DOCUMENT RESUME

ED 477 248 CE 084 971

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TITLE High Tech Educators Network Evaluation.

PUB DATE 2001-08-00

NOTE 36p.; Produced by Texas University, Ray Marshall Center for the Study of Human Resources. Supported by Capital Area Training Foundation.

CONTRACT UTA01-444

AVAILABLE FROM Ray Marshall Center for the Study of Human Resources, University of Texas at Austin, 3001 Lake Austin Blvd., Suite 3.200, Austin, Texas 78703. Tel: 512-471-7891; Fax: 512-471-0585; Web site: http://www.utexas.edu/research/cshr/pubs/workforce.html.

PUB TYPE Reports - Evaluative (142)

EDRS PRICE EDRS Price MF01/PC02 Plus Postage.

DESCRIPTORS Education Work Relationship; Elementary Secondary Education; Formative Evaluation; *Internship Programs; Partnerships in Education; *Professional Continuing Education; Program Effectiveness; Program Evaluation; School Business Relationship; *Seminars; Summer Programs; Teacher Attitudes; Teacher Improvement; *Teacher Workshops; Teaching Methods; Technological Advancement; *Technology Education; *Work Experience Programs

IDENTIFIERS Texas

ABSTRACT

A process evaluation was conducted to assess the High Tech Educators Network's (HTEN's) activities. Four basic components to the evaluation approach were documentation review, program logic model, written survey, and participant interviews. The model mapped the basic goals and objectives, assumptions, activities, outcome expectations, and collaborating entities. The first step in the evaluation was development of a clear understanding of these design features of HTEN: goals and objectives, activities and services, partnerships/collaborative configurations, teacher participation, and resources and resource allocation patterns. Survey results indicated the summer educator internships (SEIs) helped tie the world of work to the classroom experience. Educators responded positively to questions regarding the influence of the work-based experience upon their teaching environment. However, their experience with internship procedures was not as favorable. Followup interviews indicated that HTEN helped increase contacts between educators/industry and provided information and contextual experiences that may influence school-based learning processes. Continuing challenges were teacher recruitment, industry support, and sustainability. (Appendixes include a chart showing educator participation pattern in HTEN-sponsored activities and instruments.) (YLB)

High Tech Educators Network Evaluation

August 2001

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This report was prepared with funds provided through Contract #UTA01-444 from the Capital Area Training Foundation to the Ray Marshall Center for the Study of Human Resources at The University of Texas at Austin. The views expressed here are those of the authors and do not represent the positions of the funding agencies or of The University.

Section One

Introduction

Researchers at the Ray Marshall Center for the Study of Human Resources, a research unit of the LBJ School of Public Affairs at The University of Texas-Austin, prepared this assessment of the implementation and preliminary outcomes of activities supported by the High Tech Educators Network (HTEN). HTEN is a professional development initiative of the Capital Area Training Foundation (CATF) supported by a Title VI SEA grant awarded by the Texas Education Agency to CATF. The grant enabled HTEN/CATF to initiate and support ongoing activities among several collaborating entities in the central Texas region designed to foster mutual understanding between educators and industry.

HTEN's goal is to create opportunities for deepening the use of technology in the classroom and to stimulate curriculum development that integrates applied problem-solving using industry-based examples. Ultimately, it is presumed that these classroom approaches will enhance science and math skills of students, enabling them to pursue technology-related careers and compete more successfully in an information-based economy. This report assesses the accomplishments, constraints and prospects of the initiative to-date.

Methods. Researchers at the Ray Marshall Center conducted a process evaluation to assess the HTEN's activities. Researchers worked closely with CATF's Professional Development Director, who retains lead responsibility for HTEN, to create an evaluation approach that provides a basis for improving sponsored activities and their outcomes. There are four basic components to the evaluation approach: documentation review, a program logic model, a written survey and participant interviews.

Throughout the entire evaluation period, we requested and reviewed HTEN program documentation, including the proposed work statement in the grant application, quarterly management reports, budgets, contact information and activity rosters as a basis for the assessment. Documentation provided a basis for understanding the scope and scale of activities planned and those actually implemented by the HTEN initiative.

Next, we designed a program logic model that mapped the basic goals and objectives, assumptions, activities, outcome expectations and collaborating entities. (Figure One). The model helps to make grant activities transparent and provides a basis for evaluation: both internal, self-evaluation for management and staff of HTEN, as well as independent evaluation.[1] We chose this tool because—as the Kellogg Foundation's *Evaluation*

[1] Program logic models require an iterative process that supports short-term feedback on issues during the design phase of a project and provides a basis for helpful operational adjustments during implementation. Program logic models take different forms and levels of detail, depending on the project's complexity and emphasis regarding supportive theories, goals and objectives, implementation strategies, and activities.

Handbook and other leading evaluators have suggested—in recent years as social initiatives have become more comprehensive and their goals and objectives more centered around building systems and capacity for service delivery, evaluations have shifted from an exclusive focus on accountability, i.e., "proving it works," to quality, i.e., "working to improve" (Kellogg Foundation, 1998; Connell et al., 1995).

Next, in conjunction with HTEN we conducted a brief written survey of individuals who participated in the Summer Educator Internship (SEI) project. SEI is a collaborative effort of CATF and several regional, public entities. The SEI effort in central Texas had been ongoing prior to the HTEN award.

