

Proposal for Lubbock ISD Elementary Technology Integration Reform: Facilitators and Technician-Aides

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This document was created with the input of many LISD elementary technologists, and shared via email with the District Technology Committee on 4-17-2001.

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1. OVERVIEW

Cisco Systems Chairman John P. Morgidge has observed that, “In the new information economy, lifelong learning and training are the foundation of most successful institutions.” As in the business world, we in the “education world” must find ways to model lifelong learning when it comes to technology use, and find effective ways to support that modeling throughout our school systems.

This document outlines a proposal to transform the present roles of Lubbock ISD classroom technology teachers into technology integration specialists, termed “facilitators.” This proposal would additionally utilize teacher aides, referred to as “technician-aides,” as lab supervisors, troubleshooters, and AR network managers for each campus.

This proposal initially outlines an “ideal” model, for which sufficient funding may not presently be available. None-the-less, the model is offered as a goal, and is followed by suggestions for ways the model could be partially funded if necessary. Suggestions for a phased implementation are also included. Consideration of the ideas and goals discussed in this document are essential if the teachers within Lubbock ISD are to acquire the technology-related knowledge and skills they are required to impart to their students by the Texas Education Agency.

2. BACKGROUND

The current instructional technology emphasis in Lubbock ISD places the responsibility for teaching the Texas Essential Knowledge and Skills for Technology Applications (TA-TEKS) to students in grades K-6 almost wholly on certified technology teachers,

assigned to each campus. Except in rare cases, these computer teachers cover conference periods for regular classroom teachers. Students visit the computer lab on different schedules, but usually only once or sometimes twice per week. Classroom teachers rarely accompany their classroom to the lab for instructional technology lessons, and on many campuses teachers never do.

The LISD Technology department is presently staffed with three people, who have done an admirable job mustering the human resources of our district to ensure the TA-TEKS are taught as effectively as possible. Their leadership in shepherding the successful multi-million dollar technology bond package in 1999-2000 was admirable. The constraints under which the technology department have worked are considerable, however, and most of these are residual traditions of the pre-1998 technology mandates of TEA. Before the TA-TEKS were law and keyboarding was the only instructional mandate at the elementary level, computer labs were reasonably used by principals as a means for covering teacher conferences. This heritage persists today, however, and is a significant obstacle to the instructional technology staff's goals of promoting effective teaching of the TA-TEKS.

As a result of this constraint and others, technology integration in regular LISD classrooms is not as consistent and well supported at present as it could be. The technology training program adapted by Lubbock ISD in Spring 2000 focuses primarily on the use of productivity tools included with the Microsoft Office software suite. While technology integration and the use of different application skills are supposed to be emphasized in training classes, the reality is that many teachers are focused exclusively on learning the right answers to pass the computer based competency examinations each is required to take. Only two courses in the entire list of teacher competency classes specifically focus on "technology integration in the classroom," and both of these are demo-only (no-hands on work for participants) and last just 3 hours each. Classes which are not "required competency classes" are poorly attended and some have been cancelled due to lack of interest. A predominantly "carrot based" approach has resulted in teachers who see no reason and have little motivation to attend non-competency technology workshops, even if the sessions focus on technology integration issues. A TAAS-like "just learn what you need to pass the test" mentality prevails for many teachers, and a genuine desire to learn technology skills so they can be integrated consistently in the regular classroom is not present on most campuses.

On a few campuses, generally thanks to Title I funding, part time or full time technology integration facilitators are on staff. These teachers work directly with classroom teachers to develop integrated lessons that correlate to the curriculum content and objectives being covered in the regular classroom. On some campuses, librarians are also involved in this technology integration process.

In Fall 2000, the Lubbock ISD District Education Improvement Council (DEIC) conducted a survey of all K-12 technologists. The survey examined "the duties assigned and the time allotted to do these duties" for campus technologists. The results revealed a widespread perception among elementary technologists that they are being asked to do

too much, with too little time, and too little support. Common present elementary technologist roles include:

1. Covering conference periods for classroom teachers
2. Developing lessons for students in each grade level for their weekly computer time (which meet the TA-TEKS)
3. Maintaining all AR computers in the building and AR data files (either stored on the network or separately on standalone computers)
4. Troubleshooting lab computers
5. Troubleshooting classroom computers for teachers
6. Maintaining the school network (basic Novell system administration, like usernames and passwords)
7. Maintaining a school website
8. Training faculty in computer use and preparing for district technology competency exams
9. Installing software in the lab, and maintaining existing software installations
10. Working with teachers to develop integrated lessons (especially in support of the 6th grade competency projects)
11. Locating educational websites and software resources correlated to classroom curriculum
12. Updating classroom and lab computers with new virus definition files and scan engine installations.
13. Advising campus CPOC and principal on proposed technology purchase orders
14. Other campus assigned duties, including TAAS tutoring

This long list highlights the unrealistic, and even overwhelming, nature of the Lubbock ISD elementary technologist job description at present. Each one is being asked to juggle too many things, and amidst all these responsibilities, the goal of technology integration in the classroom is not being reached.

