ABSTRACT
        The paper examines the use in special education of
computerized data management systems (CDMS). CDMS are electronic
report generators and databases that provide individualized records
(Individual Education Plans or IEP) in a structured format. Examples
of software functions and hardware required are cited. Three major
sources of software for IEP management, with their costs, are
summarized (commercial and noncommercial sources, and database
management programs) and software selection criteria are offered.
Among the advantages noted for the computerized approach are
decreased preparation time and increased teacher efficiency and
proficiency. Disadvantages include program variance and the need for
staff training. It is concluded that although computerization of the
IEP process is still in its infancy, early reports on its
effectiveness have been positive. (CL)

Computer Technology Program

Reports to Decision Makers

IEP Management Programs

by Bill Davis

Maintaining and manipulating the paperwork requirements that accompany federal and state programs is a major problem for many teachers and school administrators. This is particularly true for special educators who must maintain individualized records (Individual Education Plans or IEP) above and beyond those maintained by regular teachers. Current research indicates that this accountability burden has had some significant effects on teacher performance.

One method of increasing teacher efficiency and maintaining program consistency is to use a computerized data management system (CDMS). This report will present information on:
(1) the various commercial and noncommercial software available,
(2) some of the advantages and disadvantages of their use, and
(3) what effects these programs have had on teacher efficiency, time and management, administrative efficiency, and parental involvement.

COMPUTERIZED SPECIAL EDUCATION MANAGEMENT SYSTEMS

Business and government agencies have been using computerized data management systems (CDMS) for years to organize, evaluate and store information. A computerized Special Education management system is a variation of these successful software programs.

CDM systems are electronic report generators and databases that provide individual information in a structured format. Data can be easily entered, evaluated and revised with a touch of a key. These programs have a range of potential applications that are limited only by the size of the computer system and the needs of the user. Several examples are shown in Table 1.

Table 1

Software Function	Hardware Required
1) Produces pre-IEP data (demographic information)	Microcomputers (128K system with two disk drives and a printer)
2) #1 plus access to pre-defined instructional objectives and goals developed in a hierarchical order	Microcomputers with hard disk, or minicomputer
3) #1 and #2 plus access to teaching strategies linked to instructional objectives	Mainframe computer with online terminals or microcomputer network
4) #1, #2 and #3 plus access to directories of materials for use with objectives and strategies	Mainframe (same as above)

CDMS COSTS AND SOURCES

Three major sources of software for IEP management are: commercial designers of IEP management programs, school district IEP management systems, and database management systems that have been modified to meet district needs (see last page).

- ### Commercial Sources

  A number of software companies specialize in the development of management programs. Ranging from $99 programs that prepare pre-IEP formats (name, address, disabilities, etc.) that cannot be altered by districts, to $10,000 fully operational IEP management packages that have been tailored to the needs of the district.

- ### Noncommercial Sources

  In federal, state and locally funded projects, independent or district specialists design programs which range from teacher programmed demographic reports (no cost) to district designed and implemented programs that include personnel costs, equipment costs and design costs ($11,000).

- ### Database Management Programs

  Commercially designed database programs, like PFS:File or DBase II ($200 to $3,000), can be modified by school specialists to match the IEP structure of the district. ADMINISTRATORS should consider both software and personnel costs with this option.

HOW INFORMATION IS PROCESSED

The size and type of a program and the available hardware will determine how staff will use the program to process information.

Microcomputers have the advantage of direct access to information but lack the memory capacity to handle the advance functions necessary to complete the IEP process. Mainframe computers requiring batch processing have the ability to process and return completed IEP data but are limited by their ability to quickly access, review and alter IEP information. The use of interactive terminals linked to a master computer is perhaps the best method for processing information during an IEP meeting. This method allows information to be reviewed and revised by the entire IEP committee before it is returned in a legible, hard copy format.

SOFTWARE SELECTION CRITERIA

When selecting a CDMS, consider these selection criteria as described by Anne Basse (1984) and George White (1984).

- Efficiency--does it process more information with fewer resources?

