



MAKING IT LIVE

An evaluation of Pulse (phase 1)
Executive summary

Published by the Wellcome Trust
March 2006

Making it Live

An evaluation of Pulse (phase 1), a Wellcome Trust initiative to support young people's performing arts projects inspired by biomedical science.

Prepared by the Centre for Applied Theatre Research,
University of Manchester

Published by the Wellcome Trust
March 2006

Wellcome Trust
Gibbs Building
215 Euston Road
London NW1 2BE
T +44 (0)20 7611 8888
F +44 (0)20 7611 8545
E contact@wellcome.ac.uk
www.wellcome.ac.uk

The Wellcome Trust is an independent research-funding charity, established under the will of Sir Henry Wellcome in 1936. It is funded from a private endowment, which is managed with long-term stability and growth in mind. Its mission is to foster and promote research with the aim of improving human and animal health.

The Wellcome Trust is a registered charity, no. 210183. Its sole Trustee is The Wellcome Trust Limited, a company registered in England, no. 2711000, whose registered office is 215 Euston Road, London NW1 2BE.

“We’re part of the story now, we know what’s happening” – year 10 pupil, University of Oxford Botanic Garden and Oxford Community School.

“It makes it more human and more thinkable somehow to us...it just makes it feel more real to us” – participant, All Change.

“You get to feel it and go through it and know what it’s about as well as learning it” – participant, All Change.

Executive summary

The Pulse funding initiative, managed by the Wellcome Trust, supports performing arts projects with young people that explore the impact of biomedical science in the 21st century. In 2003–04, 23 funded projects were carried out in both formal and informal educational settings, including schools, colleges, youth theatres, community centres, museums, science centres and gardens. Projects exhibited a variety of aims and objectives (from research and development to clearly specified educational outcomes), performing art forms (theatre, dance, music, digital media), models of practice (large-scale performance, peer-led theatre-in-education, performance art installations, site-specific work and stand-alone workshops) and scientific subject matter (genetics, medicinal properties of plants, nanotechnology, treatment of disease, GM foods). See section 1.1 of the full report for a descriptive summary of the initiative. Young people were engaged in Pulse in a variety of roles, including as performers, researchers, consultants, writers and audience members. The evaluation of Pulse sought to identify the funding initiative's effectiveness in supporting high-quality performing arts and science provision with young people (see section 2 for the evaluation methodology).

Evaluation findings

Over 8600 young people and 125 professionals were directly involved in the creative processes of Pulse projects in 2003–04. They included professional artists, youth theatre leaders, arts education workers, science and drama teachers, scientists, science communicators, and hospital and medical staff (see section 4 for a detailed quantitative summary of the initiative). The evaluation found that Pulse made a unique contribution to both the arts and science education/communication sectors by delivering a diverse range of live and dynamic projects, a proportion of which exhibited innovation in terms of aesthetic form and manner of engaging young people.

The use of theatre to debate topical issues in science is not new; the performing arts have long been used to explain science to the public. The format, style and aesthetic of such ventures have changed along with the general shift in focus of science communication initiatives from providing 'unknowing publics' with information about science to engaging people in debates about the social and ethical questions, possibilities and problems of scientific advances. Aesthetically, this shift has led to a development away from modernist theatre practices of fixed and one-way relationships between audience, actors, scientists and educators, and towards more participatory and empowering models of engagement.

Impact on young people

Where successful, Pulse projects have enhanced young people's science knowledge and understanding, and engaged young people in experiences of science education and communication that they describe as inspiring, personally relevant, enjoyable and dynamic. Successful projects have also provided important opportunities to gain types of knowledge and experience styles of learning that cross the constructed boundaries between disciplines and conventional learning formats in formal education. Pulse projects challenged conventional understandings of science learning. The feedback of young people suggests that the experience of shock and surprise, or feeling moved or touched, can be as important a science outcome as information gain (see 5.1, 5.5–5.9 and 5.11 for young people's conceptualisations of their learning experience in Pulse projects). The science subject matter was also shown to encourage the development of innovative and unique arts experiences for young people involved in some projects (5.5). The need to find a form or style to represent complex ethical issues and/or technical information, and to explore multidimensional subject matter, challenged young people's and artists' conceptions of arts process and form, and of science as a discipline, as well as their existing skills and abilities in both subject areas and understanding of the relevance of science to art and vice versa (5.5).

Artists' willingness to share responsibility for creative processes with young people and to ensure young people's responses were at the centre of processes has enhanced the quality of young people's experiences. Projects have provided an opportunity for young people to play a responsible social role – with the science subject matter providing a sense that what

they were doing was important (5.11). Performance methodologies and science concepts have come together to create contexts for exploring issues from a variety of perspectives, illuminating the social, emotional and ethical dimensions of a range of scientific subject matter. Young people's accounts of participating in Pulse projects clearly support a link between participating in performing arts projects, fostering creativity and increasing engagement in science (see section 5 for the overall impact of Pulse on young people).