3. THE NEED FOR TECHNOLOGY INTEGRATION

Before Fall 1998, technology integration in Texas classrooms was optional. The only technology mandate at the elementary level was for students to learn keyboarding skills. Starting that fall, however, teachers began to be required by state law to teach students the knowledge and skills outlined in the TA-TEKS. These skills are extensive, in some cases complex, and very specific. They are platform and software independent, however, and are grouped into K-2, 3-5, and 6-8 categories at the elementary level. In addition to the TA-TEKS, technology requirements are included in the content area TEKS for each grade level. Whether a designated “computer teacher” or not, all certified teachers in the state of Texas are now required to teach technology skills integrated alongside traditional curricular goals.

Prior to the state adoption of the TEKS, most school districts in the state of Texas utilized non-certified para-professionals, or teacher-aides, to supervise and run computer labs. This model was workable at that time because of the modest guidelines set forth by TEA

for student technology learning. Students were only required to learn keyboarding skills. Many schools purchased computer aided instruction (CAI) software programs that required minimal teacher intervention: students interacted with the computer by answering questions and receiving feedback, and left the lab. Few student “products” were created, and few “integrated lessons” were taught using lab resources because computer time was considered a “special” class like PE, Art, or Music, which did not require the presence of a classroom teacher. Many teacher conferences were covered by these para-professional lab supervisors on Lubbock ISD elementary campuses.

The vast array of skills outlined in the TA-TEKS necessitates a paradigm shift at several levels, however.

1. Technology integration within the regular curriculum is essential. The old model of teaching productivity software tools in isolation (word processing, spreadsheet, database, etc.) is insufficient to meet the requirements of both the TA-TEKS and content area TEKS at each grade level.
2. Technology instruction can no longer be left up to para-professional / teacher-aides. These non-certified employees can still assist district technology goals as lab supervisors in some situations, and as troubleshooters and network managers, but they cannot realistically be expected to teach the TA-TEKS independently or even collaborate effectively with classroom teachers to create integrated lessons. The heart of technology integration is instruction, not merely the supervision of students engaged in CAI as in the past. **Certified leadership in TA-TEKS instruction is essential and indeed non-negotiable if the instructional requirements of state law (content area TEKS and TA-TEKS) are to be met.** Failure to involve certified personnel in the development of integrated technology lessons is tantamount to a refusal to comply with state educational law, as outlined in the TEKS (<http://www.tea.state.tx.us/teks>).
3. The majority of certified teachers in regular classrooms in Lubbock ISD do not presently possess the requisite skills to teach the TA-TEKS to their students, or many of the technology skill mandates in their content area TEKS. Indeed, if asked to demonstrate proficiency on just the 8th grade level TA-TEKS, few regular classroom teachers would likely succeed in all areas. In 20 years, when technology has been around longer and is a more natural part of every teacher’s skill set, perhaps this will not be the case. **But today, since classroom teachers do not possess the requisite TA-TEKS skills themselves (and therefore cannot instruct students effectively in them), the employment of certified teacher facilitators is essential.** Whether assigned to one, two, or more campuses (perhaps as determined by budgetary restrictions), these certified, technology integration facilitators should be used to help classroom teachers effectively utilize technology in classroom instruction and thereby fulfill the requirements of the TA-TEKS.

Several districts throughout Texas have implemented technology integration plans similar to the one proposed in this document. Allen ISD calls their technology facilitators “instructional designers.” According to an academic consultant working with Allen ISD, “They (instructional designers) meet once a week with each other to plan, discuss and brainstorm as well as work on district wide projects or plans. For example, they had a Frequent Applier program in which teachers turned in examples of technology integration. They could submit as often as they wished. When they had a certain number of FA points, they were awarded some type of technology they could "purchase" for their use.”

She additionally elaborates that “The IDs in Allen had optional Mastery Mondays after school. They also met each Tuesday with each grade level team to identify ways to integrate technology. They were very available for "just in time" learning. In other words, they could teach the teachers what they needed to know to develop a technology-integrated curriculum project, etc.”

