Trends

Physical Education

MARIAN E. KNEER

A New Emphasis on Physical Fitness

The American public's love affair with athletics has encouraged and permitted physical education programs to overemphasize the development of sport skills at the expense of physical fitness (Johnson 1985). Indeed, many people believe that one begets the other. However, research in exercise physiology has shown that mere participation in games, sports, and exercise will not result in the development of physical fitness. Furthermore, the President's Council on Physical Fitness and Sports has reported that the current fitness of American youth is unsatisfactory (McGinnis et al. 1985). To improve this situation, physical education programs are undergoing some drastic curricular changes (Kopperod 1986, Lacy and Marshall 1984).

Exercise physiologists (Plowman and Fall 1978, Corbin and Lindsey 1985) have identified four needs that are appropriate focus areas for physical education programs. Youths need to:

- develop sufficient strength to perform the expected tasks of living,
- develop sufficient aerobic capacity to maintain cardio-respiratory efficiency,
- develop sufficient flexibility and abdominal strength to avoid the debilitating effects of the common lower back injuries, and
- maintain appropriate levels of body fat.

To ensure that school-age youths become physically fit means deleting some sports from the curriculum, adding body development activities, and switching from consecutive scheduling of certain activities to alternating sport skills units with fitness development units (Steinhardt and Stueck 1986, Kneer 1985). For example, to develop strength and flexibility requires progressive overloads with sufficient repetitions at least three times per week. Developing an optimal aerobic capacity requires rhythmic activity (e.g., running, jogging, bicycling, swimming, cross-country skiing) sustained for approximately 20 minutes at least three times per week (AAPHERD 1980). Specifically, physical educators are reducing the emphasis on activities such as softball, basketball, volleyball, and flag football to accommodate instructional units in conditioning, rope jumping, aerobic exercise, cross-country running, track and field, weight training, and life survival skills. They're also supplementing their programs with information about exercise and nutrition, because a knowledge of how to balance caloric intake and exercise is necessary for maintaining appropriate levels of body fat.

An obstacle to the physical fitness movement occurs, however, in schools where daily physical education is not provided. In those schools it simply is not possible to develop sports skills *and* physical fitness. Both are important outcomes. The interscholastic sports programs are essentially for the highly skilled, and the intramural programs are voluntary and suffer from lack of staff and space.

The American Alliance for Health, Physical Education, Recreation, and Dance is launching a massive public relations program to increase public awareness of this dilemma and to urge support for quality daily physical education. This movement has the support of the United States Surgeon General, the President's Council on Physical Fitness and Sports, and the United States Senate.

Trends

References

AAHPERD Health Related Fitness Test Manual. Reston, Va.: American Alliance for Health, Physical Education, Recreation, and Dance Publications, 1980.

Corbin, C., and R. Lindsey. *Fitness for Life*. Glenview, Il. Scott Foresman, 1985, p. 13.

Johnson, M. W. "Physical Education—Fitness or Fraud?" *Journal for Health, Physical Education, and Recreation* 56, 1 (1985): 33–35.

Kneer, M. E. "Scientific Basis for Physical Education Curriculum Content Selection and Sequencing." *Proceedings of the Fourth Conference on Curriculum Theory in Physical Education*, edited by A. Jewett, M. Carnes, and M. Speakman. Athens, Ga.: University of Georgia, 1985.

Kopperod, K. "An Emphasis on Physical Fitness—Elementary Physical Education." *Journal of Physical Education, Recreation, and Dance* 57, 7 (1986): 18–22.

Lacy, E., and B. Marshall. "Fitnessgram: An Answer To Physical Improvement for School Children." *Journal of Physical Education, Recreation, and Dance* 55, 1 (1984): 18–19.

McGinnis, J. M., J. G. Ross, G. G. Gilbert, H. Montes, M. T. Errecart, D. Ghosh, S. Katz, C. O. Dotson, and R. G. Ross. "National Children and Youth Fitness Study." *Journal of Physical Education, Recreation, and Dance* 56, 1 (1985): 18–19.

Plowman, S.A., and H. B. Falls. "The AAHPERD Youth Fitness Test: How Fit? For What?" *Journal of Physical Education, Recreation, and Dance* 49, 9 (1978): 22–24.

Steinhardt, M. A., and P. M. Stueck, "Personal Fitness—A Curriculum Model." *Journal of Physical Education, Recreation, and Dance* 57, 7 (1986): 23–29.

Marian E. Kneer is Professor of Physical Education, Department of Physical Education, College of Health, Physical Education, and Recreation, University of Illinois at Chicago, Box 4348, Chicago, IL 60680.

Science

ROBERT E. YAGER

Technology as a Context for School Science

During the '60s most leaders of national science curriculum projects were anxious to rid K-12 science of all technology. Many accepted the axiom advanced by the architects of the PSSC course (the first of the NSF-funded alphabet programs) that science would be inherently interesting to students if it were presented in a way known to scientists. Much time was spent identifying central themes, unifying concepts, and essential theories of each discipline (i.e., physics, chemistry, biology, earth science). The effort was to reduce science to its basic purity and to the structure accepted by mainline scientists associated with the various disciplines.

Although the "new" programs achieved many of the original objectives (Shymansky et al. 1982), they did not attract more students, nor did they help meet any objectives other than standard achievement ones. In fact, the NAEP data suggest that student attitudes toward science actually worsened from 1960 to 1980 (Yager and Bonnstetter 1984, Yager and Yager 1985).

Many analysts of the 1960–1985 period see the elimination of applied science from school programs as the major failure of the national experiment. Nearly all studies illustrate that technology and its related issues hold more interest for students than does basic science (Voelker 1982). Moreover, young people are becoming increasingly knowledgeable about technological advances and interested in the issues they create. The opposite appears to be true for science per se: the more intense the effort to present science in its purest form, the less motivated students are to study and to learn (Voelker 1982). Students whose schools do not emphasize technology seem to learn about it from real-world issues and concerns. The situation is a paradox.

The use of technology as a context