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ABSTRACT

This report provides an analysis of microcomputer software available for elementary and secondary level instruction in 1989 as compared to 1984. Data from the Resources in Computer Education (RICE) database are used to compare distribution of software programs by grade level; hardware manufacturer; application type (drill, tutorial, simulation, game, problem solving, tool); and subject area (fine arts, business education, computer science, language arts, foreign language, mathematics, science, social studies, special education, and vocational education). Based on analyses of the changes which have taken place over the 5-year period, future directions of the educational software industry are speculated upon. The report includes an annotated list of organizations that are producing educational software reviews and that make them available either nationally or within particular states. Data for both 1984 and 1989 are displayed in eight graphs. An appended description of the RICE Database includes information on how to order custom reports generated by the microcomputer system, which replaced the original online system in 1986. (NRP)

THE Northwest Regional Educational Laboratory

TECHNOLOGY PROGRAM

THE STATE OF EDUCATIONAL SOFTWARE

A MicroSIFT Report

October 1989

by

Dave Weaver

Northwest Regional Educational Laboratory
101 S.W. Main, Suite 500
Portland, Oregon 97204

Sponsored by OERI Office of Educational Research and Improvement U.S. Department of Education

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INTRODUCTION

In 1984, the MicroSIFT Project published a report entitled "An Analysis of Available Courseware" as part of the *Reports to Decision Maker* series. The report analyzed the distribution of software in MicroSIFT's Resources In Computer Education (RICE) Database which at that time was available on-line (See Appendix A for more information about RICE). Now, five years later, we can revisit the topic using data from the new microcomputer version of RICE. This report will present an analysis of the current distribution of educational software, study the changes which have taken place in educational software over the last five years, and speculate on future directions of the educational software industry.

The second part of this report will give information gathered through a questionnaire which was sent to the major educational software reviewing agencies around the country. It will identify which organizations are producing educational software reviews, provide contact information for obtaining the reviews, and discuss the impact of trends in the educational software industry on software reviewing agencies.

In the past, *MicroSIFT Reports* have been a comparison of educational software products for some small area of the instructional use of the computer which we felt was of timely interest to educators. In this report, however, we chose to deviate from this pattern to give a broader view of the current state of the industry.

SUMMARY

The 1984 report predicted a shift in product development away from CAI (computer-assisted instruction packages such as drills, tutorials, simulation, games, etc.) toward the development of productivity tool packages (word processors, databases, function plotters, etc.) for the classroom. The 1989 data from RICE confirms this prediction. The data also show several other outcomes resulting from this shift. We see a broadening of the grade range for which the average package is appropriate. We also see the explosive growth of a new class of products--files and templates for use with the general purpose applications products such as word processors, databases, and spreadsheets.

In 1984, math and language arts drill packages dominated the market. In 1989, it is clear that these packages have yielded considerable ground as the demand for more sophisticated software and for software in the subject areas of science and social studies increases.

In 1984, Apple II was the dominant hardware choice for the development of educational software while numerous other platforms competed for attention. Today, we see a reduction in options, with developers choosing among Apple II, MS-DOS, Macintosh, and possibly Amiga. This is not an easy choice for developers, however. Apple II still has a large installed base but as these machines age and as educators' appetites for a more powerful computer grow, it is clear that the Apple II may not be the educators' first choice for new or replacement equipment purchases in the future. With alternate choices being the MS-DOS and the Macintosh platforms, developers are in a quandary. What educators will choose for the dominant hardware platform in the future is not imminently clear.

Another factor which comes into play here is the growing interest among educators in multimedia (using technology to interactively blend computer text and graphics with video and sound). First, Apple with the Apple II GS and the Macintosh, IBM with the PS/2 series and Commodore with the Amiga are working to position their machines for the multimedia market. Secondly, companies that are producing multimedia products are generally a completely different set of companies from those that develop educational software products. Many of these companies are unfamiliar with the education market. How these factors will influence educators' choices of hardware in the future is anyone's guess at this point.

In the process of updating RICE, we have noticed a sharp increase in the number of products which have versions available to run on local area networks (13.1% of the products currently in RICE). Because the market for networking software was quite small until recently and because of fear over copyright violations, third-party producers were reluctant to develop network versions of their products. Those who did often would not advertise it, electing to deal individually with schools who specifically asked for networking

versions. This is clearly changing. Not only are network versions more readily available, but they are also being advertised in product catalogs.

The software industry is also undergoing a shakeout. Smaller companies are being bought by larger ones, some companies go out of business and sell their product line to other companies, while others just disappear altogether. We have seen cases where a product has been marketed by as many as three different companies over the past two years.

We also get the impression that educational software development is slowing down. Educators are demanding more sophisticated products which are more difficult and take longer to develop. In addition, the increased use of tool software (word processing, database, etc.) has a negative effect on the demand for CAI software. If used well, tool software is applicable in more subjects for a longer period of time than the typical CAI product.

We have speculated for years about the total number of educational software products available on the market. Since no one database has kept up with every product available on the market, it has been difficult to judge. Our best estimate is around 9,000 to 10,000 individual products. Because of the data entry procedures used by the MicroSIFT staff to maintain RICE, as much effort is put into removing old records from the database as there is on entering new records (see Appendix A). Over the last year the total volume of software records in RICE has stayed between 5,600 and 5,800. We seem to be deleting about as many records as we are adding because some new products replace retired products and others are removed because companies go out of business.

All of these changes in the educational software industry have caused repercussions in the educational software review industry as well. Computer education magazines continue to generate a great number of reviews. But among those agencies who are supported by public funds (federal, state, or local school improvement agencies and grants), we have noticed a general decrease in activity over the past three years. Several of the major reviewing agencies have ceased reviewing activities completely (California TIC, EPIE Profiles, Software Reports, etc.) while others have changed their method of operation (MicroSIFT, Minnesota, Alberta, EPIE, etc.).

There are several factors which have contributed to this decrease. Foremost among these is a shift in emphasis on the part of many governmental agencies in response to the national agenda. In 1984, educational technology was a high priority with most governmental agencies. Today, educational technology is forced to take a back seat to programs supporting drug abuse education and at-risk youth.

Educational software reviews were never intended to replace the need to preview the software prior to purchase but rather to pare down the list to a manageable number. Although this is still the case, many of the larger software producers have adopted rather liberal software preview policies, making it much easier for educators to preview a package. This, coupled with the increased number of software preview centers around the nation, serves to reduce the need for software reviews.

The growing use of tool packages in the classroom has also had its impact. With CAI products, the quality of instruction is an issue. With tool products, familiarity is the dominant consideration. Teachers and students have a tendency to use what they know how to use, and reviews of these products play a smaller role. Therefore, the selection of a productivity tool to use in the classroom is more a function of what the district has adopted or which product the teacher has been trained to use. To compound this, most of the reviewing agencies were very slow to respond to the shift toward the use of tool software. Very few of the agencies have developed criteria for evaluating tool software and, in many cases, the same forms and criteria for evaluating CAI software are applied to tools.