Other districts implementing similar plans include:

- Eanes ISD: EISD has a cadre of 12 Technology Mentor Teachers (TMTs)-- 1 per campus and 24 Campus Technology Integration Specialists -- two per campus). These lead teachers work hand in hand with the TMT's to develop integration models and coach regular classroom teachers in technology integration. Therefore, they have a team of 12 working with a team of 24 working with a 500 member faculty.*
- La Joya ISD uses 20 TMT's (again one per campus). Each campus hosts 5 Campus Technology Specialists who are regular classroom teachers. They work to mentor their colleagues. Here we have a team of 20 working with a team of 100 working with a faculty of 800.*

(* According to an educational technology consultant working with these districts.)

All of these districts recognize the necessity of having certified teachers familiar with technology integration assist fellow teachers in this process, using both classroom and lab computer resources. Technology can improve the design and delivery of learning methods, but requires carefully planned support for success. Lubbock ISD should recognize these necessities as well and adapt a similar model of technology integration support.

4. TECHNOLOGIST ROLES

Under this proposed model, each elementary campus would be assigned a full-time para-professional or teacher-aide, referred to as a “**technician-aide**.” The responsibilities of the technician-aide would include:

1. Troubleshooting computers in the labs and classrooms

2. Maintaining campus AR computers and data sets (either stored on the network or separately on standalone computers), and backing up AR data sets
3. Supervising students working in the computer lab to cover teacher conference periods
4. Performing basic network administration tasks (Novell username / password management)

At least one hour of the technician-aide's day must be left open for troubleshooting and AR support needs. Technician-aides are expected to only provide basic troubleshooting support assistance for teachers and on lab computers. Currently employed information systems technicians will be contacted by the para-professional when needed (tech support requirements exceed the aide's knowledge / skills).

Because the role of the technician-aide is fundamentally more technical rather than instructional, training of these para-professionals will be organized and conducted by the Lubbock ISD Information Systems Department. These technician-aides will be supervised and evaluated by the Information Systems Department as well.

Certified campus technology facilitators would ideally be assigned to each campus, or at most to two different campuses. The primary responsibility of these teachers would be to facilitate technology integration with regular classroom teachers. Their responsibilities would include:

1. Helping teachers in grades 2-6 develop integrated technology lessons for the lab
2. Helping teachers in grades K-6 utilize classroom computers to aid in direct instruction
3. Helping teachers in grades K-6 utilize classroom computers in integrated technology lessons
4. Maintaining the school website
5. Performing basic network administration tasks (Novell username / password management)
6. Teaching special technology-focused classes (like technology clubs or school newspaper classes) as permitted by campus principals
7. Completing technology lesson evaluation worksheets for lessons developed with classroom teachers, and submitting completed forms to both campus principals for PDAS documentation and quadrant facilitators for district aggregation.

Certified quadrant technology facilitators would be assigned (for a total of 4.) Their responsibilities (within their quadrant) would include:

1. Train campus technology integration facilitators in all aspects of their job.
2. Supervising and assisting campus technology facilitators as needed to fulfill their job requirements.
3. Locating existing and creating original technology-infused lessons for elementary teacher and facilitator use

4. Creating, maintaining, and updating a browser searchable, district intranet database resource including these technology-infused lessons (including objectives, descriptions, links, downloadable templates, resources files, etc.)
5. Assisting campus facilitators, principals, and CPOCs in technology purchasing requests (esp. software selection).
6. Conducting regular staff development training for district personnel on technology integration topics. These courses could be offered only for personnel within a particular campus, quadrant, or open to all district personnel, as desired.

One **district technology integration facilitator supervisor** would be assigned to work with the quadrant technology facilitators, and serve as the team leader for all district technology facilitators (both quadrant and campus). His/Her responsibilities would include:

1. Work with quadrant technology integration facilitators to develop a training program for campus facilitators.
2. Supervising and conducting campus facilitator training, in conjunction with quadrant technology facilitators. Training will include summer training and ongoing training throughout the school year as required.
3. Assisting quadrant technology facilitators as required with all of their responsibilities.
4. Maintaining documentation (from reports submitted to quadrant technology facilitators) of integrated technology lessons within campuses and quadrants.
5. Maintaining and supervising a technology integration subsection of the district website, including the district lesson database created with the quadrant facilitators.

