

Journal of Technology Education

Volume 1, Number 2

Personal and Professional Needs of Technology Teachers

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INTRODUCTION

In 1987, the Research Committee of the International Technology Education Association (ITEA) initiated a study of the personal and professional needs of technology teachers. The Committee felt that the planning of educational programs for preservice and inservice technology teachers should be based on their needs, both personal and professional. Their rationale was that if teachers' needs were not met, teacher performance and educational effectiveness would suffer. Some needs can be addressed with educational solutions, others with changes in management, and still others by looking at factors of the teachers' lives that lie outside the professional arena. This needs assessment was organized on the basis of extrinsic and intrinsic factors in the workplace of the technology teacher.

After reviewing the survey responses from the technology teachers, the Committee decided to sample secondary school English, mathematics, and science teachers as well and compare the responses across fields. The Committee hypothesized that the needs of traditional academic teachers, technology teachers, and laboratory and nonlaboratory-setting teachers might differ. Unfortunately, the response to this second survey was insufficient to warrant such comparisons.

BACKGROUND

Existing literature identifies several major reasons for professional dissatisfaction on the part of educators. [Liebes \(1983\)](#) and [Kreis and Milstein \(1985\)](#) mention low enrollments, economic difficulties in education, and lack of sufficient professional opportunities for teachers as reasons for teachers' dissatisfaction in the profession and as affecting factors regarding ways in which their needs are not being met. In discussing the teachers' needs, these authors relate self-perception to needs fulfillment through work.

The [Kreis and Milstein \(1985\)](#) study focused on teacher job satisfaction using Maslow's hierarchical concepts. Their results indicated that teachers' needs fulfillment is not totally consistent with the hierarchical arrangement described by researchers such as: [Maslow \(1954\)](#); [Porter \(1963\)](#); [Herzberg, Mausner, and Snyderman \(1966, 1967\)](#); [Argyris \(1971\)](#); [Hinrichs \(1974\)](#); and [Sergiovanni and Carver \(1975\)](#). The Kreis and Milstein study results indicated there was a significant relationship between job satisfaction and needs fulfillment. However, the conclusion that job satisfaction is related to a hierarchical arrangement of needs was not supported. Their results suggested teachers seek to satisfy some of their needs outside of the school setting, and that job satisfaction occurs when teachers perceive that what they are getting from the job matches what they perceive as being needed from the job.

Kreis and Milstein also discussed major changes in society and teaching as reasons why the study outcomes differed from the findings of earlier research. They identify teacher activities such as disciplinary tasks, nonparticipative bureaucratic structures, changes in working conditions, differ-

ences in the personal characteristics of teachers, older work force, and little infusion of younger teachers as possible reasons for the perceived needs of teachers not being met in their professional lives.

Teachers spend a great deal of their time on nonteaching-related activities. Kreis and Milstein suggested that if the performance of schools is to improve, the needs of teachers must be addressed and satisfied within the professional arena of their lives. They concluded there should be diagnostic efforts to establish the needs of teachers as individuals followed by programs that address those needs.

[Liebes' \(1983\)](#) study suggested that teachers with experience undergo mid-life crises. She believes that the determining factor is the number of years of teaching experience rather than the age of the teacher. She also believes that if schools want to maintain quality educational programs, they must respond to these predictable crises by instituting active programs designed to address (on individual bases) stress and other career-related crises on the job. She suggested short-term career counseling and an ongoing participative staff development model. This model prescribes individual conferences with administrators and teachers, a job-environment match analysis, and a school-based staff development model in which team building, faculty needs assessments, participative design of staff development by teachers, and program evaluation are addressed. She believes that this kind of total program will provide strategies that will address large numbers of experienced teachers who are dissatisfied.

In yet another school of thought, [Cardinelli \(1980\)](#) indicated that teacher dissatisfaction is no different from any other professional dissatisfaction. The mid-life crisis syndrome is a normal, developmental, and generally predictable stage in adult life

that occurs between roughly 30 and 50 years of age. He maintains that "burn-out" is not abnormal, and that the best way to combat it is to recognize it, plan for it, and implement strategies to help deal with it.

[Miller, Taylor, and Walker \(1982\)](#) support this notion with their in-depth study of the aging teaching force.

PROCEDURES

A random sample of 1,000 secondary-level technology teachers was selected from the ITEA membership list. A questionnaire was designed, approved by the ITEA Board of Directors, and mailed to the teachers identified. A single follow-up questionnaire was sent to nonrespondents. Due to lack of funding, additional follow-up procedures were not possible.

RESULTS OF THE STUDY

The two mailings to the technology teachers resulted in the return of 357 usable questionnaires (36%). The number of usable responses to each question, however, varied. The findings are detailed in Tables 1 and 2 and are described below.

DEMOGRAPHICS

The largest category of respondents (32.2%) were senior high school teachers. About one-fifth (22.4%) indicated that they were junior high teachers. Another fifth (18.8%) indicated that they had a dual assignment at both junior and senior high school level. See Table 1.