We followed this with structured and informal, in-person and telephone interviews with HTEN collaborators. Educators who participated in summer internships, industry-led seminars and summer industry-led workshops, which were supported in part by the HTEN, were the principal target group for interviews. We attempted to interview a stratified sample that included individuals who had participated in only one type of activity (e.g., workshop, seminar or internship only) and individuals who had participated in a combination of activities (e.g., seminars and internship or seminars and workshops).[2] The secondary target group includes staff of the HTEN/CATF, school district representatives and employers, industry mentors, and individuals with associated organizations. We spoke with a total of thirteen educators and seven employers/staff persons of collaborating entities.

We combined these multiple human perspectives and data sources to formulate observations regarding the accomplishments, constraints and prospects for HTEN in the central Texas region.

Timeframes. The report covers the HTEN operational phase from September 2000 through August 2001. We conducted evaluation primarily during the period May through August 2001, but had been discussing design features and data collection issues, as well as attending sponsored events since February 2001.

Organization of Report. The following section describes design and implementation of the key features of HTEN. Section Three presents the findings from the Summer Educator Intern Survey and the interviews with educators who participated in HTEN-sponsored activities. The final Section Four presents observations and recommendations drawn from the implementation and process analysis, the survey and the participant interview results, as well as the less formal contacts with business representatives and staff of collaborating entities.

[2] HTEN and its partners did not allow individuals to participate in both the SEI and the summer workshops in the same year.)

Figure One
High Tech Educators Network Project Logic Model

GOALS	
• Increase dialogue between educators and industry.	• Provide information and contextual experiences that educators may adapt for the classroom.

ASSUMPTIONS	STRATEGIES/ACTIVITIES	OUTCOMES
Educators and industry can effectively collaborate to enhance math and science skills that increase student capacity to advance through careers in the high tech sector.	• Industry-led seminars • Summer teacher internships • Electronic collaborative • Industry-based summer workshops	• Increased knowledge and awareness of educators of work-based skills. • Continuous dialogue between educators and industry • Curriculum development • Peer extensions of industry-based experiences and curriculum.

PRIMARY COLLABORATORS	
Educators	Capital Area Schools and ISDs
Capital Area Training Foundation	Industry Sector Steering Committees
Capital Area School-to-Career Partnership	Austin Regional Industry Education System (ARIES) Alliance
Rural Capital Area School-to-Career Partnership	Austin Area Semiconductor Executive Council/ Destination Digital
Capital Area Tech Prep Consortium	Industry Firms

OBJECTIVE	MEASURE	SOURCE
• Increased knowledge and awareness of educators of work-based skills.	• Educator perception of experiences	• Interview • Survey
• Continuous dialogue between educators and industry	• Educator and Industry perception of depth and sustainability of linkages	• Interview • Survey
• Curriculum development	• Lesson plans based on industry experience	• Interview • Survey
• Peer extensions of industry-based experiences and curriculum.	• Educator perception of experiences	• Interview • Survey

Section Two

Key Features of the HTEN

As a first step in the evaluation, researchers developed a clear understanding of the design features of HTEN. These included:

- Goals and Objectives
- Activities and Services
- Partnerships/ Collaborative Configurations
- Teacher Participation
- Resources and Resource Allocation Patterns

Observations in each of these areas provided a basis for assisting the HTEN to enhance its effectiveness. HTEN expressed particular interest regarding suggestions for improving teacher participation, and introducing applied learning experience and the use of technology in school-based curricula.

Goals and Objectives. HTEN had two broad goals, namely to:

1. Increase dialogue between educators and industry.
2. Provide information and contextual experiences that educators may adapt for the classroom.

To attain these goals HTEN pursued four objectives. Through supported activities HTEN strove to:

1. Increase the knowledge and awareness of educators concerning work-based skills and their relevance to the classroom.
2. Create opportunities to initiate and continue dialogue between educators and industry
3. Promote work-based experiences that educators could use to develop curriculum
4. Encourage peer extensions of industry-based experiences and curriculum.

Activities and Services. To attain these objectives, HTEN promoted four types of activity: industry-led seminars; summer educator internships; an electronic collaborative; and industry-based summer workshops. Across these activities HTEN had a gross target participation rate of 20 firms, 10 high schools, and 50-75 high school instructors.

Industry-led Seminars. HTEN helped to initiate and facilitate a series of nine industry-led seminars for educators between September and May 2001. Attendance rosters indicate that at least 111 individuals participated in these events and that each individual attended two events on average. High tech firms or industry cluster supported these seminars which occurred approximately once per month in the early evening. Each dealt with a specific aspect of the advanced technology sector's status and prospects regarding enhanced linkages with education. Hosts included Apple, IBM, Dell, Hire.com, Knowbility.com, 4empower.com, and other members of the regional advance technology sector.

Summer Educator Internships. HTEN also provided support and resources for the Summer Educator Internship initiative that has placed educators with local firms for the past two years. During the summer 2001, 55 teachers representing 13 independent school districts in the central Texas region accepted positions with 32 employers. Educators received a $3000 stipend for the four-week placements. Industry contributed $39,500 towards these stipends and local collaborators (see below) contributed the remainder through publicly available funds.

