Communicating science can be challenging at any educational level. We used informal and experiential learning to engage groups of potential University applicants in one project that involved staging a play in one of the teaching laboratories at the University of Worcester whilst a second project designed a play in house and took this to schools. In the first project the slot centred on stem cell research. School pupil students from FE Colleges were offered complementary sessions including a lecture exploring the science behind stem cell research, a discussion on ethical aspects involved and a practical using university facilities. We ascertained attitudes to Higher Education in the students participating before and after the event. We found an enhanced view of the science and a highly significant change in attitude to attending University for students taking vocational subjects at FE level. The second project was aimed at exploring attitudes to ethics and animal welfare among a cohort of 15 - 18 year olds. Students engaged with the issues in the drama to a high degree. Our conclusions are that drama is an excellent way to inform potential students about higher education and HE science in particular. Additionally we demonstrated the importance of events taking place at HE Institutions in order to maximise change in attitudes to HE.

Little Miracles

This play was written by Joy Wilkinson and created by Islington Community Theatre after commissioning by the Biochemical Society. The play was designed to challenge school and college students to explore and discuss the scientific and ethical implications of embryonic stem cell research. The run of this play at University of Worcester was funded by VETNET-LLN as part of a programme of encouraging vocational FE students to engage with HE.

The play centred on Ayasha, an IVF baby, who becomes a scientist working on embryonic stem cell technology to treat dementia. The play had a strong ethical strand examining the use of harvesting stem cells for use in research, where life begins and the potential of technology. The play was performed by two professional actors, with a minimum of props, within the teaching laboratory at University of Worcester with school/college students sitting amidst the drama.

A total of 200 schoolchildren attended from a variety of backgrounds. Two local schools and two FE colleges attended the entire experience (including the play, contextual lecture, ethical debate and practical lab) while two further schools attended only the play and the ethical debate. One FE College was a vocational College and the results of questionnaires from these students was compared against those from school students and those from the other (non-vocational) FE college. The first comparison examined the effect of using drama on attitudes to applying for HE courses. A second comparison examined the effect of attending the whole experience to that of just attending the play and the ethical debate. We also assessed the effect of the experience on interest in science teaching.

Student perception of HE science

We asked students before and after the session about their attitude to studying at University level. There was a marked difference between those students attending school compared to vocational students. Only 4% of school students were not planning on applying for HE while 33% of the students from the vocational FE college were definitely not planning to attend HE. Asking the same question after the session we saw a large drop in the number of students who were set against HE.

We asked students to list five things that they associated with 'Studying at University'. We categorised these answers into perceived 'positive' and perceived 'negative' responses into the groups in the table below. The results show that most negative perceptions are based on academic work-related issues and the perceived difficulty of this. There was a greater emphasis on the perception of University as 'too difficult' in FE College students.

Effect on learning

60% of all students had some knowledge of stem cells either from school/college or the media. We assessed the effectiveness of the sessions by asking the students whether the experience would make them think more deeply about the subject compared to 65% (n = 40) of those that attended the play only. The majority of ‘negative’ perceptions of University are those about 'difficulty in learning'. Bringing students into the University to experience work at HE level combined with a fun way of learning may well reduce the perceived difficulties and this may be why the graph shows a decline in those rejecting University from the FE College pool of students. We concluded from the project that drama was a useful tool in outreach activities and one that was especially able to engage students from a vocational study background who tend to be targets for widening participation strategies. We also decided that future strategies using drama in outreach activity for HE science in the Institute should make use of a longer session including contextual activities. In agreeing that the project had reached deeper learning and engagement.

Materials are available in the form of CDs for anyone wanting to take a project like this on (contact Susanna Prankel (s.prankel@worc.ac.uk).