

## EFFECTS OF THE ARTS ON NON-ARTS GOALS

*There are at least four ways the arts can affect learning in other academic areas.*

Direct Instruction. The first is quite short-term and focused on specific goals. Using the arts in direct, didactic teaching of other subjects can help students' learning of simple declarative understandings, e.g., the alphabet song, role playing an instance in history, writing words and music for a song (word encoding and decoding), or movement or art work illustrating or dealing with words or numbers. The reasons the arts enhance learning are many, ranging from the students manipulating and using these understandings through the arts, to the finding that positive emotion enhances the effect of a learning situation. Also, using the arts involves more of the brain in processing understanding. This is a legitimate teaching strategy when the teachers focus on the learning standards in *both* the arts and the non-arts areas.

Integration. The arts can also help integrate and connect learning in different areas of the curriculum. History and the arts are a natural connection, and mathematics and science are involved in such areas as combining colors of pigments or light waves; determining acoustical considerations or the ratios of musical intervals; creating and comparing geometric shapes; the tuning inconsistencies of musical wind instruments; or the physics of vocal or instrumental tone production. When such learning situations require students merely to apply previous knowledge or utilize algorithms, reinforcement of those understandings may occur but little cognitive growth beyond awareness of possible connections. For optimal learning, students should confront situations that require them to construct new understandings or to use previous knowledge in new ways in order to solve an authentic problem. Again, when using the arts to integrate, standards of all the disciplines involved should receive emphasis.

Thinking Skills. Substantive instruction in the arts also produces more general and important long-term effects. Producing and responding to artworks can develop and enhance critical and creative thinking processes. Self-assessment and reflection on process and/or product involves metacognition. These are abilities that are transferable to all areas of study, and the arts influence their development in ways that other disciplines cannot. For instance, students read *about* history but don't *do* historical research, which involves critical thinking, perspective taking, and inference. They are engaged in "pretend" tasks requiring math skills - setting up a classroom store or a model student government. In contrast, students involved in creating, performing, or responding to artworks are using the same processes and confronting the same problems as adult professionals, and, if in authentic situations, with real consequences beyond the school walls. For instance, in researching the

historical setting of an artwork or its creator - artist, composer, choreographer, playwright - for a performance or exhibition (an authentic situation) - the students assume the role and disciplinary stance of historical researcher (above). Such thinking skills developed through the arts, described in the Champions of Change research compendium, were found to be truly portable to others areas of the curriculum.

Dispositions and Attitudes. The arts are also important in that most critical of areas - intrinsic motivation. Teachers cannot demand commitment of students or require them to put necessary energies into a given task. They can, however, engage them in interesting, authentic tasks, which are the special province of the arts, and use instructional strategies that foster motivation.

The arts' unique effectiveness in enhancing learning may be connected to the arts' positive attraction for children. Well before school age and before they can interact with and derive meaning from the printed word or numbers, children are practicing artists - drawing, creating and singing songs, moving rhythmically to music, and making up and acting out stories. Such activities are sources of a sense of accomplishment and a self-image of competency, both important factors in intrinsic motivation.

Several studies suggest that the students' feelings of competence as learners developed through the arts transfer to their self-concept as able learners in other areas of the curriculum. Specifically, a two-year study of over 2000 pupils in four states found that "young people in 'high-arts' groups performed better than those in 'low-arts' groups on measures of creativity, fluency, originality, elaboration, and resistance to closure - capacities central to arts learning and to life in the adult world. Pupils in arts-intensive settings were also strong in their abilities to express thoughts and ideas, exercise their imaginations and take risks in learning. In addition, they were described by their classroom teachers as more cooperative and willing to display their learning publicly." These traits, especially cultivated in the arts, are central to all learning.

The arts also have a role in working with at-risk students. Drugs and violence are the results of the disillusionment and disenfranchisement of a large group of students. Extant research and programs currently in place nationally and here in Wisconsin demonstrate the power of the arts to give hope and purpose to these children. When students are involved in the excitement of creation and self-validation, they have better things to do than seek fulfillment in violence and drugs. These studies suggest that carefully structured K-12 experiences in the arts enhance students' social development and personal adjustment; stimulate greater interest and involvement in all learning experiences; create a positive attitude toward school and curriculum; improve self-concepts; lower absenteeism and drop-out rates; and enhance positive social and emotional behavior.

### *Closing the Achievement Gap*

One of the unfortunate but very stable factors in education is the achievement gap between the students with high and low socio-economic status (SES). The studies described above that have found enhanced motivation, self-direction, and achievement in arts students of varying SES backgrounds suggests that the arts can have a vital role in closing the achievement gap. This research has dramatic implications for all stakeholders regarding the importance of the arts in schools, taught by teachers fully certified in the arts. It also underscores the importance of a strong arts program beginning pre-K and continuing throughout the elementary and secondary levels. It is important to include as many students as possible throughout the pK-12 program. For instance, this would mean a strong secondary general music program for those students who have not chosen to be in the music performance groups. Further, administrators, boards of education, and the public must understand that these benefits accrue only from an arts program rich in the arts, not an arts program purposely designed to benefit other subject areas.

Mel Pontious, PhD  
Wisconsin Department of Public Instruction