Although it may sound administratively tempting and even appropriate to assign the district technology director the additional duties of this district facilitator supervisor, such a decision would overburden an already heavily laden plate of responsibilities and significantly reduce the potential effectiveness of this entire program. Both the quadrant level and district level supervisor positions should be filled by teachers who have recently been in the classroom or computer lab full time. Teachers who have already demonstrated their competency in serving as technology facilitators, and helping teachers develop integrated technology lessons aligned to curriculum, should be selected for these posts.

5. LIBRARIAN ROLES

Lubbock ISD Librarians will facilitate this technology integration process by cooperating with campus facilitators to develop integrated lessons with teachers. The librarian and campus facilitator will comprise the campus “media literacy team,” and will work in tandem to assure that students as well as teachers make optimal use of “traditional” library as well as electronic resources.

It is imperative that certified campus technology facilitators be utilized in addition to librarians. Some districts in the state are attempting to combine these roles. While

librarians can potentially offer a great deal in helping classroom teachers meet the TA-TEKS requirements with students, there are simply too many roles between campus librarians and technology facilitators to merge these positions. The high level of job performance quality demanded by both positions requires their separation. The collaboration of these two individuals, however, on a “media literacy team,” can be a substantial benefit to both teachers and student learning if properly performed.

If these positions were merged, the job would be just as or even more overwhelming than the job is for current campus technologists. This situation is not in the best interests of the students we serve, or of the teachers with whom we serve.

6. PLANNING TIME

Campus principals will be required to provide additional, “during regular school hours” planning time for teachers to work with the media literacy team. These planning sessions should precede AND follow integrated lab lessons, for adequate preparation as well as evaluation. Technician-aides can cover classes during these times to permit adequate planning and lesson preparation.

To provide additional assistance to classroom teachers planning technology projects, partnerships will be pursued with Texas Tech University, Waylon Baptist University, and other regional education institutions offering teacher-certification courses. Students in these programs will collaborate with a K-12 classroom teacher during a semester and assist in locating internet resources for projects, designing lesson templates, etc. This collaboration will be invaluable to already busy classroom teachers, and also enable teachers-in-training to obtain experience and insight in classroom technology integration.

7. PLACEMENT OF COMPUTERS: LABS VERSUS CLASSROOMS

Some research does support the placement of computers in the regular classroom rather than in a lab setting. These opinions do not justify an immediate and wholesale abandonment of the lab computing model in Lubbock ISD, however. Labs retain significant utility for whole-class lessons and for teacher training workshops. As wireless computers become more affordable, reliable, and available, computing resources may increasingly be allocated to classrooms rather than labs.

For the present time, however, computer lab facilities should continue to be supported. Teachers exhibiting motivation (by attending training) and demonstrating success in classroom technology integration should be given opportunities to earn / obtain additional classroom computers for student use, which will further bolster technology integration efforts. A program similar to the Allen ISD “frequent applier” program might be considered and implemented to meet this goal.

8. DISTRICT TECHNOLOGY TRAINING

In addition to the facilitator training previously described, regular district technology training should be offered in both campus computer lab facilities and at central office and ATC facilities. Additional courses should be added to the menu of teacher competency requirements. Campus, Quadrant, and District facilitators will develop these additional courses, and quadrant/district facilitators will offer these workshops on a regular basis.

All district technology staff members will endeavor to cultivate a spirit of high motivation among LISD staff members for technology integration. Those showing initiative and demonstrating success in the technology integration process should be rewarded with additional equipment and resources, to further spur efforts at effective TA-TEKS instruction and integration.

Lubbock ISD should make a concerted effort to establish a collaborative technology staff development initiative with the other K-16 institutions in the Lubbock area. A wealth of technology integration expertise resides in the educational organizations throughout our community, and these should logically be pooled for shared benefit. A federal or state grant could be obtained to further these collaborative efforts. Just as no teacher should consider herself an island, so too should the school district look to other educational entities around us for support and assistance, particularly in this rapidly changing field of educational technology.

9. PHASED IMPLEMENTATION

Under the present budgetary crisis in Lubbock ISD, full funding for this proposal is not likely. Other areas of district expense should be considered first for cutting before technology, however, including the travel budgets for central office administrators. Student learning should be the paramount consideration in cutting programs, and few district programs are as important both to the vocational futures of our graduates and to the public image of our district as technology. Fully funding this proposal, even during a time of financial hardship, would send a positive, clear signal to the Lubbock community about the visionary commitment of Lubbock ISD to the future of its students.

If this proposal must be scaled down, campus facilitators could cover 2, 3, or even 4 elementary schools. This certainly is not a desirable model, but a shared facilitator would be preferable to not having a certified technology integration facilitator at all.

