

The Development of a new Course Entitled Integrated Computer I

Bernard Cunningham

LakeVille High School, LakeVille Community Schools, Otisville, Michigan, USA

bcunning@gfn.org

Overview

This presentation will give the history of the evolution of mathematics curriculum at a rural high school in Otisville, Michigan, USA. The presenter has been teaching at this school since the fall of 1972. Therefore the history will be only a quarter century in duration. The major purpose of this presentation is to describe the events that led up to the development of the course entitled *Integrated Computer I*.

Description

This presentation will go through the process used at LakeVille High School to affect change in the mathematics curriculum. It will begin with a quick historical look at the district's curriculum from the mid 1970's through the early 1990's. A look at the political pressures on the public schools will follow. Changes in the Michigan Educational Assessment Program (MEAP) Test in 1990 will be addressed and proceed to the development of the High School Proficiency Test (HSPT) as a replacement to the MEAP test. There will be a comparison of the 1993-94 and the 1997-98 mathematics curriculum to the goals of the HSPT. The presentation will include graphics of the curriculum for the last 25 years and the comparisons of the curriculums. These graphics are not included in this paper because of the prescribed limitations. They will be available at the presentation or upon request.

The name of the new course is misleading. The name *Integrated Computer Science I* implies the use of a computer. At LakeVille High School, we will be using the TI-92 for our computer. If we do not change the name of the class, then we do not have to go to the school board for approval. This step will eliminate at least a six months minimum process. The purpose of this class is to combine some of the areas from the old computer science class with new material from the Teacher's Teaching with Technology (T³) TI-92 *Integrated Mathematics & Geometry* short courses. Of course it cannot be forgotten to use the TI-92's CAS. At the present time the course has not been fully developed. It will be developed by the fall of 1998. Therefore, by July 14-17, 1998, a full story of the development of this class will be almost complete. Listed below is a list of the major topics that will be included in the course.

an alternative form of learning concepts in mathematics through experimenting and testing hypotheses in the Geometry editor;

an increased understanding of algebraic concepts through the use of the Computer Algebra System;

- a form of computer programming using the Program editor;
- a more in depth study of data/statistics using the Data/Matrix editor;
- and CBL/CBR activities to explore real world applications.

The class is designed for students who are having difficulty in the *Integrated Mathematics* series presently in place at the high school. The low achieving students in *Integrated Mathematics II* or *Integrated Mathematics III* will be enrolled in this course. The department is hoping that this alternative approach to learning mathematics will increase the students understanding of the mathematical concepts which are listed above.