Industrial Arts Survey

Opinions, Status, Future

A recent study surveyed industrial arts education in Seventh-day Adventist academies in the United States. Three different populations were surveyed in order to gather the data. They consisted of 86 chairmen of SDA industrial arts departments, 86 principals of SDA academies and eight directors of SDA union education offices. Of the combined populations, 88 percent supplied the requested data.

A similar study was carried out examining public high school industrial arts programs. The similarity of these studies enabled many comparisons to be made between the two systems, some of which are included in the summary of findings and conclusions below.

Further information regarding this study is available from the author, Dr. P. John Williams, Department of Education, P.O. Box 8022, Causeway, Harare, Zimbabwe, Africa.

Findings of the Study

Grade nine was the focus of the secondary level industrial arts program as far as both numbers of students taking industrial arts and the number of courses offered. Forty percent of students in grade nine take industrial arts, 20 percent in grade ten, decreasing to 15 percent in grade 12.

Most principals (62 percent) perceived industrial arts as a general education program (as distinct from vocational education), and believed that it had a role to play in the instructional program of college-bound students. Eighty-four percent believed that industrial arts should be a requirement for all students.

Picture removed

Both the SDA and public school industrial arts chairmen rated the academic ability of industrial arts students as below that of other students. Public school chairmen rated their students as significantly less able than SDA chairmen rated their students. If a rating of three would represent the same degree of academic ability for both groups, SDA chairmen rated their students at 2.89 and public school chairmen rated theirs at 2.59.

The student-teacher ratio of 10.92 students per teacher, which was the mean for SDA industrial art classes, was acceptable to chairmen, who considered 12.72 students per teacher to be the maximum for industrial arts classes.

The most common industrial arts courses taught in SDA schools were, in order, auto mechanics (taught in 78 percent of schools), general woods (taught in 63 percent of schools), and general industrial arts (taught in 41 percent of schools). The types of laboratories reflected this emphasis.

In SDA schools, 11 percent of the faculty were industrial arts teachers, compared to public schools, where the figure was only 5.4 percent.

Most (60 percent) SDA secondary schools had at least one required industrial arts course. Fourteen percent did not require any

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trying to stall compliance with such laws? Probably he hopes that, considering the current advanced age of the present Supreme Court justices, one or more will retire and subsequent Reagan appointees could reverse the unwanted "shared-time" decisions. In addition, Bennett and those who side with him are probably hoping to goad Congress into passing alternatives to these controversial programs—tuition tax credits for parents or direct payments to students (vouchers) that could be spent in either private or parochial schools. Bennett has introduced legislation calling for both of these programs. Public claims that they defy current appetites for tax simplification and deficit reduction are met with arguments of fairness, a tactic that may work.

The secretary offers students one more thing: a public school punctuated with religion. He would accomplish this by allowing the posting of the Ten Commandments in classrooms and encouraging the recitation of "voluntary prayers." Such observances would promote primarily a Judeo-Christian ethic, ignoring the pluralistic nature of American society. They might deny citizens the right to worship and pray—or to choose not to—in whatever way their consciences dictate, without interference or pressure from government or school officials.

All of this compromises the secularity of the public order to too great an extent. I respect our public servants, but Secretary Bennett's policies trouble me. □

Computing With Class

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reports to the network spooler, which will save them until the printer is free.

Are There Any Problems?

The only drawbacks to networking are in the areas of programming and installation. For optimum processing, one computer station will be tied up with the task of networking. If that unit does regular programming while it controls the networking, a bug in its local program could shut down the entire network.

Perhaps you are thinking that two different stations might try to access the same information at the same time. What then? And suppose two people attempt to make changes in the same record at precisely the same instant. Which change will the system acknowledge?

Fortunately, networks provide record, file, and transaction locking mechanisms that protect you from these kinds of problems. However, you will have to incorporate these locking routines into programs that will run simultaneously.

Installation consists of running cables throughout your building(s) to tie all of your computers together. Distance limitations usually run in the 4,000-foot to one-mile ranges.

Costs for a network can add $5,000 to $10,000 to your system, depending on how extensive your installation is and how large a hard disk you need. However, once the networking system is in place, you can expand the number of units accessing it almost indefinitely.

How to Get Started

Several hundred network software packages are available that provide interface among a variety of computer models. For additional information, contact a local computer store and ask them to supply you with back issues of computer magazines such as *Byte* and *Personal Computing* that feature articles on networking.

Networking can make your personal computers perform like a big system without the big price tag and without giving up the advantages of personal computers.—Dave Ruskjer. □

The author is publisher of *The Journal of AMCA (Adventist Microcomputer Concepts and Applications).*

Survey

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courses, and 15 percent required two courses.

Of SDA principals, 60 percent perceived limited supplies and equipment as the major barrier to outstanding industrial arts programs.

