



Evaluating Interdisciplinary Teaching of Art and Science

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Abstract

This paper describes the justification for and the results obtained from implementing a novel approach to teaching and learning in which art and science are integrated in thematic teaching for both late primary and early secondary school classes. Both subjects are given equal status in this approach. One aim being to demonstrate the importance of creativity in science education and factual knowledge in art through this methodology rich in transferrable skills. Another was to allow pupils a greater degree of input into the organisation of the learning process.

In the primary phase of the research 22 schools from the UK and Ireland were studied. All schools worked on the theme of 'flight'. Responses were obtained from head teachers, class teachers, parents and children. All groups found the approach to be advantageous and to stimulate learning. Teachers and school heads reported that learning in the two specific areas of art and science was greatly enhanced. In addition, transferable skill development of learners was strongly promoted. One unpredicted outcome was that teachers found that linking art and science in a theme had significant positive effects on children's literacy attainment. Combining art and science was found to support children who previously showed little enthusiasm for schoolwork, while allowing gifted children to reach higher levels. Parents were very supportive of the approach and reported that children were very motivated and engaged their families in the area of study.

The secondary phase was conducted in six schools in the UK. Here schools were free to select their own topic and these ranged from life underwater to design of clothing for astronauts. Schools structured the interaction between subjects in different ways tailored to suit their individual circumstances. Again feedback from teachers and heads was very positive in relation to both learning and development of transferrable skills and creativity. Teachers enjoyed the aspects of co-teaching across subject disciplines. They were surprised by the degree of engagement that pupils displayed when exposed to this type of teaching.

Strong parallels between the positive outcomes to this approach were noted in both educational phases. However, it was clear that secondary schools had more difficulty in obtaining optimal outcomes. A number of factors caused problems for these schools. Important among these were, examination preparation for other more senior classes, timetabling difficulties, lack of adequate information transfer between teachers. Schools that succeeded best used individual pairs of teachers for the project rather than working at departmental level and were able to introduce elements of flexibility in their timetables

We conclude that interdisciplinary teaching of art and science is a potentially useful tool in engaging learners and promoting transferrable skills and in particular, literacy. It may be particularly useful in dealing with the drop in academic attainment that is frequently observed in the transition between primary and secondary education, but only where schools have the creative capacity to adapt their structures appropriately.