Depending on how campus administrators can schedule teacher conference times, technician-aides could also potentially share responsibility for multiple campuses. Under this model, these shared campuses should all be within the same LISD quadrant.

During the 2001-2002 school year, 3 elementary campuses are expected to have technician-aides assigned full-time to them, without an additional certified technology teacher. These campuses can be served by the soon-to-be-hired "Technology Demonstration Teacher" for the district. This Demo teacher can serve as a full time technology facilitator for these three campuses, working with classroom teachers on each

campus to develop integrated computer lessons for their classrooms and the lab as outlined in this proposal.

During the summer of 2001, present LISD technologists with experience facilitating technology integration with classroom teachers should be paid to begin creating the district lesson template database (described previously under Section 4: Technologist Roles). This process of consolidating previously used/tested lesson plans integrating technology will be essential for the Demo Teacher / Campus Technology Facilitator to be successful in the 2001-2002 school year. Additionally, a scope and sequence for elementary technology labs should be created for use by technologists (and technologist-aides) in the 2001-2002 school year. This scope and sequence will focus on keyboarding in the first six weeks, and cover the TA-TEKS appropriate for each grade level during the remainder of the year.

During 2001-2002, elementary technologists without an assigned technologist-aide on their campus will carry on with their current roles / responsibilities with one exception. Campus principals will be strongly encouraged to reschedule some teacher conferences each week (previously covered by the campus technologist,) to permit "open lab" time for classroom teacher use. Campus technologists will work with classroom teachers as facilitators, using these times as available, to develop integrated technology lessons for the regular classroom and/or the computer lab.

Preceding integrated technology projects (as discussed in Section 6), classroom teachers should be provided additional planning time to meet with the campus technologist. This planning time should be provided during school hours (before 3:15). This planning time is essential for project success. A district provided planning sheet will be completed by the classroom teacher and technologist / facilitator, which will include specific assigned roles and deadlines for each participating educator.

Integrated technology lessons will either be taught by the classroom teacher in his/her own classroom (using projection devices if needed), or in the computer lab. The technologist / facilitator will assist the classroom teacher and may serve initially as a demonstration teacher. The goal will be for the classroom teacher to assume the lead role in the lesson instruction, however, with the facilitator playing a support / backup role.

To encourage classroom teachers to participate in this process, principals will request that campus technologists (serving as part-time facilitators) submit a copy of the "technology lesson evaluation worksheets" (discussed in Section 4) to the principal for filing in each teacher's PDAS file following project completion. It will be understood that because most campus technologists will only be part-time facilitators, the time available for facilitating classroom and lab technology integration in the 2001-2002 school year will be limited.

Campus technologists will be directed to begin keeping electronic records of the lessons they help develop as part-time facilitators. These lessons can potentially be shared in the future for inclusion in the district's lesson template database. They also can be used by

the technologists in their digital portfolio, and be considered as part of the application process for campus facilitators in 2002-2003.

In 2002-2003, the district technology facilitator supervisor, quadrant facilitator supervisors (4), and campus technology facilitators will be hired. Current LISD technologists, librarians, along with regular classroom teachers, will be eligible to apply for these positions.

10. CONCLUSIONS

Our present financial situation poses tough challenges, but also an opportunity like the one described here to reinvent ourselves for changed conditions. The public outcry within the Lubbock community over the proposal to gradually phase out all certified technology teachers and replace them with uncertified para-professionals is well justified. The requirements of the TA-TEKS and the technology literacy deficits of our current teacher corps necessitate certified facilitators, in the roles described within this proposal.

This process of reinventing our district's focus in educational technology will be fraught with difficulty, but it is important that all stakeholders have an opportunity to offer input. As noted in the article "*Technology Enabling School Reform*" in The Journal (October 2000), "This is a far greater challenge for a school than creating software, as it requires that the school pool its collective intelligence to come up with policies and practices that bring faculty together around a shared vision of learning. We know that this can be a daunting task for schools, although confronting it seems to be inevitable as schools invest more of their resources in technology. *Not to do so increases the likelihood that technology will be underutilized, or at best be used to automate past practice instead of enabling meaningful reform.*"

As Alan November, the keynote speaker of our Technology Summit several years ago challenges us, educators in our classrooms should use technology to infomate: expand the walls of the classroom and provide learning experiences impossible without these new tools. We should not merely automate past practices. Our kids deserve no less, regardless of our financial condition. Will we prepare students for our past, or their future? Their future will certainly include intimate and thorough working relationships with technology, and this instructional requirement must be placed in the hands of certified professionals—teachers, who can help other teachers rise to the technology infused challenges before us all.