West Hertfordshire U3A is typical of the new approach to science and technology learning. The scheme, titled simply “Learn as You Go Along” was set up by John Britten as chair and focuses on four stages. First, there are presentations by members based on the knowledge and understanding of the science they dealt with historically. Second, using the same people, the members of the science discussion group mug-up on the science issues arising. Third, external “experts” come in from other U3As or the universities to discuss key topics. Fourth, there are visits to places of scientific interest.

The range of topics explored includes genetics, digital technology, drones and remote pilot vehicles, meteorology and astronomy. “Some take the work to stupefying depths – almost to university level; others just want an introduction. This approach meets the needs of everyone.” Echoing Len Street’s view, John Britten said: “those who come to our U3A groups are people who never touched science in the past and are vaguely interested. What they are picking up is something so important that they would never have found a way of picking up elsewhere.”

Any U3A seeking resources will find rich pickings from the U3A nationally, says Jacky Creed of Watford U3A. “There’s a massive store of DVDs for a start on everything from the Music of the Primes [by the popularising mathematician Marcus De Sautoy] to the periodic table and the life of Brunel.”

But it’s difficult to keep up with thirst for scientific knowledge, she said. “We have a huge response. As soon as we announce a science group, it is full and we find ourselves filling a second with the overflow.” Every resource to hand is used to satisfy demand, she said, from members’ living rooms to the Royal Masonic School planetarium. “Astronomy is a hugely popular subject.” Another very popular trip is the visit to the brewery and the science of brewing beer.

Barbara Lewis reckons the growth in scientific interest is now unstoppable. The reason why this is so is, she reckons, because of the style and ethos of learning U3A-wise, which means that every individual U3A devises an approach to learning that suits the geography and culture of that particular group. “The members learn from each other. Each is a forum for the growth of the human spirit, the development of friendships and the exploration of ideas to enrich the quality of life in the Third Age. That is true whatever study topic they embark on.”

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