- Accessibility--is information on all aspects of program readily available and quickly accessed?

- Accuracy--is data more apt to be current and records more reliable?

- Flexibility--can data be categorized and compared?

- Speed--are reports produced more quickly?

- Control--will data collection and management be simplified?

- Security--does program provide various levels of access?

ADVANTAGES AND DISADVANTAGES

Research studies have indicated that there are advantages and disadvantages to making the transition from a manual to a computerized IEP system. Evaluate these issues before a decision is made:

Advantages

● Decreased preparation time--computer IEP management systems can save from 30% to 50% of time needed to do the same reports by hand (6 to 8 hours for initial IEPs). This translates into an 18% cost savings to the district (originally $100 per student per IEP) and an increase in teacher preparation and instructional time.

● Increased teacher efficiency--a recent study indicated that 60% of all goals and objectives prepared by individual teachers were poorly written and lacked internal consistency. Using a computerized data bank containing a pool of objectives and goals can assist in objective selection, group students based on hierarchical objectives, and match teaching strategies and materials to selected objectives.

● Increased teacher proficiency--using predefined structures resulted in greater proficiency in carrying out the instructional steps necessary to meet objectives.

● Increased supervisory knowledge--the administrator may monitor student records, keep track of required due process timelines, integrate groups of related information for district and state reports, group individuals who may require similar special education services.

● Increased parent knowledge--parents have been positive toward

the use of computerized IEP management programs because they free up more time for teachers to spend with students, they increase the report legibility, and they speed up report acquisition. Parents are able to follow their students' progress more closely.

Disadvantages

● Program variance--because every district interprets the laws differently, software must be adapted, modified or created for each individual program.

● Staff training--time must be spent training personel to use the new system. The program must be structured to overcome the hesitancy and fears that this new technology create.

● Intimidation--the presence of a computer at IEP meetings may create an impersonal or cold atmosphere. Many individuals are still intimidated by the computer and believe that their opinions will not affect the results produced by this management tool.

CONCLUSION

Although computerization of the IEP process is still in its infancy and only a few good programs exist, early reports on its effectiveness have been very positive. It has reduced paperwork time while increasing teacher efficiency. It has provided a means of structuring the complex job of developing individual goals and objectives. It has inspired teachers to be more creative in their program planning through the use of the computerized hierarchical objectives and their associated strategies. It has allowed administrators to track student progress, maintain required time lines and make decisions on current information.

It is important to keep in mind that computers are only a tool to assist the educational team in its use of vital information. The integration of such computerized programs into the management processes of schools requires the planning, cooperation and coordination of many individuals in the school and the community.

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White, George Jr. "Micros for the Special Ed Administrator." Electronic Learning, 3 (5): 39-42; 1984.

SAMPLING OF THE IEP SOFTWARE PACKAGES

IEP SYSTEM
    C.K. Associates
    James M. Caccamo
    6700 Linden Rd.
    Kansas City, MO 64113
    816/833-3433

TALLEY Special Education Management
  System (SEMS)
    Curriculum Associates
    Patricia Payette
    5 Esquire Rd. N.
    Billerica, MA 01862
    800/225-0248 or 617/667-8000

Modularized Student Management System
  (MSMS II)
    Education TURNKEY Systems, Inc.
    Alfred J. Morin
    256 N. Washington St.
    Falls Church, VA 22046
    703/536-2310

MASTERFILE - MASTERPLAN
    EX-ED Computer Systems
    Mayer A. Stiskin
    71-11 112th St.
    Forest Hills, NY 11375
    212/268-0020

Administrative Planning System (APS)
Individualized Planning System (IPS)
Curriculum Management System (CMS)
    Learning Tools
    Joan Thorman
    686 Massachusetts Ave.
    Cambridge, MA 02139
    617/864-8086

Micro-sped, et al.
    Screening and Tracking Corporation
      of America
    Harold P. Kunzelmann
    20 Kent St.
    Second Floor
    Brookline, MA 02146
    617/738-5600, Ext. 22