The Director of Professional Development at CATF helped to coordinate placements through the industry sector steering committees (ISSCs) that CATF has been developing with regional partners for the last several years.[3] As a result, placements are not confined to the high tech sector, but rather spread across several industry sectors. Each placement does present opportunities to integrate work-based experiences into classroom presentations, and almost all provide exposure to the use of advanced technology in the workplace. Although only six firms are recognizably "high tech," Apple Computers Inc. alone accounted for 14 placements.

With 24 interns, Round Rock ISD dominated teacher placements. Austin ISD, by far the largest ISD in the area, produced the next highest number of interns (5), followed by Bastrop, Giddings, and Del Valle ISDs (4 each).

Electronic Collaborative. Through its electronic collaborative component, HTEN proposed to make available new curriculum delivery methods for teachers and create an "online" community of educators using technology provided by 4empowerment.com. HTEN also developed electronic mail lists to market events among regional educators and employers.

Industry-based Summer Workshops. Advanced Micro Devices (AMD) and Samsung, Inc. each sponsored three-day summer workshops focusing on the use of math and science in the advanced technology sector. In June 2001, twenty-four educators participated in AMD's institute. In August 2001, twenty more educators participated in the summer workshop sponsored by Samsung. Instructors received a $300 stipend upon completion of a lesson plan based on their applied experience. HTEN/CATF helped recruit educators, collected the lesson plans and administered the stipends. HTEN also

[3] CATF has been a nationally recognized as a leader in the field of sectoral approaches to youth career development. See Glover, 1996.

developed a template lesson plan that encouraged educators to identify an Industry Skill Standard and a Texas Essential Knowledge and Skills (TEKS) target that were addressed by the lesson, the lesson's learning objective and an assessment method. HTEN plans to make exemplary lesson plans available electronically.

Partnerships/ Collaborative Configurations. With the assistance provided under the HTEN grant, the CATF has continued to pursue the regional collaborative and industry-cluster approaches that CATF has supported since its inception (Niles, 1999). The HTEN activities identified above made use of these extensive networks and partnerships developed in recent years under publicly-funded School-to-Career and Tech Prep programs in Central Texas and the private sector-based Greater Capital Area Chamber of Commerce. Primary public partners include the Capital Area Education and Career Partnership (CAECP), the Rural Capital Area School-to-Career Partnership (RCSTCP), the Capital Area Tech Prep Consortium, the Rural Capital Area Workforce Development Board, and the City of Austin Workforce Development Coordinators Office, as well as almost all of the Independent School Districts in central Texas.

The key ingredients of these efforts are the educators themselves and work-based opportunities provided by area employers. Although CATF is aligned with the health care, automotive technology and the hospitality industry clusters, HTEN targets primarily the information technology and semi-conductor sector associations and firms. As such, the Austin Regional Industry Education System (ARIES) Alliance and the Austin Area Semiconductor Executive Council (and its "Destination Digital" initiative) are the primary advanced technology associations with whom HTEN is partnering. These umbrella organizations provide access to area firms including AMD, Applied Materials, Cypress, Kinetics, Motorola, Samsung Austin Semiconductor, Tokyo Electron America, Apple Computer, IBM, Dell, Hire.com, Knowbility.com, 4empower.com, and other members of the regional advanced technology sector.

Teacher Participation. As mentioned above, educators themselves are a principal target group of the HTEN. According to HTEN activity rosters, some 203 individuals—mostly educators—were associated with HTEN supported activities. (See Table One, Appendix A). One hundred eleven individuals attended one or more of the industry-led seminars, 55 individuals participated in the SEI project and 44 individuals participated in the summer workshops at AMD and Samsung.

There is little apparent continuity or crossover between these activities. For example, only four individuals among the 111 who participated in seminars also participated as one of the 55 summer interns. Eight of these 111 individuals were among the 44 summer workshop attendees. However, those who participated in seminars and one of the other activities appear to have attended more seminars than the average attendee. This might suggest a core group of educators involved in the HTEN.

Resources and Resource Allocation Patterns. The TEA grant provided HTEN $100,000 for proposed activities.[4] According to the original and modified budgets, most of this was dedicated to CATF staff salaries and benefits ($60,673), nearly 85 percent of which was for the position of Program Manager. Almost $11,000 was allocated to teacher stipends. CATF dedicated $5000 to the SEI initiative for coordinator salaries, and an equal amount for evaluation services. The largest remaining single item was staff travel ($7000). The remainder was allocated to office supplies, conferences, telephones and other small line items.

[4] These figures are extracted from the *Texas Education Agency Standard Application System Title VI SEA* contract for project number 0685011210000700 between CATF and TEA as modified on May 22, 2001, and supplemented by the CATF Budget Worksheet, *TEA Spreadsheet Modification*, created on May 5, 2001.

Section Three

Survey and Interview Results

Although the response number is small for the SEI survey and only a handful of all of the participants were interviewed, the data we collected does provide a very preliminary indication of what the High Tech Educator Network may look like and how its activities are perceived.

