The Status of NAIT: Perceptions of Industrial Technology Department Chairs

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Introduction

After five consecutive years of attending the annual National Association of Industrial Technology (NAIT) conventions, it became evident to this author that there should be some concern over the future of the profession. This "concern" is based upon reports presented at the Annual Business Meetings of each of these past conventions. Information presented at these meetings indicated a decline or virtually no growth had occurred in membership, certification, attendance to annual conventions, and revenue. As noted from the NAIT 1998 Annual Business Meeting minutes, "the year end financial balance for 1998 is lower than in past years, having declined from highs in the mid-$80,000 range in 1993, 1994, and 1995, dropping to $57,707 in 1997, ending the 1998 year at $51,058" (1998, October 24). That is a decline in revenue of approximately 40% over the last five years. A 10.6% decrease in professional membership was reported in 1999 as well (NAIT 1999 Executive Board Meeting Minutes).

Although it is virtually impossible to please all the people all the time, there seems to be an increase in the number of people who show some displeasure with NAIT. This observation may seem like a hunch on the author's part, however, the data explicitly shows that there has been a steady decline in NAIT membership and certifications over the past several years. Identifying causes for this continual decline are essential to the survival of NAIT.

Purpose

A national organization or professional association is established to provide leadership and guidance for its members. An organization at this level must continually stay abreast with technology and any other related issues that may directly or indirectly affect the organizations' mission statement, goals and/or objectives. In order for a national organization to successfully serve the needs of its constituents, it must seek their input on a regular basis.

The purpose of this study was to provide NAIT with a status report on how well it was successfully serving the needs of its constituents. This study focused on the following five issues: (1) accreditation, (2) certification, (3) convention format, (4) student organizations, and (5) suggestions for improvement. Data compiled by this research could be used to identify factors leading to a decline in membership, certification, and attendance to conventions.

Survey Study

In order to accurately report on how well NAIT is serving its constituents, it only seemed plausible to ask them. Therefore, a 25-question survey instrument was developed to gather data pertaining to the five main issues mentioned previously. The 25-question survey instrument was a compilation of topics or issues that were hotly debated at the last few NAIT conventions. More issues could have been addressed in the survey instrument, however, it was determined that too lengthy a questionnaire would greatly affect

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response rate. A very low response rate would not be a true representation of the population queried, thereby, jeopardizing the validity of the data gathered (Miller, 1991).

The questionnaire consisted of multiple-choice questions, yes and no questions, and one final question asking for suggestions to improve NAIT. This format was chosen to reduce the time it would take respondents to fill out the questionnaire. After timing several faculty members who had completed the questionnaire, it was determined that the questionnaire took less than five minutes to complete.

Population of the Study

Although NAIT is made up of various divisions, the university division was targeted for this study for several reasons. The first and foremost reason is that the university division comprises the majority of NAIT membership. Secondly, faculty from the university division present the majority of papers at the annual conventions. Third, most Industrial Technology (IT) majors earn a degree from a university. Lastly, it is easier to get individual names and mailing addresses of university faculty because they are listed in the Industrial Technology Baccalaureate Program Directory (NAIT, 1998) that is provided to its members by NAIT.

The population for the study consisted of all department chairs of baccalaureate IT programs that were listed in the Industrial Technology Baccalaureate Program Directory (NAIT, 1998). Chairs of these programs were then cross-referenced with the Industrial Teacher Education Directory 37th Edition (1998) for accuracy. A list of 125 IT chairs was

derived from these two directories. Only chairs were selected for this study because they are entrusted with most of the financial decisions that pertain to their respective departments. These decisions may include committing funds for accreditation, faculty travel to NAIT conferences, and other factors that can affect NAIT. Chairs from non-accredited programs were queried as well to gain insights as to why these programs chose not to be accredited.