The respondents were asked to specify their primary areas of teaching. The majority of respondents taught two or more of the areas listed -- communications, energy, production, transportation. Seventeen percent indicated "other" and wrote in specific areas. The areas most often mentioned in the

category were professional (university), drafting, electronics, manufacturing, computer, and construction.

Nearly three-fourths (72.6%) of the respondents were from urban/suburban areas. Nearly sixty-three percent call their program "industrial arts," and 29.2% call their programs "technology education." A majority of the respondents (64.4%) indicated that they teach in unit shops; the most frequently named were woods, drafting, metals, and graphic arts. The remaining respondents teach in general shops or clusters.

TABLE 1
DEMOGRAPHIC DATA

Category	n	%
Teaching Level (n=357)		
Senior High	115	32.2
Junior High	80	22.4
Junior/Senior High	67	18.8
Post-Secondary	4	1.1
Teacher Education (University)	54	15.1
Industrial technology (University)	12	3.4
Other (e.g., administrators, etc.)	25	7.0

Areas of Teaching (n=376)

Communications	74	19.7
Energy	18	4.8
Production	66	17.6
Transportation	16	4.3
Several of the above	137	36.4
Other (e.g., drafting, mechanical drawing, administration, construction, hot metal, computer, power tech., photography, cabinet making)	65	17.3

School Location (n=354)

Urban/Metropolitan	118	33.3
Suburban	139	39.3
Rural	97	27.4

Program Type (n=353)

Industrial Arts	221	62.6
Vocational	29	8.2

Technology Education	103	29.2
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Program Classroom Type (n=345)

Unit Shop	222	64.4
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General Shop	75	21.7
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Cluster	48	13.9
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Age (n=356)

35 or under	87	24.5
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36 - 45	125	35.1
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46 - 55	107	30.1
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56 to over 65	37	10.3
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Sex (n=356)

Female	13	3.7
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Male	343	96.4
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Number of Years Teaching (n=354)

0 - 10	84	23.7
11 - 23	166	46.9
14 - 35	99	28.0
Over 35	5	1.4

The category of teaching experience indicated by the largest proportion of respondents was "11 - 23 years." Fewer than four percent of the respondents were female.

JOB ENVIRONMENT

In general, the respondents were positive about their job environments. Two-thirds or more of the respondents indicated that the following job environment factors were "good" or "very good": Safety (80.0%), Job Security (74.1%), Working Hours (72.8%), Vacation/Leisure time (72.0%), and Job Stability (70.4%). On the other hand, more than one-third of the respondents felt that two items were "poor" or "very poor": Incentives (38.4%) and Promotion (36.1%). See Table 2.

PROFESSIONAL IMAGE AND DEVELOPMENT

A large majority (85.4%) of the respondents rated their professional self-confidence "good" or "very good;" over three-fourths (78.4%) rated their self-esteem in these two categories. Though only 13.4% of the respondents indicated that their professional development was "poor" or "very poor," a substantial number felt that the funding for professional creativity (45.4%) and the funding for professional development (46.2%) was "poor" or "very poor."

JOB SATISFACTION, PROMOTION, AND SALARY

Over two-thirds of the respondents

(69.4%) rated their job as "good" or "very good." However, only about a third rated the Industrial Arts/Technology Education profession in these two positive categories.

Nearly two-thirds (63.6%) felt that promotional opportunities were "poor" or "very poor." Roughly one-third (33.4%) of the respondents felt that their salary was "good" or "very good" while another third (34.0%) felt their salary was "poor" or "very poor." Over one-third (37.8%) had taken some action toward finding another job within the past two years.

TABLE 2
JOB ENVIRONMENT FACTORS

Percent by Category						

	Very	Poor	Poor	Okay	Good	Good
Descriptor						

Description of Job Environment

Atmosphere (n=349)	1.7	7.4	22.9	39.8	28.1
Working hours (n=349)	1.1	2.3	23.8	44.1	28.7

Personal Safety (n=350)	0.0	4.9	15.1	35.7	44.3
Job security (n=348)	2.3	6.6	17.0	35.3	38.8
Job stability (n=354)	2.3	7.6	19.7	34.5	35.9
Salary (n=355)	3.9	16.1	33.8	33.8	12.4
Promotion (n=343)	13.4	22.7	30.3	22.7	10.8
Incentives (n=344)	12.8	25.6	36.3	18.3	7.0
Benefits (n=350)	2.3	11.1	27.1	45.2	14.3
Vacation/leisure time (n=347)	2.0	4.6	21.3	42.9	29.1
Facilities and equipment (n=354)	2.5	10.7	33.9	37.6	15.3
School-wide discipline (n=341)	2.1	12.6	23.5	43.1	18.7
Students' academic capabilities (n=342)	1.2	9.7	37.4	44.7	7.0
Stress level (n=337)	4.5	15.4	47.8	25.2	7.1