Survey Results

The intent behind the SEI written survey was to capture quick indicators of the interns' experiences and their usefulness in the classroom. (Appendix A contains the SEI Survey). These findings were to provide a basis for more in-depth questioning during the subsequent telephone and face-to-face interviews. We prepared the survey in June and July, incorporating comments from HTEN/CATF staff as provided. HTEN agreed to distribute the survey as part of the certificate and other handouts in a packet that each intern would receive at the SEI Recognition Ceremony held on July 17, 2001. This procedure was not followed. After objections that arose to the survey by SEI partners were overcome, an e-mail version that each could return by mail or fax was sent on August 3, 2001.[5] Among the fifty-five educators who received internships, only fourteen completed the survey instrument prepared by the evaluators and distributed by HTEN.[6]

Participant Demographics. The average age of the respondents ranged from 26 to 55 years of age with a median age of 44 years. Most of these were white (12 of 13 respondents) and female (11 of 14 respondents).

Educational Features. Educators came from six school districts; half (7 of 14) came from Round Rock Independent School District. Eight taught at the high school level (grades 9 through 12); four taught at the middle school level (grades 6 through 8); and 2 taught at the primary level (grades 3 through 5). Their years of teaching experience ranged from 1 to 32 years; 8.5 years was the median. Only four of these interns taught math or science (3 computer science, 1 math); the remainder taught languages (4), social studies (2), or theatre, athletic training, business and special service (1 each).

Placements. Nearly half of the respondents were placed with high tech firms (3 each at Dell and Apple), The remainder of the respondents were distributed across several sectors: two were placed in the public or quasi-public sector related to natural resources (1 each at Texas Parks and Wildlife and the Lower Colorado River Authority); two were

[5] RCSTC Program staff, who recruited and placed the majority of the interns, had surveyed those interns independently and could recall no prior notification that HTEN intended to survey the interns as well. They objected to a second survey. Eventually, when it became clear that RCSTCP has no plans to tabulate their survey results, permission was granted to Ray Marshall Center researchers to survey the interns.

[6] That the original distribution strategy was corrupted accounts in part for the low response rate. We include results here only as very crude indicator of the interns' experiences and perceptions.

placed in the health care sector; two in marketing and advertising; and two in the hospitality sector.

Experience and Perceptions. The survey asked interns several questions regarding their experiences and perceptions of the SEI program. Clearly the internships help to tie the world of work to the classroom experience.

When asked:
Has the summer educator internship increased your awareness of the required skills in an advanced technology work place?

Twelve responded "Yes" and 2 responded "No."

A related question asked:
Has the internship helped you to integrate advanced technology work skills with classroom instructional methods?

Ten responded "Yes" and 3 responded "No," and one responded "Don't Know."

Educators responded positively to several other questions regarding the influence of the work-based experience upon their teaching environment.

- All of the educators had prepared lesson plans that they intended to use in the classroom.
- Thirteen educators anticipated sharing their lesson plans with colleagues; one educator was unsure.
- Every one of the interns replied that they would recommend the experience to their teaching colleagues.

Their experience with internship procedures was not as favorable. Four of the 14 respondents encountered difficulties with the internship application and placement procedures. Four respondents also indicated that the stipend for the summer internship did not adequately compensate them for their efforts.

Lastly, and perhaps most significantly for the HTEN, each of the 14 respondents indicated that they considered themselves "part of an emerging network of individuals striving to build closer relations between industry and education in the central Texas area." Twelve of them planned to stay in contact with individuals and firms who hosted their internship; one was unsure and one didn't respond.

Recommendations. Not surprisingly, given that survey respondents indicated some difficulties with application and placement procedures, most of the recommendations they offered dealt with these topics. Regarding applications and placements, several educators indicated that the SEI could do a better job marketing internships to educators, simplifying the application process and assuring that the placements more closely related to their teaching areas. A few respondents also found uncertainties regarding the

payment amount and the payment date troublesome. One suggested reimbursement for travel expenses. A few also expressed the need for clarity and technical assistance regarding lesson plan development.

Interview Results

Researchers conducted in-person and telephone interviews with thirteen educators to delve deeper into responses and recommendation provided by survey respondents. We expanded the basis for understanding the scope of HTEN's influence on educators' experiences, perceptions and recommendations by including in the sample educators who had participated in the workshops, internships and/or seminars either solely or in combination. Across the sample, six had summer internships, nine had attended evening seminars and six had participated in summer workshops. Seven educators had participated in more than one type of activity: four had attended seminars and workshops; two had attended internship and seminars; one had attended all three.[7] Below, we present some general results across all three activities, followed by experiences and perceptions regarding specific activities

General Results. Follow-up interviews with thirteen educators indicate that the HTEN helped to increase contacts between educators/industry and provided information and contextual experiences that may influence school-based learning processes.

Marketing. Educator responses indicate that HTEN/CATF received more recognition for *directly* marketing seminars and workshops than internships. Four of the six educators who had been interns heard about the opportunity to do so through their school district.[8] Only one had received notice from CATF by e-mail and the remainder from other interns. Alternatively, six of the nine seminar attendees and four of the six workshop attendees received notification from CATF. Only five of the thirteen educators who we interviewed had heard of the High Tech Educators Network as a special initiative of CATF prior to our contacting them.

Network-building. Almost universally, educators felt that they were " part of an emerging network of individuals striving to build closer relations between industry and education in the central Texas area." Only one educator was unsure whether such a network was gaining momentum. Most felt that the catalyst behind this was the growing recognition of the important relationship between education and work, that participation increased their ability to help students prepare for rewarding careers in industry. Three educators specifically credited the CATF for its work and dedication to this objective. Five had had no "formal or regular contact with the high tech sector" prior to their

[7] The central Texas collaborators usually do not permit workshop and internship participation during the same summer.