Finally, many of the government-funded reviewing activities began with seed money to start an activity which would eventually be taken over by the private sector. Unfortunately, the market for educational software reviews never developed to the point where it would support the high cost of producing quality reviews. Agencies which have tried to profit or maintain by marketing software reviews have generally failed.

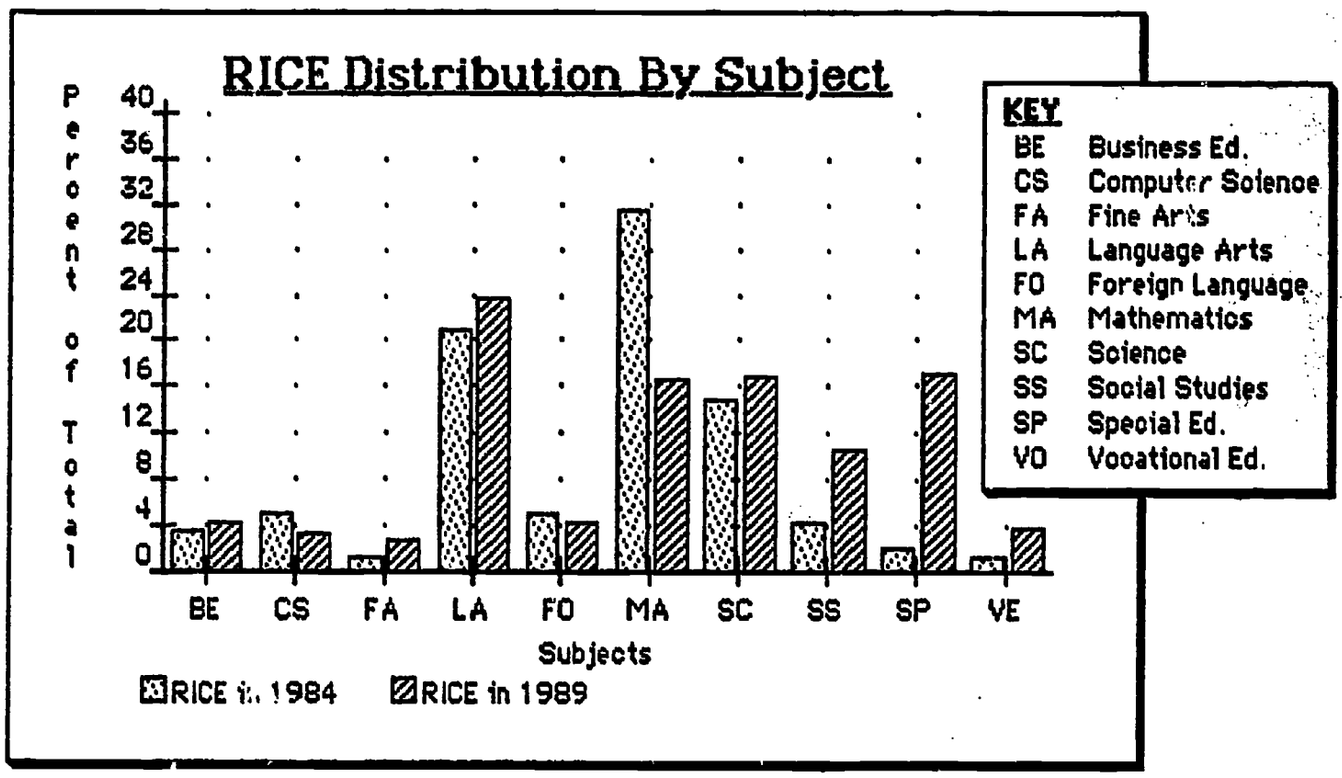
The remainder of this report provides more detailed information which supports these claims.

AN ANALYSIS OF AVAILABLE EDUCATIONAL SOFTWARE

In 1984, RICE contained around 2,100 software records. As of September 1989, it contained over 5,800 product records and 840 producer records. Since both constitute a rather large representative sample of the available educational software, a comparison of the percentage of the total for each set gives a good picture of the actual distribution.

When studying the graphs it is important to note that there is considerable overlap between categories such as subject, type, hardware, grade level, etc. It is very common for a product to be classified into several subjects or topics, or have components which are different types, or have versions available for different hardware types. In all distributions in this report, many products are counted several times. Consequently, the percentages shown on the graphs are percentages of the total and the sum of the categories will generally total more than 100%.

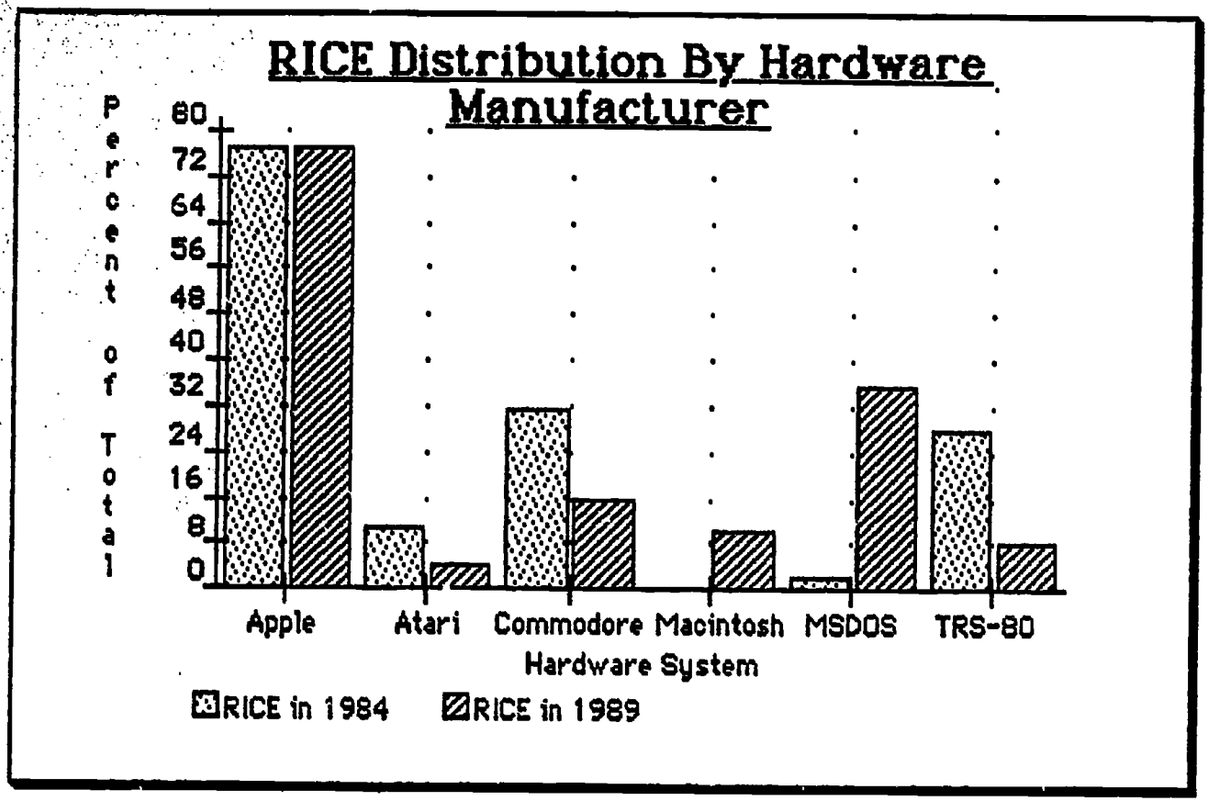
The remainder of this section is a series of graphs followed by some observations about the data.