Ninety-one percent of all SDA schools had industrial arts programs, contrasted with 76 percent of the public schools. Seventh-day Adventist industrial arts departments spent more per student on equipment ($43.02 compared to $16.79) and supplies ($47.64 versus $29.61) than did public school industrial arts departments. However, the greater expenditure may indicate simply that the public schools were able to purchase supplies more economically.

Conclusions

The evidence seems to indicate that SDA industrial arts programs are not following the latest curriculum developments in the area of industrial arts and technology education. The trend in curriculum and program development is toward consolidation of courses. A survey of the courses to be added and deleted within the next five years indicates that SDA industrial arts chairmen as a group are planning to diversify their course offerings, but the types of courses to be

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added are not in the areas being recommended or developed by the industrial arts profession.

In general, industrial arts was perceived to be closely allied with the general-education curriculum, to be an important component in the educational program of college-bound students, and was seen as necessary for all students.

Few significant differences can be detected between the SDA and the public school industrial arts programs.

Neither SDA principals nor chairmen seem to be content with the current emphasis given to the purposes of industrial arts.

Seventh-day Adventist chairmen do not sense strong administrative support for their programs. The situation is the opposite for public school industrial arts chairmen. —P. John Williams. □

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Technology in Finishing God's Work

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evangelism. Educators must make sure that the young people under their tutelage receive good reading, writing, and speaking skills as well as the ability to use new methods of communication technology.

Conclusion

Despite the amazing advances in communication technology, unanswered questions still challenge and fascinate us. What will the future hold? As teachers, how can we prepare our students to meet the challenges that will confront them? The training of Adventist young people for the future must include an awareness of the impact of technology on their lives, and how and where they can use their skills to help finish God's work.

If the Lord sees fit to allow time to continue before His return, major changes are coming in the future of technology—changes for which we must prepare ourselves and our students. □

FOOTNOTES

[1] Edward Cornish, *The Study of the Future* (Washington, DC: World Future Society, 1977), p. 3.
[2] T. K. Derry and T. I. Williams, *A Short History of Technology* (New York: Oxford University Press, 1960), p. 216.
[3] M. Kranzberg and C. W. Pursell, Jr., *Technology in Western Civilization* (New York: Oxford University Press, 1967), vol. 1, p. 85.
[4] C. Singer, E. J. Holmyard, A. R. Hall, and T. I. Williams, *A History of Technology* (Oxford: Oxford University Press, 1958), vol 4, p. 660.
[5] D. S. L. Cardwell, *Turning Points in Western Technology* (New York: Science History Publications, 1972), p. 173.
J. Gregory and K. Mulligan, *The Patent Book* (New York: A & W Publishers, 1979), p. 71.
[6] J. W. Oliver, *History of American Technology* (New York: The Ronald Press Co., 1956), p. 433.
[7] T. I. Williams, *A History of Technology* (Oxford: Oxford University Press, 1978), vol. 7, p. 1255.
[8] M. Kranzberg and C. W. Pursell, Jr., *Technology in Western Civilization* (New York: Oxford University Press, 1967), vol. 2, p. 304.
[9] *Ibid.*, p. 307.

Technology for Elementary Students

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Local church members are usually glad to contribute items. An announcement in the church bulletin or school newsletter will often bring good results.

Conclusion

To ensure that each technology education activity yields maximum benefit to the learner, the following steps are recommended:

1. Select the activity in terms of students' capabilities, readiness, and interest as well as its potential value to the unit being studied.

2. See that the activity is adequately planned.

3. Instruct and direct the students through successful completion of the project.

4. Conduct such summarizing activities as necessary to ensure effective learning.[8]

Christian educators have the responsibility of providing a complete education for every student. Technology education activities in the elementary school can enhance basic learning experiences in a number of ways. By introducing technology education into the classroom, a teacher can offer an exciting, stimulating, and more effective educational experience. □

FOOTNOTES

[1] W. R. Miller, and Gardner Boyd, *Teaching Elementary Industrial Arts* (South Holland, IL: The Goodheart-Willcox Company, Inc., 1970), p. 11.
[2] Ginger Ketting, "The Benefits of Technology Education in the Elementary Classroom" (Unpublished paper prepared for a handiwork activity class at Walla Walla College, College Place, WA, 1985), p. 5.
[3] Miller and Boyd, p. 16.
[4] Mary Margaret Scobey, *Teaching Children About Technology* (Bloomington, IL: McKnight and McKnight Publishing Co., 1968), p. 12.
[5] Miller and Boyd, p. 10.
[6] Scobey, p. 11.
[7] *Ibid.*
[8] Miller and Boyd, p. 34.

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Technology—New Approaches

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training in all areas. This would be economically impossible. Each college offers some areas at varying levels of experience. For example, a person interested in studying