[8] Three of these can be attributed to the Director of School-to-Career and Technology Education at Round Rock ISD.

participation in an HTEN-sponsored activity. Nine educators had kept in contact with individuals at firms that they had met during the seminars, workshops or internship.

Despite these positive developments, the strength of the emergent network is questionable. Only seven educators felt that the "relations between employers and educators in the central Texas area is changing in any significant way." Three indicated that it wasn't and three didn't know.

Peer Exchange. Twelve of the thirteen educators had personally recommended participation in HTEN-sponsored activities to their teaching colleagues. The other simply hadn't spoken to anyone about his or her participation. Ten educators indicated that their teaching colleagues were interested in their internship/workshop/seminar experiences and information.

Bridging School and Work. Almost all of the educators thought that their participation had helped them to integrate advanced technology skills and knowledge requirements with classroom instructional methods. Among the benefits articulated regarding closer contact between educators and business are:

- Creating opportunities in the class room for real life applications;
- Enhanced knowledge of workplace skills, practices and expectations;
- Increased capacity to provide student career guidance; and
- Personal growth and motivation to be better teachers.

Recommendations. The overall recommendation of those educators interviewed is to continue and expand the exchanges between business and the classroom. Specifically, they would like to see more business presence in the classroom and more student and teacher access to the workplace. This could be achieved in several ways:

- Develop stronger administrative support for exchanges in each independent school district.
- Encourage industry representatives, including engineers and production staff, to make direct presentations to students that reinforce the relationship between work skills and education, including "soft skills," language skills and math skills.
- Build partnerships in which firms "adopt" schools and provide "on loan" staff; ideally such staff would have an alternative teaching certificate.
- Increase student and educator internships, as well as site visits.

Summer Educator Internships. The interviews conducted with interns reflect the results of the survey. Only one educator had difficulty with the internship application and placement procedures, indicating also that the lengthy application discouraged some

educators from participating. All were content with the stipend, although one indicated communication problems regarding the stipend amount, income tax and a $200 holdback until December. Another educator also mentioned that mileage reimbursement would have been very considerate. They also all stated that the four-week length and the midsummer scheduling of the seminar were satisfactory; a couple of educators indicated that they would have preferred to work all summer.[9]

Contrary to all of the others, only one educator did not anticipate using technology-based skills and knowledge in the classroom; this educator had transferred to a different school that had neither the equipment nor properly prepared students to adapt the summer experience to the classroom. Four of the educators had used lesson plans based on their internship and had formally or informally shared aspects of their experiences with peers.

Although most of the educators we spoke with were very satisfied with their summer internships and felt that the experience would help them to be better teachers, a few expressed concerns. At least two indicated that the paperwork was sometimes excessive, mentioning the internship journal and required documentation. One individual also mentioned that the lesson plan format might be shared earlier. One educator stated that the self-placement requirement discouraged peers from applying.

Industry-led Seminars. Basically the educators found the seminars helpful and would continue to attend in the future. Six of the nine attendees found the seminars helpful for a variety of reasons: they learned something new (e.g., a software or database, skills requirements in the high tech sector) or initiated a business contact leading to student/educator internships and employment opportunities. Two educators did not fine the seminars helpful because the presentation and software (hire.com) were not applicable to their middle school students or of interest to their secondary students. The remaining attendee who didn't know whether the presentation was useful left early and attended no others due to parenting responsibilities.) Seven instructors attended more than one seminar. The situation of the two who didn't is addressed above.

Six educators said they would attend seminars the forthcoming year; the others were unsure, mostly because of competing demands on their time. Most would like to continue building employer/educator relationships and learning more about production practices, workplace skills and attitudes, employment prospects and hands-on activities that they could bring to the classroom. One individual strongly encouraged expanding the scope of the seminars and clearly emphasized the importance of providing such applied technology and work-based knowledge beyond the high tech industry into other industry sectors (e.g., automotive technology, health care, hospitality).

Perhaps understandably because of the passage of time and intervening events, several educators could not specifically identify which seminars they had attended and most had

[9] From a business management perspective, the issue of a "summer job" as opposed to an "internship" reportedly deterred a few high tech firms from offering educator internships; they preferred a longer employment period to retrieve their staff and resource investment through increasing productivity over time of the interns/summer workers.

attended more seminars than the HTEN rosters indicated. We suggest two related explanations. The first regards events external to HTEN, which has no monopoly on technology-related seminars—the high tech sector has had a very active public profile in central Texas. Individual firms and consortia have supported numerous events and seminars. Educators with weak HTEN name recognition had difficulty distinguishing their attendance at such events from the HTEN-sponsored events.

The second is internal. Upon prodding, it became clear during the interview that several educators who had attended more than one seminar had indeed attended HTEN-sponsored seminars. This suggest that the HTEN rosters for the industry-led seminars may undercount total attendance and that the unduplicated number of attendees probably exceeded the 111 revealed by the rosters.

Summer Workshops. Educators responded positively to questions concerning the summer workshops. None of the six who we interviewed had any difficulty with the workshop application procedures or found the scheduling inconvenient for themselves or others. Four indicated that the stipend adequately compensated them for their effort; three of these would have liked receiving a little more and one would have participated for free. The other two participants did not receive stipends; one did not seek it and the other failed to complete the lesson plan. All felt that the workshop helped them to integrate advance technology skills and knowledge requirements with their classroom instructional methods. The five educators that developed lesson plans had or intended to use them in the classroom.