This chart shows the distribution of software across the subject areas for both the 1984 and 1989 sample. The total of the percentages for the 1989 sample is 100.9 indicating that less than one percent of the products are classified into more than one subject area.

Observations

- Although the actual number of available math titles has increased from 657 in the 1984 sample to 953 in the 1989 sample, the graph shows a sharp decrease in the percentage of total (31.3% to 16.4%) indicating the development of Mathematics has not grown as rapidly as in other areas.over the period.
- Small increases appear in Language Arts, Science, and Vocational Education while a large increase appears in the percentage of products for Social Studies.
- The large increases in the percentage of products in RICE available for Special Education is due to the activities of a number of software reviewing projects which have better identified those products appropriate for special needs students.



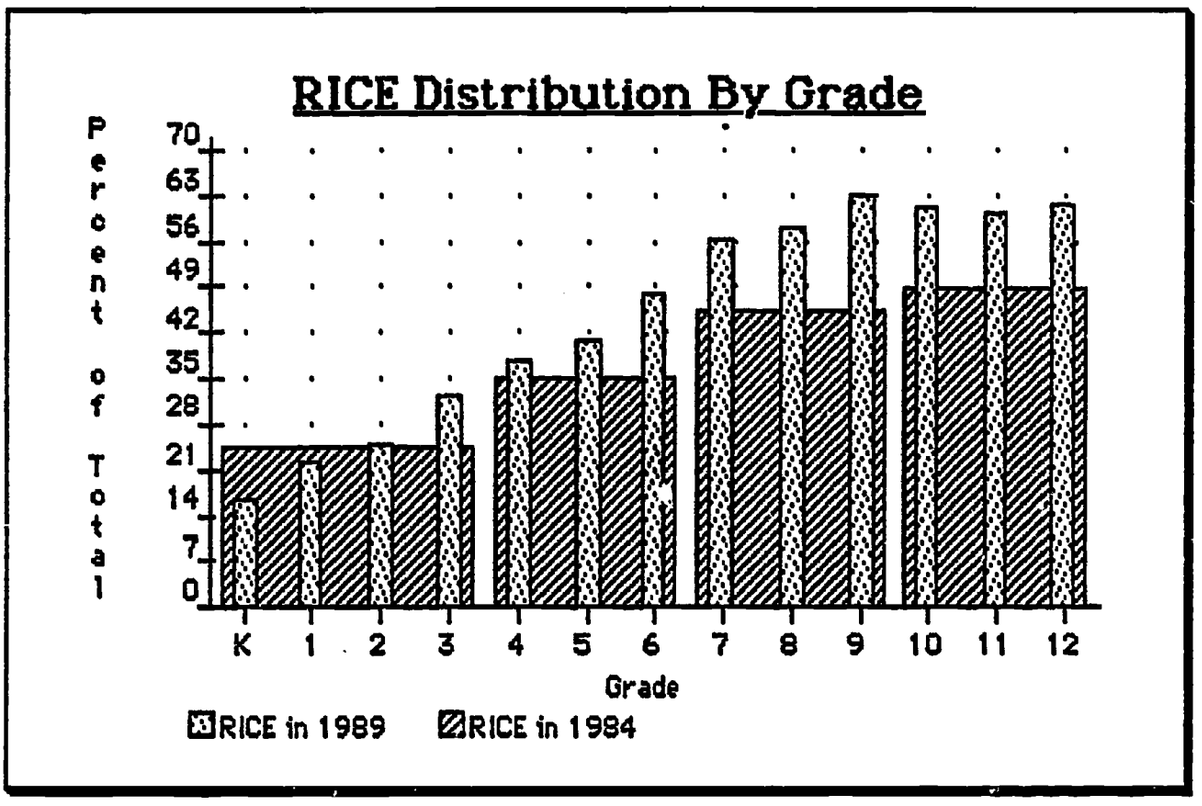
This chart shows how the software products are distributed across the various machine types for both the 1984 and 1989 sample. The total of the percentages for the 1989 sample is 147.5 indicating the significant number of products which have versions for more than one machine.

Observations

- A surprising result is that the percentage of products available for the Apple II family is the same in both the 1984 and 1989 samples, verifying the strong support the software producers have given the machine.
- The expected decrease is shown in the older machines such as the Atari, TRS-80, and Commodore 64.
- As IBM, Tandy, and now Commodore market MS-DOS-based machines to schools, producers are responding with new products as indicated by the huge increase in the percentage of products available for the MS-DOS machines.

- The Commodore column includes the Amiga as well as the Commodore 64/128 product line. Since the Amiga entered the education arena belatedly, the number of products developed for the machine has not kept pace with development for Apple and MS-DOS machines. However, with the Amiga's powerful features, it is positioned to compete well in the growing multimedia market.

