From the Editor

Literature Lost: The Case for Electronic Publishing in the Profession

The lack of a comprehensive research base underlying the new paradigm known as technology education is a common refrain in the profession. At the same time, much of the scholarship of our field is lost each year, simply because it has not systematically been archived in print. There are a host of reasons—some good, others not so good—why this is the case. Regardless, we now have an opportunity and an obligation to rescue this scholarship on behalf of the profession. To do so, we should take proactive measures *right now* to archive the important ideas of the field electronically. The technology and expertise are available, and this is a task worthy of our pursuit.

The quantity of the scholarship that we let fall through the cracks each year is substantial. While we manage to preserve some literature in the few journals published by and for technology education, these articles represent only a small portion of the breadth of scholarship in the field. The actual number of articles published in our research journals is exceedingly small. What becomes of other ideas and "new knowledge" that are not published in these few journals? By and large, the ideas are lost forever.

This loss includes not only the formal research of our profession, but also the creative work of our practitioners. While I remain convinced that some of the best instruction in all of education takes place in technology education laboratories, I am hard-pressed to locate documentation of this claim. Each year, more than fifty technology teachers and fifty programs are recognized by name for their outstanding work at the annual conference of the International Technology Education Association. Yet there is little published about these and other exemplary work in the field. Thus, the ideas are slow to disseminate, particularly beyond our profession. A handful of teachers and programs are illuminated each year in *The Technology Teacher*, but the rest are invisible beyond the walls of their laboratories.

Educational decision-makers are simply unaware of the work, aspirations, and potential of our field. It seems to me that the most effective way to disseminate our ideas to significant numbers outside our profession is through publication efforts. More specifically, I think we can and should be "reaching out" via electronic publication avenues.

What Are We Losing?

I am not suggesting that *everything* written be published. On the contrary, I think much of the work requires the careful attention of an editor, as is the case with existing professional publications in our field. Following are some

examples of scholarship that I think we are losing from the public record each year. The list is representative, rather than inclusive.

Masters theses. How many masters theses are written each year in our profession? Does anyone really know? What happens to them upon completion? While *Dissertation Abstracts International* provides a lasting record of doctoral work, the same cannot be said for the masters theses written by professionals in our field. They are not systematically catalogued, and are thus lost to the profession over time. Foster (1995) included masters theses in a bibliography of recent research in technology education. This was published as an electronic supplement to the JTE, and is an example of the sort of archiving we should be pursuing aggressively. Accessing the full text of master theses is still another problem, only partially solved by the relatively cumbersome interlibrary loan. Thus, we should go one step further. We should publish each masters thesis and doctoral dissertation electronically. Beginning January 1, 1997, *every* masters thesis and doctoral dissertation written at Virginia Tech will *only* be published electronically. The hard copy version will no longer exist on our campus or in our library. As a result, every thesis and dissertation completed at Virginia Tech will be immediately accessible electronically, worldwide. Our profession should implement a similar scheme.

Conference proceedings. Most conferences in our field do not publish a proceedings of any sort. This is unfortunate, as very few of the papers presented at our conferences ever make it into print. Moreover, the logistics of conferences are such that very few have the opportunity to attend any given presentation, regardless of the substance of the presentation. The annual conference of the International Technology Education Association used to publish a proceedings, but no longer does so. Regional conferences in our field such as the Mississippi Valley Conference and the Southeast Technology Education Association collect and disseminate papers among the participants, but those papers are not published in any traditional manner, and are therefore not accessible beyond the small number of participants who attend these meetings. The Jerusalem International Science and Technology Education Conference, convened in January 1996, decided not to publish a proceedings of the conference. These papers may have been as comprehensive a source of information about technology education worldwide as has ever been assembled. But, in the absence of a conference proceedings, much of the data is lost. Likewise, no proceedings were published for the Technology Education Issues Symposium which took place in Hawaii this past June. In a similar vein, many state technology education associations host annual conferences; to my knowledge, none publish a proceedings from the conference. Perhaps there *are* papers presented at these conferences that warrant electronic publication. Or, to offer a different twist, perhaps if proceedings from conferences *were* published, the quality of the presentations themselves would improve. This too would be a good trend for our profession.

Curriculum materials. It is currently fashionable in our profession to blame vendors for the poor curriculum materials that accompany the hardware they sell. Indeed, many believe that curriculum development is now primarily in the hands of vendors. Is it really the case that no one else is developing curriculum?

Or, is the problem really that of limited access to those curriculum materials that are being developed? Perhaps it is easier for schools to justify the expense of vendor-developed curricula—incorporated into the cost of the new modular technology systems—than to purchase curriculum materials outright from other sources, such as the Technology Education Bank, CITE, or commercial publishers. If every state technology education curriculum guide were available at no cost on the World Wide Web, along with activities teachers developed to augment the curriculum they purchased from vendors, would we still think of curriculum as vendor driven? Why not put all these guides on the Web? After all, these curriculum materials are generally provided as a service to teachers by the state department of education; they aren't developed for commercial purposes. The "Science, Technology & Society Curriculum Newsletter," edited and published by the Lehigh University STS Program is another example of the sort of curriculum documentation we might produce for technology education in electronic format.

