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Teachers utilizing any form of computer assistance to the learning process are invited to submit a brief description of their work to this department. While long program listings cannot be accommodated, mention of the essential ideas, algorithms, flow charts, analog computer circuits, desk calculator procedures, or dialog descriptions would be entirely suitable. Neither the American Journal of Physics nor the Editors assume responsibility for the correctness of the information presented. Submit materials to: D. Shirer, Valparaiso University, Valparaiso, Indiana 46383.

Project LOCAL

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Project LOCAL, the Laboratory Program for Computer-Assisted Learning, is a five-town cooperative endeavor set up to improve instruction by using the computer as a teaching aid. LOCAL, which for three years was a Title III ESEA Project, is now chartered in Massachusetts as a tax-exempt educational corporation. Its membership includes the towns of Lexington, Natick, Needham, Wellesley, and Westwood.

LOCAL's five PDP-8 computers, which can accommodate over 3500 students, provide services to over 15 school systems in the Boston metropolitan area. LOCAL has trained over 200 teachers from this area in the techniques of teaching via computerized problem solving. The over-all goals of LOCAL are (1) to improve the achievement of mathematics and science curriculum objectives, especially in the areas of achievement, problem-solving skills, and attitude, and (2) to teach to the widest possible segment of the pupil population a basic understanding of the computer in its role as an important element of modern society.

In order to achieve its objectives, LOCAL conducts the following programs:

(a) using the computer as a teaching aid in the regular math and science curricula to accomplish ends such as motivation, reinforcing concept understanding (problem solving and drill), concept demonstration, creation of discovery learning situations (simulation of systems to be studied), and increasing efficiency (automation of required operations).

(b) integrating instruction about the social implications of the computer into the regular social studies curriculum.

(c) organizing and sponsoring computer clubs to provide an outlet for students with special interests and to teach computer concepts not normally taught in a math or science class.

(d) setting up and maintaining a participating membership program to provide computer services to other school systems.

(e) conducting pilot programs with appropriate experimental structuring in order to further evaluate the usefulness of the computer as a teaching aid.

The Project LOCAL staff, consisting of three full-time persons and several part-time consultants, carries out a number of activities required to support the programs outlined above. These activities include installing and maintaining equipment, maintaining a library of materials concerning instructional uses of computers, disseminating information via a project newsletter, in-service training of the instructional staff, writing instructional-related computer software, writing applications for outside funds, and central purchasing of supplies for teletypewriters.

A Computer Program for Dimensional Analysis

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Dimensional analysis requires setting up and solving small sets of linear equations with simple coefficients. Errors in either the setting up or solution are surprisingly frequent, probably because the simplicity lends to an over reliance on mental arithmetic. A basic program has been developed which both formulates and solves the equations and prints out the dimensionless groups.