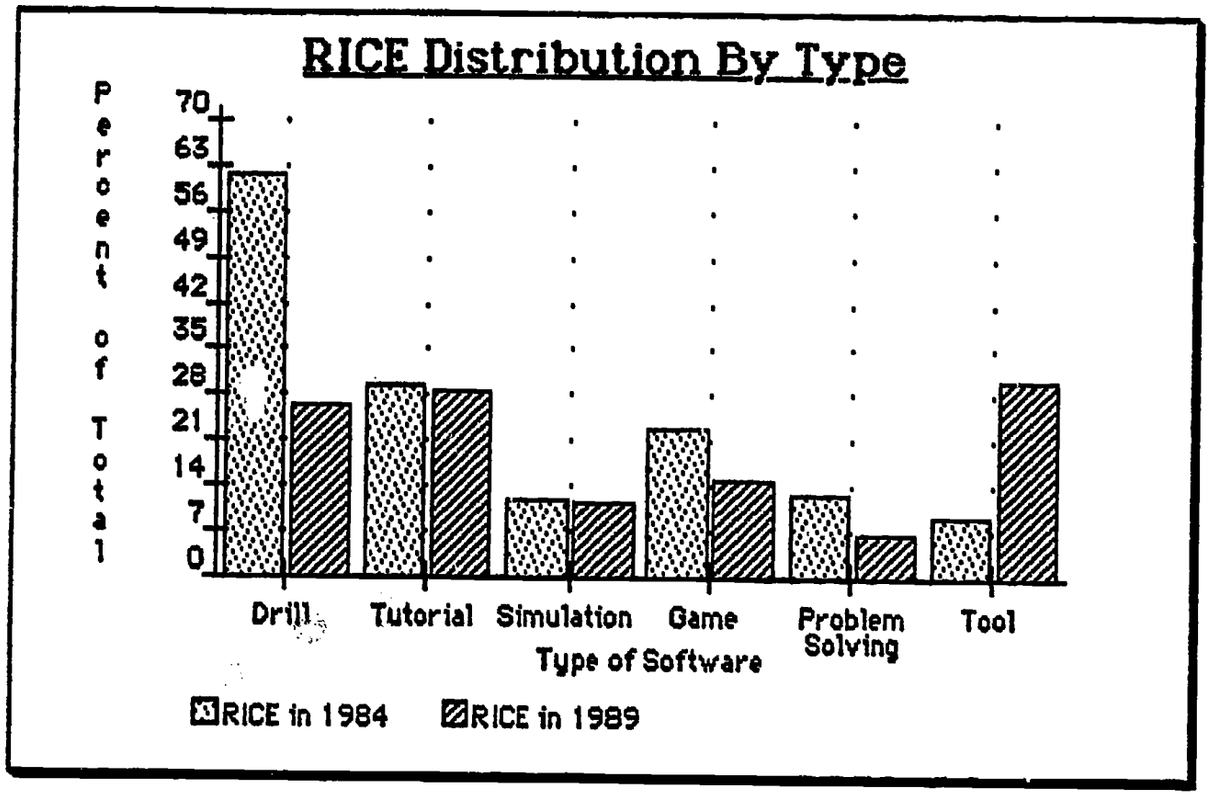
- Macintosh, being the latest entry to the K-12 market, is far behind in the percentage of available titles. Of those products appropriate for use in schools, most are productivity tools. Instructional packages for the Macintosh are not a priority with educational software developers at this point.



This chart shows the distribution of products across grade levels. The data from the 1984 study were organized by the grade groups of primary, intermediate, junior high, and high school grades, and must be shown using bars which span all of the associated grades.

Observations

- The effect of the increased number of tool packages is evident here. Tool packages are generally useful for a broader range of grades than are instructional packages. This would account for the appearance of a greater number of products in all grades above grade 4. Grade 4 is also the age when the use of productivity tools are generally introduced to students.

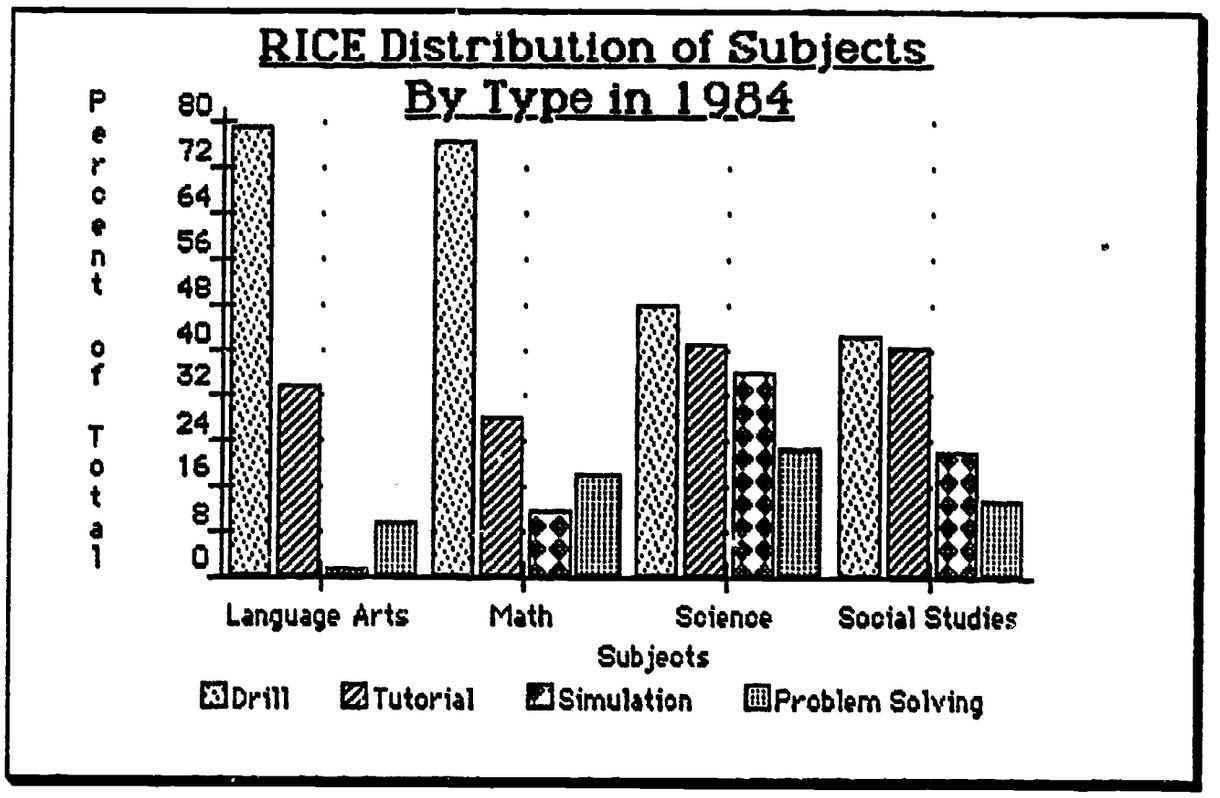


This chart shows the distribution of software by product type for both the 1984 and 1989 sample. The total of the percentages for the 1989 sample is 116.0, indicating some overlap in classification of products into more than one type.