Section Four

Observation and Recommendations

Based on the perceptions and experiences of the HTEN participants, as well as structured and informal interviews with individual employers in the high tech sector and administrators and staff of collaborating entities, we offer the following observations and recommendations as a staring point for improving activities and expected outcomes.

Observations

Goals and Objectives. The HTEN initiative made clear progress towards achieving its stated goals and objectives. The activities initiated or supported by HTEN created opportunities for deepening the use of technology in the classroom and developing curricula that incorporate applied problem-solving exercises using industry-based examples. Specifically, interviews and the survey indicate that HTEN helped educators to:

- Increase their knowledge and awareness of the relevance of work-based skills to the classroom;
- Initiate and continue dialogue between themselves and industry contacts, both at the firm and individual level;
- Develop curriculum based on their work-based experiences; and
- Share their industry-based experiences and curriculum with teaching peers.

Continuing Challenges. Despite progress, HTEN faces continuing challenges, including:

Teacher Recruitment. HTEN broadened its recruitment criteria beyond secondary math and science instructors to include middle and primary school educators form other disciplines. While this is a welcome expansion given that applied technology pervades all disciplines in the information age, lagging student preparation in the math and sciences remains an unresolved problem. HTEN might be inclusive, yet prioritize math and science.

Industry Support. Although industry spokespersons state that they have been and will continue to be deeply involved with efforts aimed at improving the connections between the workplace and the classroom, the level of industry commitment may be challenged by the economic slowdown in the high tech sector.

Sustainability. The continuity of HTEN initiatives depends on available resources and regional collaboration, neither of which appears secure at this date.

Recommendations

In the immediate future, HTEN may benefit from specific actions, including:

- Standardize and streamline summer educator internship recruitment, enrollment, placements and outcomes expectations in the central Texas region. Inconsistent information and procedures, perhaps an effect of collaboration between multiple ISDs and intern administrators (e.g., HTEN/CATF, RCSTCP, CAECP, etc.), causes unnecessary tension for instructors and employers, and may discourage participation.

- Encourage school-based, peer evaluations of curricula developed as part of internships and workshops. Without such an assessment, the true value of introducing applied experiences into the classroom can not be measured.

- Allocate time during Industry-led Seminars for educators to share their classroom experiences, opportunities and constraints with industry representatives. More two-way exchange enhances the prospects for cross-sector "fertilization" of ideas and action.

- Continue to recruit industry participation, particularly through the Industry Sector Steering Committees and the Youth Advisory Councils of the local workforce development boards.

- Maintain more accurate participation data. HTEN may be reaching more educators through sponsored activities than attendance records indicate.

- Revisit the strengths and weaknesses of regional partnerships and develop a consensus for shared roles and responsibilities leading to optimal outcomes for students, educators and industry.

Final Comments

The HTEN grant provided resources to initiate or co-sponsor activities designed to facilitate closer connections between educators, industry and applied classroom experiences. HTEN has made significant progress towards its stated goals and objectives. However, the development and maintenance of such a proposed "network"—characterized by continuous and dynamic exchanges between educators and industry—far exceeds a one-year commitment. Fortunately, the HTEN/CATF administrators and staff, as well as their collaborators, appear committed to improving the linkages between the world of work and the classroom over the long-term.

Selected References

Connell, P. James, Anne C. Kubisch, Lisbeth Schorr, and Carol H. Weiss (1995). *New Approaches to Evaluating Communities Initiatives: Concepts, Methods, and Contexts.* (Washington, D.C.: The Aspen Institute).

Glover, Robert W. (1996). *Engaging Industry in Building School-to-Career Opportunities: Lessons to Date from the Experience in Austin, Texas.* (Berkeley, CA: National Center for the Workplace, Working Paper #11, October).

Niles, John (999). *Capital Area Training Foundation: Grounded in the Private Sector.* (http://www.intermediarynetwork.org/pdffiles/CATFCaseStudy.pdf).

Kellogg Foundation (1998). *W. K. Kellogg Foundation Evaluation Handbook,* January. (www.wkkf.org/Publications/evalhdbk/).

Appendix A

Educator Participation Pattern in HTEN-sponsored Activities

Educator Participation Pattern in HTEN-sponsored Activities

Educator	Industry-led Seminars	Summer Internship	Workshop
1	1		
2	1		
3			1
4		1	
5		1	
6	2	1	
7	1		1
8	2		
9		1	
10			1
11	1		
12	1		
13			1
14	5		
15			1
16	3		
17	2		
18	1		
19			1
20	1		
21			1
22	1		
23	4		1
24		1	
25	1	1	
26		1	
27			1
28			1
29			1
3	1		
31	2		
32		1	
33		1	
34		1	
35	3		
36	2		
37	3		
38		1	
39			1
40	1		
41	4		
42		1	

Educator	Industry-led Seminars	Summer Internship	Workshop
43	2		
44	2		
45	1		
46		1	
47	2		1
48			1
49	1		
50		1	
51		1	
52		1	
53		1	
54	1		
55		1	
56			1
57		1	
58	1		
59	5		
60	2		
61	1		
62	1		
63	1		1
64	1		
65		1	
66		1	
67			1
68		1	
69	2		
70	3		
71		1	
72			1
73			1
74	1		
75	6		
76	2		
77			1
78		1	
79			1
80			
81	1		
82		1	
83		1	
84	1		
85	2		
86	1		
87	2		
88	1		

