

**Motor Activities in Education.**

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Although the exercise of the motor nerve centres and the training of the muscles are prime necessities in the education of the young, yet these facts were not generally known until recently, nor are their importance even now fully appreciated. This seems strange when we think of "the handling, dandling, tossing and caressing of the baby by its mother," of the vigorous sports and pastimes of childhood, of the playfulness of the young of all animals,—all instinctive and imperative, demands for that motor activity which is essential to healthy development.

Every muscle of the body has, within the brain, a special area of its own which becomes more highly organized and more fully correlated with the other parts of the brain, if the muscle connected with it is properly exercised. Varied and judicious exercise of all the muscles, therefore, makes effective much brain material which would otherwise become atrophied and useless. The increased activity of a greater brain mass means greater nervous energy and its better distribution, so that the conditions for mental operations are greatly improved.

If the child had been studied rather than the subjects of the curriculum it would not have taken educationists so long to discover that the restless activity of the child is one of the essential conditions of normal growth—an activity that needed not repressing but prudent directing, and even of that not too much.

Fröbel, without properly knowing the underlying principles, saw most clearly the value of children's games, and undertook by means of them to educate the child's social instincts. Rousseau saw, that up to a certain period, a varied motor activity was the fundamental element in healthy individual growth. We are yet very far from realizing in our schools the full importance of these two theories.

The activities that may be utilized by the educationist may be roughly divided into five classes: Spontaneous play; artificial games, as in the kindergarten; gymnastics; manual training exercises; and productive industry. Sometimes writing, drawing and instrumental music are spoken of as manual training. There are other important motor activities such as singing, walking, etc. Which class of activities is best suited for any given case must be determined by the pupil's stage of development and by his environment.

The kindergarten, so very helpful to poor and neglected children, is of little use to those who are in the care of educated mothers; for mother instinct, guided by intelligence and a sense of duty to one's offspring, is the truest and safest guide in the training of the very young. Up to the age of 13 or 14, spontaneous play is the most important motor activity—promoting health, muscular and mental elasticity, self-activity and initiative. It should of course be supplemented by some form of skilled hand work, of which freehand drawing is the foundation.

Out-door games in which all the students can take part should therefore be greatly encouraged. Suppose a boy between the ages of 13 and 18 has the privilege, after four or five hours in school, of spending two hours at the work-bench, or engaging in a vigorous game of ball, or hockey—which would do him the most good? At the work bench he would have a drawing lesson and make a practical application of it, get some physical exercise, and train those muscles which he might possibly afterwards have to use in some particular calling. In the game of ball his whole body would be exercised in the most favorable physical and mental conditions, quickening his heart-pulses, improving his lung power, increasing his alertness and powers of observation. In co-operating harmoniously with his playmates the social side of his nature would be cultivated. Thus he would secure that physical stamina and vigor, that self-reliance and promptitude of action and that experience and knowledge of human nature that are such large factors of success in life.

The various games and pastimes in which children, in favorable circumstances, usually engage, would probably supply all the exercise and sense images needed for physical and mental development and for the highest culture. But the necessities of a livelihood require that a pupil shall have a vocational education which shall make him self-supporting and a useful member of society. The preparation that is to make him industrially efficient may begin at about the age of 13 or 14, or even earlier if care is taken as to the nature of the exercises, for there are many of them which if introduced prematurely lead to arrested development. In other words the longer specialization is delayed, up to the end of the high school course, the higher the grade of development possible and the more likely the pupil is to discover the work in life to which he is best adapted. The advisability of a general all-round