Observations

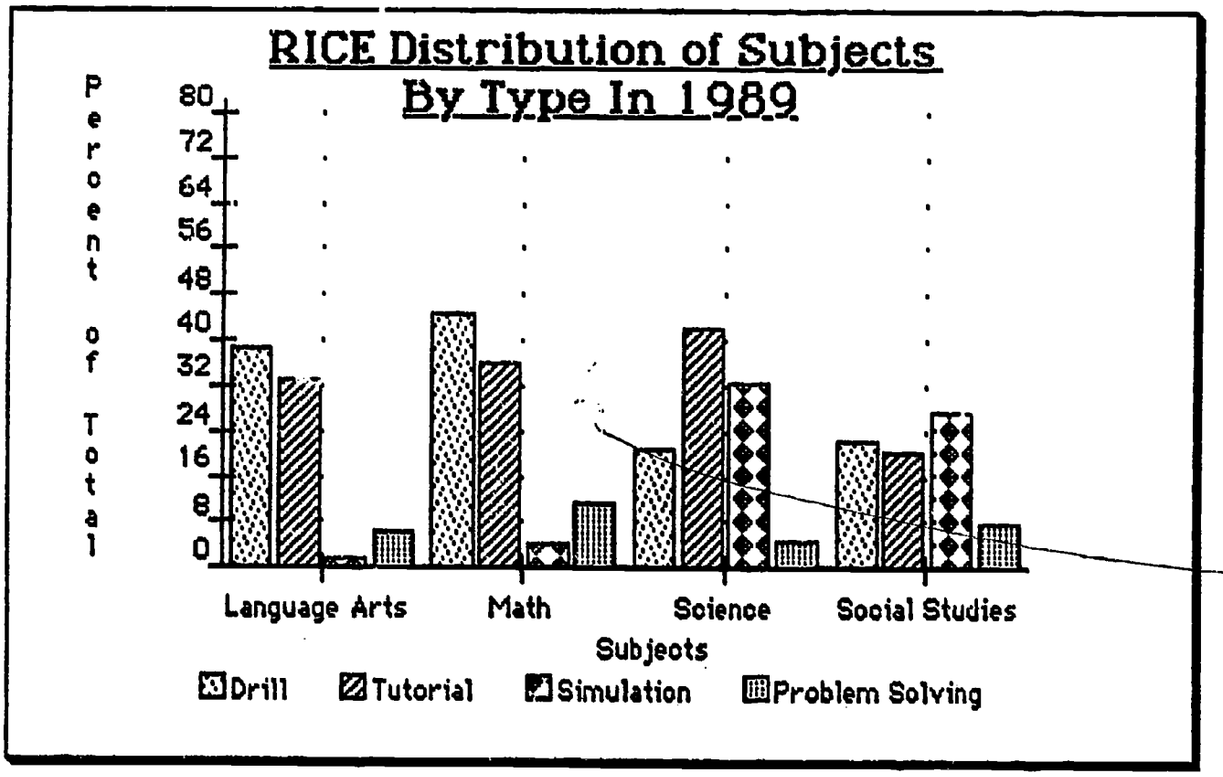
- Although the total number of drill packages has increased from 1,278 in the 1984 sample to 1,522 in the 1989 sample, the percentage of total has dropped considerably (from 60.9% to 26.2%). Software containing a game component shows a similar decrease.
- The percentages of tutorials and simulations have remained relatively the same.
- A surprising result is the decrease in the percentage of packages with a problem-solving component.
- The large increase in tool software combined with the corresponding decrease in drill and game packages indicates a clear shift in development away from CAI toward the development of productivity tools for student use.

The two charts on the following page show the distribution of the types of instructional packages for each of the four major subject areas for both the 1984 (top) and the 1989 (bottom) samples.

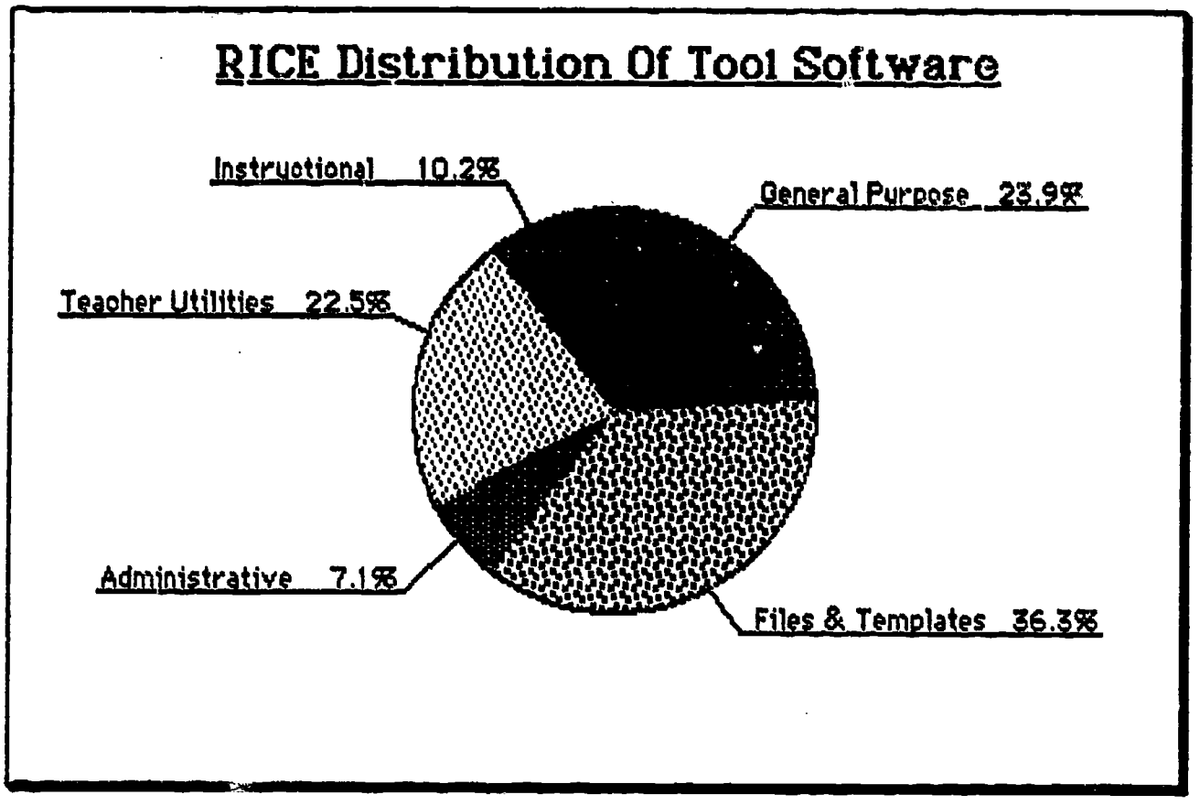


Observations

- Increases in both tutorials and simulations, especially in Science and Social Studies, demonstrate a higher level of sophistication in the overall products available.



A Closer Look At The Tool Software



As mentioned earlier, an examination of the types of software available shows a shift in product development away from CAI products toward the development of productivity tools for use in education. Upon closer examination of the types of tools available for educators in 1989, it has become apparent that a whole new market has developed which was virtually nonexistent in 1984. To demonstrate this, it is necessary to classify the many different types of tools into several groups. The chart above shows the percentage of total number of tool-oriented products divided among the following groups:

General Purpose–This category includes all of the common computer applications which are used by administrators, teachers, or students such as word processors, database managers, spreadsheets, presentations, etc.

