

Two Dance Collaborations

Length:	30 minutes
School:	Sheridan Global Arts and Communications School/FAIR School
Location:	Minneapolis, Minn./Crystal, Minn.
Grades:	6, 7, 8
Teachers:	Roberta Carvalho-Puzon, Dance Kevin Hennessy, 8th-Grade Science Stephanie Johnson, Dance Scott Charlesworth-Seiler, 6th Grade
Description:	Physical forces and geometric concepts are explored through dance and movement.

About This Program

Part One: Learning the Laws of Motion

Dance teacher Roberta Carvalho-Puzon asks science teacher Kevin Hennessy to experiment by team-teaching a group of dance students about the laws of motion. In class together, the teachers explore gravity, balance/counterbalance, and inertia. The students use science techniques and movement to gain a deeper understanding of these principles. A few weeks later, the teachers invite a group of first- and second-graders to visit the dance class. As the older students explain the science concepts to the younger ones, they demonstrate their own understanding.

Part Two: The Circle Project

In sixth grade at the FAIR School, part of the year is devoted to studying circles—their mathematical properties, the cyclical nature of history, and cultural references. In math class, Scott Charlesworth-Seiler works with students on diameter and circumference. Their “Circle Project” is also explained: on one side of a large cardboard circle students show their understanding of mathematical and cultural aspects of circles. On the other side, they make vivid representations of circular objects from real life. The delightful results hang in the main atrium of the school.

Dance teacher Stephanie Johnson asks students to demonstrate their understanding of the mathematical and cultural properties of circles. Working in trios, the students create short dances. Two days later, the groups perform for each other. After classmates critique each other’s work, the groups perform again.

Arts and Non-Arts Standards Addressed in This Program

Standards listed refer to the McREL Compendium of Standards and Benchmarks, a synthesis of national standards in each of the disciplines, found at www.mcrel.org.

Dance

Standard 2: Understands choreographic principles, processes, and structures

Mathematics

Standard 5: Understands and applies basic and advanced properties of the concepts of geometry

Physical Science

Standard 10: Understands forces and motion

Viewing Suggestions

Who Should Watch This Program

Teachers—“Two Dance Collaborations” will be especially interesting to dance, science, and math teachers who want to collaborate on interdisciplinary projects and explore how movement can be combined with scientific and mathematic studies.

Administrators and professional development providers—This program can be useful in illustrating how teachers can engage in creative collaborations, connecting diverse subject areas such as science, math and dance.

Before You Watch

Respond to the following questions.

- How can dance be used to expand student learning in other disciplines?
- How can dance help middle school students recognize, understand, and represent science and math concepts?
- How can an arts teacher work to infuse literacy, science, and math components into his or her lessons and units?
- How do students communicate what they’ve learned in the units you teach? What role can dance play in this process?

Watch the Program

As you watch, note the differences and similarities in how the two sets of teachers integrate their lessons and disciplines in these dance collaborations. Write down what you notice. Note what role Kevin’s prior experience with collaboration plays in the first segment. Also note how Stephanie connects dance to the math concepts covered in the circle project.

Reflect on the Program

- How did the students express what they learned in each of the collaborations?
- What function did the visit by the first- and second-grade class serve in improving student learning?
- How could you duplicate these lessons in your classroom?
- Which part of the units you saw would be most relevant to your practice?
- What elements of these collaborations were successful?

Additional Resources

Consult some of these resources for more information.

Books

Blom, Anne, & Chaplin, Tain L. *The Intimate Act of Choreography*. Pittsburgh, Pa.: University of Pittsburgh Press, 1982. ISBN: 0822953420

Boal, Augusto. *Games for Actors and Non-Actors*, (2nd edition). London and New York: Routledge, 2002. ISBN: 0415267080

Calais-Germain, Blandine. *Anatomy of Movement*. Seattle: Eastland Press, 1993. ISBN: 0939616173

Hartley, Linda. *Wisdom of the Body Moving*. Berkeley, Calif.: North Atlantic Books, 1995. ISBN: 1556431740

Humphrey, Doris. *The Art of Making Dances*. Chicago: Independent Publishers Group, 1991. ASIN: 0802130739

McGreevy-Nichols, Susan, & Scheff, Helene. *Building Dances: A Guide to Putting Movements Together* (book and access edition). Champaign, Ill.: Human Kinetics Publishers, 1995. ISBN: 0873225732

Mirus, Judith, White, Elena, Bucek, Loren E., & Paulson, P. *Dance Education Initiative Curriculum Guide*, (2nd edition). Golden Valley, Minn.: Perpich Center for Arts Education, 1996.

Vaganova, Agrippina. *Basic Principles of Classical Ballet* (revised edition). Mineola, N.Y.: Dover Publications, 1969. ISBN: 0486220362

Web Sites

Science News Online: A weekly news magazine of science
http://www.sciencenews.org/sn_arc98/2_21_98/bob1.htm

Science & Technology—Education: Describes the overlapping circles comprising science literacy
<http://www.sciteched.org/curriculum/Circles/literacy.htm>

Dave's Math Tables: Circles: Circular definitions and formulas
<http://www.math2.org/math/geometry/circles.htm>

Stone Circles of the Gambia: Photographs, essays, and diagrams about Gambian stone circles
<http://home3.inet.tele.dk/mcamara/stones.html>

Math Forum at Drexel: A lesson plan for drawing circle designs, part of an extensive math resource site for teachers, students, researchers, parents, and citizens
<http://mathforum.org/alejandre/circles.html>

The Center for Crop Circle Studies: Images and text about a controversial phenomenon
<http://www.abel.net.uk/~sayer/>

Manipula Math Applet Collections: More advanced circle mathematics
<http://www.ies.co.jp/math/java/geo/circles.html>

The Exploratorium: Museum of Science, Art, and Human Perception: Circles of magnetism, a lesson plan for making a magnetic field stronger than the Earth's
http://www.exploratorium.edu/snacks/circles_magnetism_1.html

Additional Resources, cont'd.

Circles: An Essay by Ralph Waldo Emerson: An essay for background information about the significance of circles

<http://www.mostweb.cc/Classics/Emerson/CirclesAnEssay/>

Visual Fractions: A math site with lessons and examples of fractions and circles

<http://www.visualfractions.com/index.htm>

Dance Educator's Coalition (DEC) of Minnesota: A network formed in 1986 to provide emotional and professional support to dance educators

<http://www.pconline.com/~dec/>

The National Dance Education Organization (NDEO): A voice for the field in legislatures, schools of dance, preK-12 schools, and institutions of higher education throughout the country

<http://www.ndeo.org/>

Journal of Dance Education (JODE): Advancing knowledge in dance education, encouraging practical application of current research, and promoting quality dance instruction

<http://www.jmichaelryan.com/JODE/jode-ad.html>

Notes