Boredom level (n=318) 6.6 13.2 44.0 26.1 10.1

Co-worker cooperation
and support (n=348) 1.4 7.8 25.3 40.2 25.3

Administrative cooperation
and support (n=349) 5.7 10.3 27.8 36.7 19.5

Guidance counselor support (n=324) 8.3 20.1 40.7 21.9 9.0

Community/parental support (n=325) 1.8 15.4 40.6 32.0 10.2

State Department
of Education support (n=334) 10.5 20.4 29.6 26.6 12.9

Professional

Prestige from the profession(n=354) 1.4 11.6 27.1 40.7 19.2

Professional self-esteem (n=351) 0.6 3.4 17.4 48.7 29.9

Professional self-confidence (n=350) 0.0 1.4 13.1 49.4 36.0

Familiarity with new

national standards (n=350) 1.7 13.6 29.7 35.7 19.3

Professional Development

Professional development support(n=340) 4.8 18.6 34.3 29.4 12.9

Opportunities for professional

development (n=344) 2.9 17.4 31.1 32.3 16.3

Funding for professional

development (n=344) 16.0 30.2 24.8 14.0 15.1

Opportunities for professional

recognition (n=345) 4.0 21.2 40.3 23.8 10.7

Opportunities for professional

creativity (n=344) 1.7 11.4 28.5 37.8 20.6

Funding for professional

creativity (n=344) 16.2 39.2 26.8 14.5 3.3

Job Satisfaction Factors

Tried to find another job

in past 2 years (n=349) Yes 37.8 No 62.2

Rating of job at present time (n=346) 1.2 4.3 25.1 46.3 23.1

Rating of the I.A./Tech. Ed.

profession (n=344) 0.9 18.6 45.9 31.7 2.9

Promotion and Salary

Possibilities for promotion (n=339) 32.7 30.9 18.6 14.2 3.6

Possibilities for salary 11.5 22.5 32.6 24.5 8.9

increases (n=347)

Acceptability of Alternatives to Promotion

Professional travel (n=324) 31.9 6.2 14.8 37.0 40.1

Summer pay for curriculum

development (n=320) 2.8 5.3 11.9 39.3 40.7

Computers in lab (n=307) 3.9 6.2 17.9 28.7 43.3

Leadership opportunities (n=301) 0.3 4.7 23.9 35.2 35.9

Acceptability of Alternatives to Salary Increases

Professional travel (n=276) 7.6 10.5 17.8 27.9 36.2

Summer pay for curriculum

Development (n=270) 6.3 6.3 17.4 33.3 36.7

Computers in lab (n=261) 7.3 8.0 21.9 29.9 32.9

Leadership opportunities (n=264) 5.7 12.1 21.6 33.7 26.9

Respondents who felt that they had reached their limit in promotional opportunities or salary increases were asked to rate the acceptability of alternatives. As an alternative to promotion, over 70% of these respondents rated travel to professional

meetings, summer pay for curriculum development, computers in the laboratory, and leadership opportunities as "good" or "very good" alternatives. Summer pay for curriculum development was rated as the most acceptable alternative of the four. Eighty percent rated it in one or the other of the top two categories.

Of those who felt that they had reached the top of their potential for salary, a lesser proportion found the alternatives to be acceptable. Nonetheless, the alternatives were found to be "good" or "very good" by more than 60% of the respondents. Again, summer pay for curriculum development was most acceptable with 70% rating this alternative to salary increases in one of the top two categories.

CONCLUSIONS

This survey presents information that indicates that technology teachers feel much more positively about themselves and their profession than is perceived through interaction, media, and professional meetings. The results of this study provide some evidence that teachers are positive about their field, professional image, working conditions, and that they are generally satisfied with their jobs. The respondents also seem to be open to nontraditional alternatives to salary increases and promotion if they have reached their perceived limit in these two areas.

Administrators should consider innovative alternatives for compensation, promotion, and recognition. They should also consider nontraditional practices to provide for the professional development and increased creativity of teachers.

RECOMMENDATIONS

Based on the findings several recommen-

dations are offered for consideration. First, administrators should assess the personal and professional needs of local teachers. There is reason to believe that these needs may differ by discipline. Second, teachers and administrators should work cooperatively to provide resources to develop an ongoing program of professional development for teachers and the programs they serve. Third, this study should be replicated using a sample that represents the total profession of technology teachers rather than only members of a professional association. It is quite likely that members of ITEA would differ significantly in their responses compared to the profession at large. Last, resources must be allocated to assure that adequate follow-up procedures can be implemented to assure representativeness. None of these recommendations are sufficient or complete in and of themselves, but in combination they may be enough to make a substantial difference in more effectively actualizing the personal/professional needs of technology teachers, which in turn should improve and enhance academic programs.

- 1 Julie Dee Scarborough is Associate Professor, Northern Illinois University, DeKalb, Illinois. The author is indebted to David Bjorkquist, Jay Smink, Ernest Savage, Ed Pytlik, Fred Illott, and Andrew Schultz who also worked on this project.

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