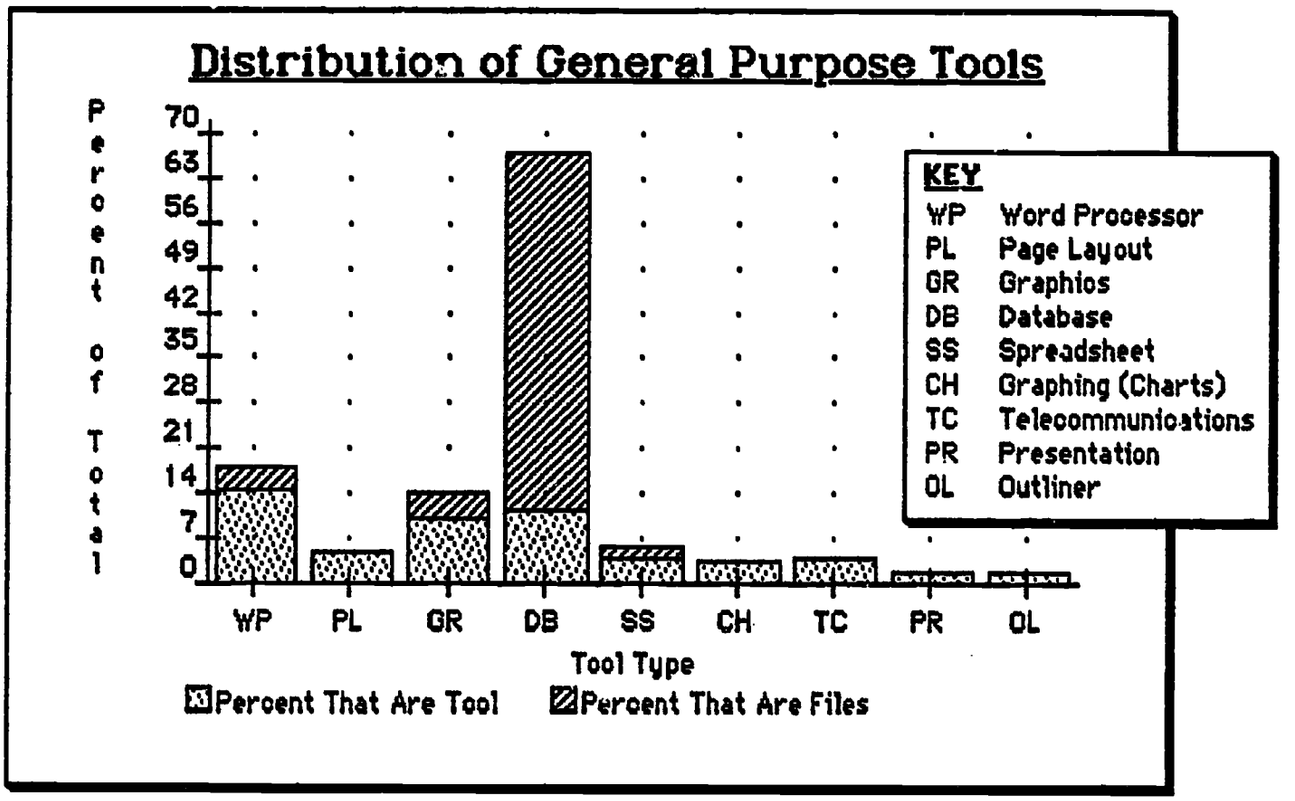
Files & Templates–Packages which are designed for, or could be used with one of the general purpose applications fall into this egory. This includes database files and activities, writing activities for use with word proces ,clip art, spreadsheet templates, and the majority of videodisc and CD-ROM products available.

Administrative–This category includes those packages designed for some facet of school administration such as school recordkeeping, scheduling, attendance, library management, IEP management, etc.

Teacher Utilities–Packages designed to facilitate the teacher's management of instruction are counted in this category. This includes authoring systems, gradebook programs, materials and test generators, and other miscellaneous utilities.

Instructional Tools–This category includes other types of products which students use to learn about or to facilitate learning. This includes accounting packages in Business Education, CAD packages in Drafting, microcomputer-based labs in Science, function plotters in Math, and survey-taking packages in Social Studies.

Although the 1984 study did not collect data on the number of products in the files and templates category, it is likely that the number would have been very small if not empty. The existence of such a large category of products today indicates that during this five-year period, the use of tool packages on schools has developed into a substantial secondary market.



To go one step further, the graph above shows the distribution of the general purpose tools combined with their corresponding files and templates. For example, the bottom part of the Word Processing (WP) bar shows the percentage of tools which have word processing components while the top of the bar shows the products which are files or templates designed to be used with a word processor, such as in a writing activity. The total of the percentages across all of the types is 116.6 due to those packages which integrate several tools into one product such as AppleWorks or Microsoft Works.

The large percentage of products which can be used with database packages is rather startling. But, when you consider the number of database activities for such popular products as AppleWorks or Microsoft Works combined with all of the videodisc and CD-ROM databases which have recently become available, it really isn't that surprising. With the expected increase in the number of multimedia systems in schools, we can look forward to this category continuing to grow.

EDUCATIONAL SOFTWARE REVIEW SOURCES

Knowing what is available is one thing, but knowing what is most appropriate for your needs is another. Software reviews go a long way in helping to sift through the large number of available products in any one area. This section of the report identifies those organizations who coordinate educational software reviewing activities and make the results available to educators. This portion is divided into two parts: organizations which make their review results available nationally, and organizations which make their reviews available within their respective state.

Sources Available Nationally

Adult Basic Skills Technology Project
Annabelle Lavier — 503/296-6182
Treaty Oak Community College
300 East Fourth
The Dalles, OR 97058

The Adult Basic Skills Technology (ABST) Project is funded by the Federal Department of Adult Education and reviews software from the adult basic skills point of view. The database of software evaluations is available on disk or in print for $3.50 to cover shipping and handling.

Arizona Department of Education
Chris Cordova — 602/255-5061
Computer Education Services
1900 West Thomas
Phoenix, AZ 85015

In October of each year, the Arizona DOE publishes the *Directory of Suggested Instructional Computer Software* which is a list of favorably reviewed software. The document is available in limited numbers outside the state for a nominal fee. Contact the Arizona Department of Education for current pricing and availability.

British Columbia Ministry of Education
Tim Winklemans — 604/271-2700
12140 Horseshoe Way
Richmond, BC V7A 4V5

Evaluations: Microware is published annually and includes the text of the reviews compiled by the British Columbia Ministry of Education.

CHIME Newsletter
Patty Reeves, Editor — 405/624-6254
108 Gundersen Hall
Oklahoma State University
Stillwater, OK 74078

Reviews are published in *CHIME*, a bi-monthly newsletter. The annual subscription price of the newsletter is $15.00 for six issues.

Connecticut's Special Education Network for Software Evaluation

Chauncy N. Rucker 203/486-4031
UConn Special Education Center
Technology Lab, U-64
249 Glenbrook Road
Storrs, CT 06268-2064

Software reviews are published in the *ConnSENSE Bulletin*, a newsletter published three times a year. Membership to Connecticut's Special Education Network for Software Evaluation is $15.00 per year and includes use of the software preview facility and subscription to *ConnSENSE Bulletin*.

Council of Ministry of Education of Canada

Margaret Fulford 416/964-2551

Maintains a database of over 2,500 reviews of educational software products. The records are available in both French and English through SDM.

