Program To Alleviate Illiteracy

University Park, Pa. -- Teaching illiterate and semi-literate young adults to read while at the same time providing them with career information is the goal of a new Pennsylvania State University computer-assisted instruction program.

Directed by Dr. Lester S. Golub, professor of education, the $119,479 U.S. Office of Education-funded project is aimed at the three million Americans who are reading at or below a third-grade level.

"We are not concerned with fostering the kind of literacy that makes people want to read Shakespeare or even a best-seller," Dr. Golub explains. "We want to help these 16 to 26-year-olds read the instructions their boss has just handed out, the card that explains how to operate the machine in front of them, or a technical book or manual."

Designed to appeal to students with potential who have been left behind, the Penn State program will provide specific career information at several different levels. Potential entrants, ranging from high school drop-outs to prison inmates, will take a pre-test to determine in which phase of the program to start.

Those with reading levels of third grade or less will enter LITE (for literacy) I. Here they will find a phonics initial reading program linked with a pool of educational materials preparing them for the job world. Simply couched, general information on how to read the want ads or fill in applications forms will be available as well as instructions on answering a telephone, procuring a birth certificate, or obtaining a social security number.

"The computer makes an ideal teacher because it provides one-to-one, completely individualized instruction," Dr. Golub points out. "Course materials are projected on a television viewing screen and typewriter terminals permit the student to test his understanding by responding to questions. There is also an audio unit and a second screen to accommodate slides.

"So personalized is the instruction potential that in all likelihood, no two people will every see exactly the same course."

Once the student has reached a third-grade reading level, he enters LITE II, where he finds a description of 12 general job areas. Although Dr. Golub does not plan initially to put all of them on-line, information will eventually become available on job opportunities in such careers as building and heavy construction work and general and light industry. Materials will also be programmed for prospective city employees, drivers, and hospital and medical personnel, as well as for those students interested in finding work outdoors, in sales and clerical positions, or in communications and restaurant services.

After a student selects a particular category, the computer will alert him to all its possibilities. The person who likes the idea of working as a driver, for example, can learn about buses, taxis, trucks, and company cars.

LITE II is divided into three reading levels. At grades four through six, a student selects a job category and then gets an idea of the duties involved and the training required. The job's advantages and disadvantages, its benefits and advancement possibilities and national employment opportunities are spelled out.

More complicated materials will be programmed at the seventh and eighth-grade levels, where students will be taught to read training manuals describing how to perform tasks for the various jobs specified.

Level three is designed for those reading as well as or better than ninth-graders and will be helpful to someone interested in becoming a foreman or perhaps in starting his own business.

By next Fall, Dr. Golub hopes to bring in a sample population to start trying out LITE I materials at Penn State's Computer-Assisted Instruction Laboratory, whose director, Dr. Keith Hall, is serving as project coordinator. Carolyn Kendall, a research assistant at the University, is coordinating the authoring and programming for the project.

Four graduate students are also assisting Dr. Golub. Ruby Thompson and Patricia Mull are authoring materials for LITE I, while Donna Prall and Maura Clancy perform a similar function for LITE II.

Anti-Pollution Program Outlined

By Bill Stuble
Daily Collegian Staff Writer

"The long-run problem of automobile exhaust emissions will probably not be solved by improving the internal combustion engine. We must eliminate it, and this means a double-pronged program: developing vehicles that operate on other kinds of power, and bringing into being whole new concepts of mass transportation."

This was the pronouncement of William J. Moroz, director of the University's Center for Air Environment Studies and professor of mechanical engineering, in the June, 1970, issue of Appalachia magazine.

Moroz laments that for 60 years automobile manufacturers did nothing to reduce fuel emissions from the gasoline engine, and for this reason he is adamant about the maximum emission levels specified in the Clean Air Act, sponsored by Sen. Edmund Muskie (D-Maine).

"I would be inclined to put them out of business for six months," he told The Daily Collegian in regard to the possibility auto manufacturers will not be able to meet the 1976 emission standards.

Professor of Chemical Engineering, Robert H. McCormick was thesis adviser for several graduate student research projects dealing with emissions control of the internal combustion engine. He cited several prospects for reducing emissions, but said, "It will be very difficult, and probably impossible to meet the 1976 standards."

The auto industry is testing some pollution abatement systems of its own and officials have estimated that, although a system has not yet been devised, costs will run from $300 to $500 per car. They also fear that any new system will add considerably to fuel costs and will result in poorer engine performance.

There is some investigation of alternatives to the internal combustion engine, the officials claim, including the gas turbine and the steam engine. But since it would take from five to six years to initiate mass production of such alternatives if a decision were made now to use them, the officials conclude that the existing internal combustion engine must be modified if the 1976 federal emission standards are to be met.

McCormick said some work done in his department has indicated that the diesel engine, with a higher compression ratio and flame temperature than the gasoline engine, has the ability to burn fuel much more completely and so reduce carbon monoxide and hydrocarbon emissions. But he explained that the higher flame temperature also causes more nitrogen in the air to "burn" and hence increases nitrogen oxide emissions.

According to the National Air Pollution Control Administration, automobiles account for 60 per cent of the total carbon monoxide emissions in the United States, along with nearly one-half the hydrocarbons and one-third the nitrogen oxides. Present emission standards, tightened in 1970 since their initial enactment in 1968, cover only carbon monoxide and hydrocarbons. In 1973 the standards will be tightened even more and expanded to cover nitrogen oxides.

The standards for 1976 will be approximately twice as stringent as the 1970 standards, with limits on particle emissions to be added. Since 1970 heavy duty trucks and buses also were covered by emission limitations.

Legislation in 1970 also called for the reduction of lead additives in gasoline. This has been accomplished with a minor decrease in engine compression ratios of new cars. Other fuel additives such as nickel and boron which are dangerous, according to the NAPCA, still are being used without restriction.

Moroz said pollution abatement equipment on new automobiles presently is costing the consumer about $50. He said he believes this equipment is well worth the money, especially because legislation passed this year required representative vehicles coming off factory production lines to be inspected for emissions output. Formerly, vehicle manufacturers only needed to submit a prototype to the NAPCA for testing.

The general concensus seems to be that the automobile holds a problematical future even if a pollution abatement system is devised to meet the 1976 emission standards – especially as the automobile is used in cities.

Moroz pointed out the inefficiency of the automobile lies not only in its fuel combustion, but also in its basic role of transportation. He said this inefficiency can be expressed in terms of the low passenger-to-horsepower ratio that the automobile has in relation to other modes of transportation.

Classified Ad

Single and double rooms for rent, each $50 per month. Kitchen privileges included. Members of HOPS welcome. Call Dan Parthemore, 234-5638, 1603 Thompson St., Harrisburg.