Impact on teachers, arts professionals and science professionals

Pulse projects increased the capacity of many arts professionals to take part in performing arts and science projects in the future. Many arts professionals expressed a sense of having discovered a new perspective on practice, including the possibility of taking professional trajectories in new and exciting directions (6.2). Projects in schools have provided unique points of contact with the curriculum over a range of subjects, including science, drama, visual arts, citizenship, religious studies and personal, social and health education. Teachers report that participation in Pulse projects provided opportunities for professional development – especially regarding increased knowledge of and confidence in creative approaches to science and performing arts teaching (7.1) and highlighting possibilities for cross-curriculum links (7.2). Most science professionals were very enthusiastic about their involvement in performing arts projects. Projects exhibited diverse ways of employing a science professional, from one-off encounters at the start of projects to ongoing interdisciplinary engagement between science and arts professionals. Science professionals enabled artists to identify areas of debate, explore social and ethical dimensions of the science focus, and identify points of engagement for young people (see 8.1 for the role and activities of science professionals across Pulse). Some scientists stated that involvement in Pulse led them to reappraise their way of engaging in science communication activities (see 8.2 for science professionals' recommendations for science mediators involved in future Pulse projects).

Models of learning and engagement

The participatory arts were effectively employed to enhance young people's awareness and ability to engage with science issues in everyday life, as well as to introduce young people and artists into a multidirectional, ongoing debate about science with a range of communities. As such, the participatory arts were shown both to **facilitate** the communication of science and to **reconstruct** science as a set of open, adventurous, inclusive, alive, enjoyable and dynamic processes, with relevant (inspiring, shocking, emotive) concepts about the world. Pulse, with its focus on participation, exploration, innovation and engagement, sits perfectly within the current context of science communication and education, with its corresponding emphasis on engagement, debate, interaction and contextualising science (see 3.1–3.3 for more on models of science communication). Pulse represents an open invitation to artists, scientists and young people to experiment with the forms, contents, relationships and boundaries between disciplines implicit in conventional science learning and communication formats (see 5.5, 5.8 and 6.3 for how participatory performing arts processes have worked to problematise science and facilitate engagement in social and ethical debate).

As the relationship between science and society has become more complex, non-naturalistic forms implicit in a live arts approach have provided cutting-edge learning experiences that powerfully engage and involve audiences in the ethical questions raised by science. Non-naturalistic forms, for example, may be more likely to avoid giving a 'message' and to encourage exploration of complexity. However, the capacity of arts, education and science professionals to experiment with form and content is affected by their own confidence in engaging with complex social and ethical debates raised by scientific development as well as by their ability to inspire and enthuse young people. The research suggests that young people want to discuss controversial and ethical issues but that there are few opportunities to do so within the science curriculum. Education professionals trained within specific disciplines are therefore unlikely to have the broad-based skills and knowledge (in the sciences, humanities, and participatory and ethical enquiry) to facilitate such opportunities. Pulse projects operated within a gap between conventional disciplines. Successful projects were staffed by partnerships between individuals who exhibited high-quality skills in four key fields: creative/artistic (ability to explore subjects from novel perspectives and aptitude for taking

risks); scientific (interest or fascination with science or with the human and social dimensions of science); educational (ability to create enjoyable opportunities for young people to reflect on new concepts and information within creative processes); and social (ability to engage with other partners and inspire young people). See 3.3 and 8.3.

Good practice

The following 'indicators of potential success' have been identified via an analysis of successful projects, and may serve as guidelines for future projects, particularly at the application/selection stage:

- A skills base (contained within partnerships and/or networks of professionals engaged in projects) that includes: demonstrable creative/artistic expertise; scientific knowledge and/or evident fascination with science and the human/social dimensions of science; educational awareness; and social skills including an ability to engage with partners' agendas and inspire young people. Such partnerships should exist, at least in their infancy, prior to the start date of projects. All partners need to demonstrate an ability to step outside of normal institutional/disciplinary frameworks and try out new perspectives and ways of working (3.3, 8.3, 9.4, 9.5).
- Effective budgeting that allows time for relationships to develop between partners that include complex organisations with very different needs and agendas (9.6).
- Links with a range of scientists and others with a stake in the issues explored (rather than one 'science representative') and the ability to pull such people into a participatory and dynamic process.
- Where appropriate, careful planning to support and safeguard the scientific as well as artistic outcomes of projects, by devising the appropriate strategies to guide young audiences' interpretations of complex scientific information (5.13, 6.4–6.7).
- Careful consideration of whether a public performance by young people is appropriate for the processes envisaged, and if it is, commitment to providing adequate preparation time and to extending opportunities for young people to take creative responsibilities within those processes (9.3).

Key recommendations

The evaluation team makes the following key recommendations for improved planning and implementation of the initiative (for a full list of recommendations, see section 11):

- The timetable and budget of projects must allow time for an adequate learning curve for artists.
- Activities designed to support young people's interpretation of performances should be carefully planned and delivered by artists working with non-arts specialists.
- The Wellcome Trust should continue to ensure that projects are made accessible to diverse groups of young people.
- All participating organisations should consider what follow-on projects might need to be signposted/supported to sustain young people's ongoing engagement in science.
- Projects seeking to work in schools should attempt to identify a member of senior management in schools to act as liaison and champion for the project, and proposal development should include at least one teacher from a target school as a consultant.
- 'Reflective practice' models of evaluation may be more appropriate for artist-led evaluation, as they are more akin to processes that high-quality artists already employ when assessing their work, and facilitate a sense of ownership over practice associated with innovation. Initial and ongoing reflective practice days for artists to share practice may inspire connections between science and the creative process and clarify the aims of Pulse to arts organisations.
- The Wellcome Trust's management of Pulse has exhibited enthusiasm and care for the process and outcome of projects without being prescriptive or seeking editorial control, and should be continued. This management style has promoted artistic freedom, experimentation and innovation. The above suggestions for improved planning and implementation of the initiative assume the continuation of this degree of style and support.