EPIE Institute

Mark Sherry 516/621-5950
Palmer School Library, Room 343
CW Post Campus
Long Island University
Brookville, NY 11548

In November 1989, EPIE will publish a report comparing integrated learning systems. The report is available directly from EPIE, P.O. Box 839, Water Mill, NY 11976 for $250.00. EPIE has also developed PC TESS, a database of over 11,000 software citations containing description and evaluation references from 41 evaluation agencies. A year's subscription to the database is available to higher education and regional service centers for $2,500 a year and for $995.00 to individual school districts. The database management system is network compatible.

Florida Center for Instructional Computing (FCIC)

Stephanie S. VanDeventer 813/974-3471
University of South Florida
College of Education, EDU 123-H
Tampa, FL 33620

@MICRO reviews are available annually in print form, on disk in both MS-DOS and Apple ProDOS formats, and on-line via the Florida Information Resource Network (FERN). Each annual edition of *@MICRO* includes approximately 200 reviews which are a shortened version of the complete review which vary from four to 10 pages in length. *@MICRO* is available for no charge to Florida educators. The print version of *@MICRO* is available to educators outside of Florida for a nominal fee. Contact FCIC for current pricing.

High/Scope Educational Research Foundation

Warren Buckleitner 313/485-2000
600 N. River Street
Ypsilanti, MI 48198

The *High/Scope Survey of Early Childhood Software* is published annually and includes the ratings for approximately 100 products appropriate for use with preschool and primary grade children. The book is available from High/Scope for $19.95.

International Society for Technology in Education (ISTE)

Anita Best 503/686-4414
University of Oregon
Eugene, OR 97403-9905

ISTE is the primary publisher of *The Educational Software Preview Guide*, a periodic publication (usually annual) that lists favorably reviewed products as compiled by the members of the Educational Software Evaluation Consortium. In addition, reviews conducted by ISTE are published in *The Computing Teacher*. The *1988/89 Educational Software Preview Guide* is available for $8.00 and a subscription to *The Computing Teacher* is $30.00 per year. Organizations which contribute to data to *The Educational Software Preview Guide* include:

Alberta Education Curriculum Support Branch	AB	403/422-4872
Arizona State University	AZ	602/965-7192 x 3322
British Columbia Ministry of Education	BC	604/271-2700
California Educational Computing Consortium	CA	916/971-7647
CHIME Newsletter	OK	405/624-6254
Colorado Department of Education	CO	303/866-6855
EPIE Institute	NY	516/621-5950
Florida Center for Instructional Computing (FCIC)	FL	813/974-3471
Florida Department of Education	FL	904/488-0980
International Society for Technology in Education	OR	503/686-4414
King County Superintendent of Schools	CA	209/584-1441 x 2938
Lancaster-Lebanon Intermediate Unit 13	PA	717/569-7331
Los Angeles Unified School District	CA	213/625-6994
MicroSIFT Project	OR	503/275-9625
Minnesota Department of Education	MN	612/297-2534
Montgomery County Public Schools	MD	301/279-3822
Nevada Department of Education	NV	702/885-3136
New York City Board of Education	NY	718/935-4040
New York State Education Department	NY	518/474-5824
North Carolina Department of Public Instruction	NC	919/733-3929
North Cook Educational Service Center (NCESC)	IL	312/998-5066
Oakland Schools	MI	
The Learning Exchange	MO	816/751-4132
Wayne County ISD	MI	313/467-1558
Wyoming Department of Education	WY	307/777-6670
York University	ONT	416/736-5019

LIST Services, Inc.

Beverly U. Student, President 402/334-4991
15320 Wycliffe Drive, Suite 28
Omaha, NE 68154

LIST Services develops print directories for the major computer manufacturers. The best known products are the *Apple Software Curriculum Guide* series and the *Apple Educational Solution Guide Series*. The guides are distributed to schools by Apple Computer and may be purchased from Apple for between $19.00 and $23.00 each.

MicroSIFT Project

Dave Weaver 503/275-9625
Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, OR 97204

This U.S. Department of Education funded clearinghouse produces a number of products designed to help educators choose the most appropriate software for their needs. (1) The *MicroSIFT Report* is published three times a year and reviews products in a specific area of instructional use of the

computer such as Word Processing, ESL, Function Plotters, etc.; (2) *New & Promising* is published twice a year and highlights new products worthy of further consideration according to the opinion of leading computer coordinators. (3) The RICE Database (see Appendix A). Published reports are available nationally through ERIC, the Regional Educational Laboratory serving your area, or directly from the Laboratory's document reproduction service for a nominal fee. Custom RICE searches are available for $15.00 a search directly from the Laboratory.

Only the Best

Education News Service
George Neill 916/483-6159
P.O. Box 1789
Carmichael, CA 95609

Education News Service produces for R.R. Bowker, *Only the Best: The Annual Guide To Highest Rated Educational Software for Preschool-Grade 12, 1990 edition. Only the Best* sifts through the evaluations of over 30 software reviewing agencies and identifies those products which have been consistently reviewed positively. In addition, *Only the Best: The Cumulative Guide to Highest Rated Educational Software 1985-89 Preschool-Grade 12* gives the results of all previous editions of *Only the Best*. The annual guide is available for $26.95 and the Cumulative Guide is available for $49.95 from R.R. Bowker, P.O. Box 762, New York, NY 10011, 800/521-8110, 212/337-6934. The evaluation agencies which contribute data to *Only the Best* include:

Alberta Education Curriculum Support Branch	AB	403/422-4872
Arizona Department of Education	AZ	602/255-5061
Baltimore County Public Schools	MD	301/494-3858
Binghamton City School District	NY	607/772-0101
British Columbia Ministry of Education	BC	604/271-2700
Broward County Schools	FL	305/786-7683
Columbus Public Schools	OH	614/222-3133
Education News Service	CA	916/483-6159
Fairfax County Public Schools	VA	703/978-0075
Florida Center for Instructional Computing (FCIC)	FL	813/974-3471
Hawaii Department of Education	HI	808/395-8916
High/Scope Educational Research Foundation	MI	313/485-2000
IMPAC Learning Systems, Inc.	AR	
Iowa City Community Schools	IA	319/338-3685
LIST Services	NE	402/334-4991
Los Angeles Unified School District	CA	213/625-6994
MicroSIFT Project	OR	503/275-9625
Minnesota Department of Education	MN	612/297-2534
New York City Board of Education	NY	718/935-4040
North Carolina Department of Public Instruction	NC	919/733-3929
Prince George's County Public Schools	MD	301/386-1549
The Learning Exchange	MO	816/751-4132
York University	ONT	416/736-5019

Saskatchewan Education

Leigh Calnek 306/787-9448
2220 College Avenue
Regina, SASK S4P 3V7

Saskatchewan Education maintains an on-line database of software reviews which is available remotely via modem and is also used to produce print catalogs. Access to the database is available through INet America.