Educator	Industry-led Seminars	Summer Internship	Workshop
89	1		
90		1	
91		1	
92	4		
93	3		
94	1		
95	2		
96		1	
97	2		
98		1	
99			1
100	2		
101	2		1
102		1	
103			1
104	1		
105	2		
106		1	
107	3		
108		1	
109		1	
110	2		
111			1
112			1
113			1
114	1		
115	1		
116	2		
117		1	
118		1	
119	2		
120	1		
121		1	
122			
123	2	1	
124	1		1
125	2		
126		1	
127			1
128	1		
129			1
130	3		
131	2		1
132		1	
133	2		
134	1		

Educator	Industry-led Seminars	Summer Internship	Workshop
135			1
136	1		
137		1	
138	4		1
139	2		
140		1	
141		1	
142		1	
143		1	
144	3		1
145	7		
146	1		
147	2		
148		1	
149			1
150	3		
151	1		
152	3		
153	1		
154	2		
155	2		
156	5	1	
157	2		
158	2		
159		1	
160		1	
161	2		
162			1
163	1		
164	4		
165			1
166	1		
167	2		
168	2		
169	1		
170	1		
171	1		
172	3		
173	2		
174		1	
175	2		
176			
177	3		
178			1
179	1		
180		1	

Educator	Industry-led Seminars	Summer Internship	Workshop
181	1		
182		1	
183			1
184		1	
185			1
186	5		
187	2		
188	1		
189			1
190		1	
191	1		
192			1
193	1		
194	3		
195	1		
196	1		
197	2		
198	4		
199	3		
200		1	
201			1
202			
203			1
Totals	**224**	**55**	**44**

Source: Prepared by RMC researchers from various rosters provided by HTEN coordinator. Duplicates and non-educators deleted.

Appendix B

Summer Educator Internships in the High Tech Sector
Participant Survey

Summer Educator Internships in the High Tech Sector
Participant Survey

If you participated in a summer 2001 educator internship, please share a few minutes to complete this brief survey concerning yourself and your experiences. Place the completed survey inside of the attached pre-addressed, stamped envelope and mail to the Ray Marshall Center at your earliest convenience, but no later than July 27.

In the event that you decide to reprint the survey, which you will also receive as an e-mail attachment, please post and mail to the attention of Dan O'Shea at the address for the Ray Marshall Center found at the bottom of this page.

If you have any questions call:
Dan O'Shea at 512/471-2191
or
Jim McClure at 512/323-6773

The Ray Marshall Center for the Study of Human Resources at The University of Texas-Austin is conducting this survey on behalf of the Capital Area Training Foundation. This will help us measure the success of the internships and develop recommendations for future improvements.

Your cooperation is completely voluntary, your responses will remain confidential, and you will not be personally identified in any subsequent analysis.

July 2001

Ray Marshall Center for the
Study of Human Resources

Lyndon B. Johnson School of Public Affairs
The University of Texas at Austin
3001 Lake Austin Blvd., Suite 3.200 Austin, TX 78703 (512) 471-7891

Part A. Descriptive Data

Your Name:

1. Age:
2. Gender: M / F (circle)
3. Employing ISD:
4. Race/Ethnicity:
5. Grade Level Taught:
6. Years Teaching Experience:
7. Subject Area(s):
8. Firm Hosting Internship:
9. Please provide a very brief description (fifty words or less) of the tasks that you performed at the workplace during your internship:

Part B. Summer Educator Experiences and Perceptions.
For the following questions, indicate your response by circling Y (Yes), N (No), or DK (Don't Know).

10. Has the summer educator internship increased your awareness of the required skills in an advanced technology work place? Y / N / DK

11. Has the internship helped you to integrate advanced technology work skills with classroom instructional methods? Y / N / DK

12. Will your teaching colleagues be interested in your internship experiences? Y / N / DK

13. Have you prepared lesson plans based on internship experiences? Y / N / DK

13a. How many lesson plans have you prepared? (Enter Number)

13b. Do you plan to share all or part of your lesson plans with teaching colleagues? Y / N / DK

14. Will you recommend summer educator internships to your teaching colleagues? Y / N / DK

15. Did the stipend for the summer internship adequately compensate you for your efforts? Y / N / DK

16. Did you experience any difficulty with internship application and placement procedures? Y / N / DK

17. Did you attend any of the high tech industry-led seminars hosted by firms, CATF, and others during the 2000/2001 school year? Y / N / DK

17a. If yes, did you find the presentation(s) helpful? Y / N / DK

17b. Would you recommend these to teaching colleagues? Y / N / DK

17c. Would you like these evening seminars to continue next year? Y / N / DK

18. Do you plan to stay in contact with individuals and firms associated with high tech applications that you have met during a seminar or your internship? Y / N / DK

19. Do you consider yourself part of an emerging network of individuals striving to build closer relations between industry and education in the central Texas area? Y / N / DK

Part C. Recommendations and Concerns

Briefly respond to the following open-ended questions.

