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COMPUTER EDUCATION IN IRISH SECOND LEVEL SCHOOLS

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In this article I will attempt to outline the progress of Computer Education in Irish Second Level Schools.

In 1971, the Department of Education initiated a course for teachers with a Mathematics or Science background who were interested in Computer Education, but had no previous knowledge of computers. Professor Bajpai of Loughborough College of Technology in England was invited to run this week-long course at University College Galway. At its conclusion, participants were able to write FORTRAN programs and process them on an IBM 1800 Computer.

From those whose active interest was maintained over the succeeding year, and from others who had been attracted in the meantime, sufficient support was gained to consider the formation of an embryo computer society and a repeat of the course. The inaugural meeting of the Computer Education Society of Ireland (CESI) was held in January, 1973, and, encouraged by the Department of Education, the society proceeded to devise a policy on Computer Studies in schools.

In the search for suitable material, the members were attracted to the materials published by ICL-CES in Britain. Two members undertook an ICL training course and on returning they ran a week-long course for teachers from twelve schools in preparation for the introduction of a pilot scheme early in 1974. The Department of Education sanctioned this pilot scheme and provided the necessary textbooks for the participating teachers. The scheme was greatly facilitated by the free processing time provided by local industry - cards were punched at an ICL installation and were processed on the ICL computer at the Sugar Company in Dublin.

The scheme, being the first of its kind, generated a great deal of interest among students, teachers and parents and we had hopes that the course content might be re-evaluated and that another scheme, with even more schools taking part, would emerge the following year. This was not to be. 1975 was a bad year for courses and the Department of Education was unable to finance a teacher-training course. CESI was at the cross-roads. We could either disband or go it alone. It was felt that we had gone too far to give up. So we charged a nominal fee and ran a beginner's course at Coláiste Choilm, Swords, Co. Dublin, where the first computer in an Irish School (a DEC PDP8) had just been installed. This proved to be a very successful course and since then CESI has assumed an important role in the training of teachers of Computing.

In 1973, paralleling CESI activities, Trinity College, Dublin, began a postgraduate diploma course for teachers of all disciplines, to equip them to run Computer Science courses if and when official departmental approval for such courses was forthcoming. This was a one-year course, directed by Fr. Cyril Byrne. Twenty-seven teachers took part. The course was (and still is) a great boost to computer education in that it gives teachers some qualifications to teach the subject; last year even with the limit raised from 30 to 50, the course was booked out an an early date. In 1979, some teachers who had done the diploma course went on to take a Master's Degree in Computer Practice.

Ireland has a long tradition of voluntary effort in education and to introduce Computer Studies at all called for a supreme effort on the part of teachers. Usually an interested teacher was forced either to teach the subject outside normal school hours (where it had to compete with traditional school activities) or to teach it under the guise of another subject (since Computer Studies is not recognised for the payment of incremental salary!). Neither case was satisfactory and, indeed, most of the work was done as an extra-curricular activity at some inconvenience to teacher and pupil alike.

As years went by, however, more and more schools were offering Computer Studies. There was a tremendous interest among students, although it was unfortunate that the teacher did not have the time or resources to teach the subject adequately. Schools had great difficulty in acquiring computer facilities; industry, while interested in our work, was unable, for the most part to process programs for schools. However, CESI built up valuable contacts with people in the computer industry and third-level colleges. The National Institute for Higher Education (N.I.H.E.), Limerick, and Thomond College have always been more than willing to accomodate teachers in the Limerick area. Trinity College, Dublin; University College, Galway and Maynooth College have also helped. With the help of the Computer Bureau at University College, Cork, we have set up a schools Computing Centre at Coláiste an Spioraid Naoimh, Cork. We see the centre as a positive response to cater for schools, who, in the absence of government grants, are unable to obtain processing facilities.

The advent of the microprocessor about 1979, has brought hardware down to a price that is within reach. It is because of the microprocessor that many schools are able to do Computer Studies today and it was estimated that there were 600-1000 micros in our schools before November 1981. The majority were APPLE II, COMMODORE PET, TRS-80 or ACORN ATOMS, nearly all bought out of school funds. When one considers how tight a school budget is, it was a remarkable achievement to have so many micros in our schools.

Over the years CESI has grown in numbers, confidence and expertise. Together with our friends in industry, we kept constant pressure on the Department of Education to introduce Computer Studies into our schools, and this pressure has produced agreement from the Department on two important issues. First, as of September 1980, Computer Studies appears on the curriculum as an optional extra on the Mathematics syllabus at senior level. The course is non-examinable, but is monitored by Department Inspectors, and candidates who reach a certain

proficiency are awarded a certificate to this effect. Now, at least, some of the time spent on the subject can be recognised for salary purposes. Secondly, the Department has set up an Advisory Committee to examine the implications of introducing Computer Studies into schools.

It is hoped that when the Advisory Committee delivers its findings that Computer Studies will appear on the curriculum as a subject in its own right and that modules on computing will be attached to many existing subjects. We insist that it be divorced from Mathematics at the earliest opportunity. We also feel that the subject should be introduced into schools at first year level as we have found that the younger a child is allowed to start Computing, the better his/her understanding becomes.

In the 1981/1982 school year, the Department of Education tendered for the introduction of microcomputers to Irish schools. APPLE Computer Co., who have a manufacturing plant in Cork, won the contract. In all, 310 systems were given out to schools not having a computer, where there was a teacher competent to use the system.

Each school got the following:

    48K APPLE II and 2 Disk Drives
    16K Language Card
    Centronics Printer
    Z-80 Card
    2 COMAL 80 Diskettes
    80/80 Assembler
    APPLE Pilot, APPLEwriter
    APPLE POST, DOS Tool Kit
    Manuals for APPLE, DOS 3.3, Pilot, APPLEwriter.

Schools that already had an APPLE system got enhancements to bring their system up to 64K with printer and/or DOS 3.3. Schools with multiple APPLE systems only received enhancements for one system.

COMAL-80 is a structured BASIC developed in Denmark in the mid-seventies. It operates under the CP/M operating system and needs a minimum of 64K RAM.

Many Irish schools are presently experimenting with COMAL and plans are afoot to upgrade systems other than the APPLE to enable it to take COMAL. There is a separate version of COMAL available to run on the Commodore Pet.

However, there is as yet no Syllabus Committee on Computing and the Department of Education has no official policy on the matter of teacher-training in Computing. (In fact, all Computer Courses scheduled for the summer of 1983, bar one, were cancelled.) Because of this, Computer Education at Second-level schools has been set back indefinitely.

Coláiste an Spioraid Naoimh,
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{*Editorial Note*: Members of the I.M.S. interested in the CESI and/or the Journal *Ríomhiris na Scol* published by the CESI, should contact the author of the above article.}