York University
Curt Dudley-Marling 416/736-5019
Faculty of Education, 4700 Keele Street
North York, ONT M3J 1P3

York University maintains an on-line database of educational software reviews which is available on-line to educators.

Sources Available in the Various States

The following is a list of software reviewing projects whose results are generally only available within the respective state.

Project SEED
Marcia Graff, Project Coordinator 919/549-8216
P.O. Box 12748
200 Park Office, Suite 200
Research Triangle Park, NC 27709

SEED is a collaborative effort by the state education agencies (SEA) of Alabama, Florida, Georgia, Mississippi, New Jersey, North Carolina, and South Carolina to review K-12 software. The states share a common process for evaluating software and exchange their findings. Camera-ready copies of the SEED reviews are sent to the participating state agencies four times a year. Each set contains between 50 and 80 reviews. The states duplicate the masters and distribute directly to the school districts of school building in the state for no charge. SEED reviews are generally not available outside of the participating states, however, plans are being made to market the reviews in some way.

Alabama Department of Education (Project SEED)
Ron Wright 205/261-5574
Educational Technology Section
304 Dexter Avenue
Montgomery, AL 36104

IMPAC Learning Systems, Inc.
Dr. Cecil McDermott, Project Director
IMPAC, National Old Line Building, Room 122
Woodland & 6th
Little Rock, AR 72032

IMPAC reviews and licenses software for statewide use. The project involves 40,000 students and 1,700 teachers in 207 schools. Reviews compiled by IMPAC are available to Arkansas teachers upon request.

Colorado Department of Education
Bernajean Porter, Educational Technology Consultant 303/866-6855
201 East Colfax
Bolder, CO 80203

The Department of Education produces an *Education Software Guide* which is distributed to 176 school districts. Copies are available for $3.00 per copy upon request.

Connecticut's Special Education Network for Software Evaluation
Chauncy N. Rucker 203/486-4031
UConn Special Education Center Technology Lab, U-64
249 Glenbrook Road
Storrs, CT 06268-2064

Software reviews are published in the *ConnSENSE Bulletin*, a newsletter published three times a year. Membership to Connecticut's Special Education Network for Software Evaluation is $15.00 per year and includes use of the software preview facility and subscription to *ConnSENSE Bulletin*.

Florida School for the Deaf and the Blind
John-Mark Leach 904/824-1654 Ext. 510
Instructional Technology Center
207 N. San Marco Avenue
St. Augustine, FL 32084

The *Instructional Software for Exceptional Students* is a guide published annually and distributed at no cost to teachers of the hearing impaired in Florida.

Florida Department of Education (Project SEED)
Shirley McCandless 904/488-0980
Office of Educational Technology
227 Knott Building
Tallahassee, FL 32399

Georgia Department of Education (Project SEED)
Brenda Tapp 404/656-5945
Instructional Media Services
2054 Twin Towers East
Atlanta, GA 30334

Minnesota Department of Education
Harold MacDermot 612/297-2534
682 Capitol Square Building
550 Cedar Street
St. Paul, MN 55101

The software reviewing activities supported by the Minnesota Department of Education are designed to encourage use of the computer in specific areas of instruction. The software selected is made available to schools in Minnesota at a reduced cost.

North Carolina Department of Public Instruction (Project SEED)
John C. Brim 919/733-3929
Media Evaluation Services
116 West Edenton Street
Raleigh, NC 27603-1712

The *Advisory List of Computer Courseware* is distributed to North Carolina educators and selected evaluations are published in the *School Library Journal*. North Carolina is also a member of SEED and distributes the reviews through the SEED network.

New Jersey Department of Education (Project SEED)
Ted Smorodin 609/984-1805
Education Technology Section
225 West State Street
Trenton, NJ 08625

Nevada Department of Education
Christine Huss — 702/885-3136
Capitol Complex
400 W. King Street
Carson City, NV 89710

New York State Education Department
Ed Hancock — 518/474-5824
Center for Learning Technologies
Cultural Education Center, Room 9A47
Albany, NY 12230

South Carolina Department of Education (Project SEED)
Bob Reese — 803/734-8095
Office of Instructional Technology
205 Rutledge Building
Columbia, SC 29201

TIE (Technology In Education)
Dr. Jim Parry
1 Concourse Drive
Rapid City, SD 57701

Product reviews are published in the quarterly *TIE Newsletter* and disseminated to approximately 4000 educators statewide. The newsletter is available to any educator upon request.

Utah State Office of Education
Robert Olson
250 East 500 South
Salt Lake City, UT 84111

The microcomputer courseware evaluations from the Utah Information Technology Demonstration Center are available to teachers in Utah through the statewide computer network.

Wyoming Department of Education
Judy Kishman, Educational Technology Consultant — 307/777-6670
Hathaway Building, Second Floor
Cheyenne, WY 82002

Software reviews are available to Wyoming teachers via statewide electronic mail network.

APPENDIX A: ABOUT THE RICE DATABASE

History

Development of the RICE (Resources In Computer Education) Database began in 1982 by the Technology Program of the Northwest Regional Educational Laboratory (NWREL) as part of the U.S. Department of Education-funded MicroSIFT Project. At that time, RICE was housed on a mainframe computer at the Bibliographic Retrieval Service (BRS) in upstate New York and was available internationally on-line. In order to reduce costs and provide faster updating, RICE was restructured and moved to a microcomputer in 1986. The new system was designed to generate printed search reports. Beginning in 1987, search reports were made available to anyone requesting information for a nominal fee. In 1988, Educational Technology specialists in our region expressed interest in being able to offer the same search service at regional centers throughout the Northwest. An end-user version was developed and installed at 21 sites in Washington, Hawaii, and Oregon in early 1989 for an annual subscription fee. The subscription includes the initial installation plus quarterly updates.

What is in RICE

This report is based on the status of the database as of September 11, 1989 which was 5,807 product records and 840 producer records. This volume actually represents approximately 9,000 individual products because many of the records describe a series of several products. The products are mostly computer software products, however, there are nearly 500 records of videodisc and CD-ROM products appropriate for use in schools.

Each product is classified by grade level, hardware system for which there is a version available, and by keyword. Keyword classifiers include product medium, software type, specialized audience, subject, and topic.

Products are entered into the database according to fixed guidelines. New product announcements have the highest priority for data entry. Generally, new product announcements are entered within a week of their receipt. Referencing the reviews published by each of the major educational software reviewing agencies is our second priority. Finally, the product catalogs of each producer are examined in the order that they are received. Products older than 1986 and which have not been reviewed by one of the major reviewing agencies are generally not entered into the system. Products which no longer appear in the producer's catalog are removed from the database.

How to Access RICE

RICE is designed to generate custom reports based on search parameters specified by the requestor using grade range, hardware system, and keywords. The fee for each report is $15.00. Other specialized reports are available for a negotiated fee. Contact NWREL for more information.