20. What recommendations do you have for improving the summer educator internships?

21. What benefits have you derived from closer contact between educators and the high tech industry?

22. Other Comments:

If you would like to talk further about your internship, please enter a daytime or evening phone number where you can be reached.

Daytime _____ Evening_____

Thank you for participating in this survey.

Appendix C

HTEN Interview Guide

HTEN Interview Guide

A. Introduction

The Ray Marshall Center for the Study of Human Resources at The University of Texas-Austin is conducting these interviews on behalf of the Capital Area Training Foundation and its High Tech Educator Network. HTEN records indicate that you participated in activities (a seminar, workshop, summer internship) that was at least in part sponsored by funds made available to HTEN by the Texas Education Agency. We are holding conversations with individuals who participated in HTEN activities to assess the success of the initiative and develop recommendations for future improvements. Thanks for spending a few moments with us to discuss your perceptions and experiences.

Reminder: Your cooperation is completely voluntary, your responses will remain confidential, and you will not be personally identified in any subsequent analysis.

Educators

1. How did you hear about the (educator activity or activities for which informant appears on roster)?

2. Do you consider yourself part of an emerging network of individuals striving to build closer relations between industry and education in the central Texas area? Y / N / DK

3. If so, who or what do you consider the major catalyst behind this emerging network?s

4. As an educator, have you had any prior formal or regular contact with the high tech sector? Y / N / DK

B. Summer Educator Internship

Firm Hosting Internship: Self or Project-placed?

1. Did you experience any difficulty with internship application and placement procedures? Y / N / DK

If yes, explain.

2. Did the stipend for the summer internship adequately compensate you for your efforts?

Explain. Y / N / DK

3. Were you satisfied with the 4-week length of the internship? Y / N / DK

Explain.

4. Was the scheduling (mid-June thru mid-July) inconvenient for you or for others? Y / N / DK

Explain.

5. Did the internship help you to integrate advanced technology skills and knowledge requirements with classroom instructional methods? How so? Y / N / DK

Explain.

6. Have you used lesson plans based on internship experiences? Y / N / DK

Explain usefulness/ Extent to which shared with colleagues.

C. Industry-led Seminars

1. HTEN supported nine industry-led, evening seminars last year. Do you recall which, if any, that you attended?

Seminar One

Did you find the presentation helpful? How so? Y / N / DK

Did you attend others? Why or Why not?

Seminar Two

Did you find the presentation helpful? How so? Y / N / DK

Continue with Seminar Three or More.

2. Will you attend these evening seminars if they continue this year? Why or why not? Y / N / DK

2a. If so, what subjects would you like to see addressed?

3. What did you learn at the/these seminar (s) that is useful to you in the classroom?

D. Summer Workshops at AMD and Samsung

Firm Hosting Workshop:

1. Did you experience any difficulty with the workshop application procedures?

Explain. Y / N / DK

2. Did the stipend for the workshop adequately compensate you for your efforts?

Explain. Y / N / DK

3. Were you satisfied with the 3-day length of the workshop? Y / N / DK

Explain.

4. Was the scheduling (mid-June or mid August) inconvenient for you or for others?

Explain. Y / N / DK

5. Did the workshop help you to integrate advanced technology skills and knowledge requirements with classroom instructional methods? How so? Y / N / DK

Explain.

6. Have you used lesson plans based on workshop experiences? Y / N / DK

Explain usefulness/ Extent to which shared with colleagues.

E. Overview and Recommendations

1. Have you stayed in contact with individuals at firms that you met during a seminar, workshop or your internship? Y / N / DK

Why or why not?

2. Have your teaching colleagues been interested in your internship /workshop/seminar experiences or information? Y / N / DK

Why or why not?

3. Have you personally recommended any of these activities to your teaching colleagues?

Why or why not? Y / N / DK

4. Do you think that relations between employers and educators in the central Texas area is changing in any significant way? Y / N / DK

Why or why not?

5. Before we contacted you, had you ever heard of an initiative called the High Tech Educators Network? If yes, how did you hear of it? Y / N / DK

6. What benefits, if any have you derived from closer contact between educators and the high tech industry?

7. What direction would you like to see this relationship taking in the near future?

8. What recommendations do you have for accomplishing this?

9. Do you have any other comments or final thoughts you'd like to share with us?

Thank you for participating in this assessment.

Employer Supplement

1a. To what extent were you involved in activities (e.g., seminars/workshops/ internships) that try to build connections between employers and educators? Between workplace skills and knowledge and the classroom experiences of educators? What kind of activities were you directly involved in?

2. How did you become involved in these? Have you had any prior formal or regular contact with local educators in the K-12 range?

3. What are the principal benefits derived from closer contact between educators and the high tech industry (multiple possible perspectives: students, economy, society, etc.)?

4. What are the principal challenges to this/these type(s) of activities?

5. Do you individually and as a member of the high tech sector intend to continue your recent level of involvement? Explain.

6. Have you stayed in contact with educators that you met during a seminar, workshop or internship?

Why or why not?

How have you kept in touch?

7. Do you think that relations between employers and educators in the central Texas area, particularly regarding workplace skills in the high tech sector, are changing in any significant way?

How so? What are the contributing factors?

8. What direction would you like to see this relationship taking in the near future?

9. What recommendations do you have for accomplishing this?

10. Do you have any other comments or final thoughts you'd like to share with us?

Thank you for participating in this assessment.

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