Research findings/reports. Most faculty in higher education are involved in research of one type or another, yet relatively little of this work is published traditionally. Perhaps this is because much of the work doesn't "fit" the scope of the traditional publications in our field. Oftentimes, the work is developmental in nature (e.g. curriculum material) and therefore not specifically suited to our research journals. Much of it is too lengthy to appear in outlets such as *The Technology Teacher*. Given the general lack of funding and corresponding shortfall of research in the profession, it seems a shame that so much of it never sees the light of day. Let's put it on-line.

Why Haven't We Published More as a Profession?

There are any number of factors which contribute to the shortfall of literature in our field. One is the relatively small number of individuals who are interested and willing to take the time to prepare their ideas for formal publication. Another reason is the lack of commercial opportunity for publishers in our field. Our field simply isn't large enough to allow publishers to generate sufficient profits from professional papers. While academic publishers in other disciplines survive on upscale subscription fees charged to academic libraries (some journal subscriptions cost libraries *thousands* of dollars each year), that subscription structure really won't work in our field.

Another aspect of the problem is a lack of suitable publication outlets for the work being done in technology education. Researchers may find opportunity in two or three research journals in the field, and *The Technology Teacher* provides an opportunity for articles aimed at classroom teachers. But the type of work noted in the examples above may require different publication outlets.

The expense of printing is a primary impediment to publication of the literature in any field. I suspect most conferences in our field have not published a proceedings because the market is unable to support the expense. This doesn't necessarily mean there isn't worthwhile content to publish. It may simply mean we are not willing or able to subsidize traditional modes of publication for this body of work.

Another real expense is the time required to prepare materials for professional publication. Manuscripts must be solicited, reviewed, revised in accordance with the review, and formatted for publication. In other academic disciplines, this work is regularly attended to by professionals within the discipline. If publishing of any sort—traditional or electronic—is to be worthwhile in our field, we will need to have well-qualified professionals step forward to take on the associated editorial tasks.

What Steps Might We Take?

We continue to think conservatively about our literature. Despite the phenomenal success of electronic publishing avenues such as Gopher and more recently the World Wide Web, we continue to think first of "print" as the primary dissemination mode. The publish-it-on-paper mind-set needs to change. The advantages of economy and global access associated with electronic publication should cause us to think *first* about electronic dissemination for much our literature. While traditional publishing formats remain appropriate for a portion of our literature, a growing body—perhaps even the majority of our literature—might best be published electronically.

Scholars have turned to electronic sources as their *primary* means of accessing information, largely because the search capabilities of these electronic databases are far superior to those associated with hard-copy. Through a tool known as "First Search," for example, I am able to access 57 vast databases without cost from my office, including ERIC and *Dissertation Abstracts International*. Regardless of the database selected, I may perform author, subject, and title searches electronically through a consistent user interface. Many of these databases provide full-text documents on CD-ROM, and a growing number provide network access to these full-text documents. We too must take advantage of the opportunities that electronic publishing provides our field.

I believe the next step is for the profession to promote and support new electronic publishing initiatives. In some cases, this means providing electronic access to publications which are already in print, as is done, for example, with the JTE. In other cases, we should experiment with electronic means as the sole source of delivery. This would promote far wider dissemination of our literature, particularly *beyond* the ITEA membership. After all, it is the audience *outside* our profession we must convince if we are to remain a viable school subject in the future!

It is now a fairly simple and inexpensive task to convert electronic files on floppy disk to pages on the World Wide Web. Moreover, it is relatively easy to establish World Wide Web servers to provide access to the types of literature noted above. Any number of universities, state associations, and individuals in our profession have set up WWW servers that might become repositories for our electronic publications. Just recently, University Microforms International has begun to accept electronic submissions of both masters and doctoral theses. So the logistics of electronic publishing are not a problem.

The argument that people prefer hard copy to reading materials on-screen is moot. If the profession will support print, put the document in print. If not, make

the document accessible electronically. The fact is, electronic documents offer *both* options. If publications are put on-line in Adobe's portable document format (PDF files), the reader may print a version that is nearly identical to the original. Admittedly, the cover and binding won't be the same. Where cosmetics are critical, traditional print may in fact be a more appropriate medium, assuming the market will bear the cost.

While there are still a number of substantive issues to be addressed—for example, provision must be made to assure long-term access to the data—we should begin as soon as we can to pursue electronic publication as a means of archiving and disseminating the literature of our field. In the meantime, a great deal of good work continues to be lost forever.

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References

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