Data Collection

Each of the 125 chairs received a cover letter requesting their assistance to improve NAIT, a questionnaire, and a self-addressed, stamped envelope. The cover letter and envelope were personalized with the current chair's name and title in an effort to increase the response rate. In addition, separate stamps were affixed to each envelope (versus postal meter stamp) and each cover letter was hand signed in blue ink. All 125 questionnaires were mailed at the end of January after the universities were back in session. After six weeks, 70 questionnaires were returned.

In an effort to increase response rate, a second round of questionnaires was sent to chairs that had not responded. Within a month, 28 more chairs responded. The last follow-up attempt was conducted by phone, which produced nine more responses.

After the initial mailing and two follow-up attempts, 107 chairs responded to the questionnaire. Six chairs were excluded from the research population because they were from institutions that had multiple IT programs. Initially these respondents were going to be included, however, many of the institutions with multiple IT programs designated one chair to respond to the questionnaire. Therefore, the total population of the survey was reduced from 125 to 119. A total of 107 chairs responded, which represented a response rate at 90%. According to Alreck and Settle (1985), "Mail surveys with response rates over 30 percent are rare." Therefore, the author concluded that the data gathered could be considered a valid representation of the population queried.

Results

The results of this research were based upon the responses of 107 chairs of accredited and non-accredited baccalaureate level IT programs to a 25-question survey instrument. Results to each of the 25 questions will be presented as follows:

Month Annual Convention Should Be Held

Since the national convention has continually been held in the month of October, many NAIT members were displeased when the 1999 convention was scheduled for November. Many respondents commented that they always arranged their schedules around the month of October to accommodate the NAIT convention. An overwhelming number of respondents (48) preferred the NAIT convention to be scheduled for the month of October. The remaining months received eight or less votes as illustrated in Figure 1.

Location of NAIT Convention

This question addressed the issue of travel costs incurred to various NAIT conventions. By a two-to-one margin, most chairs preferred NAIT conventions to be held in larger cities that are accessible by most airlines. The other responses received approximately the same number of votes (refer to Figure 2).

Days Convention Should Be Held

Most respondents were happy with what is presently being done (Wednesday through Saturday format). Half as many preferred to conduct the convention only during the weekdays while only eight preferred the convention to be conducted only during the weekend.

Time Allocated for Presentations

Chairs were almost split over this issue. Only seven more votes were cast for the 50-minute session versus the 20-30 minute session. Comments included that shorter sessions would

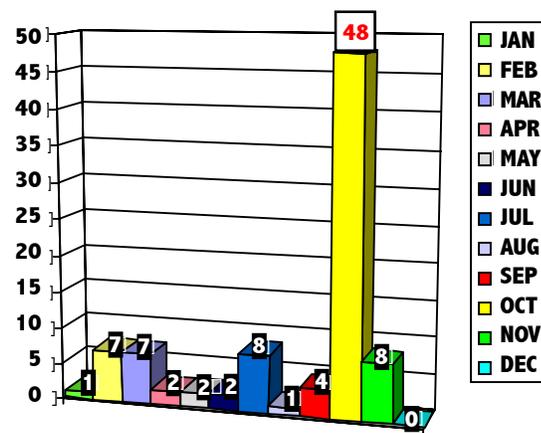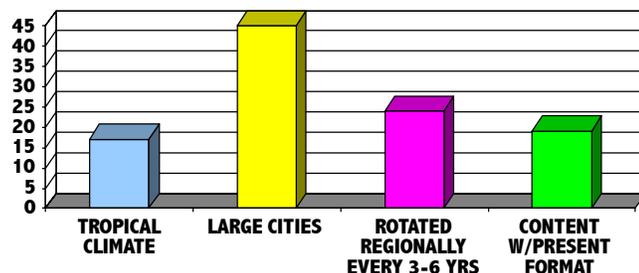*Figure 1. Month Annual Convention Should Be Held*

Figure 2. Location of NAIT Convention

allow for twice as many presentations during the week, which would free up Saturday for convention attendees to enjoy the sights or return home for the weekend. In addition, presentations should be better attended since multiple presenters would share the same time slot and in the very least allow for a captive audience. Offering too many break-out sessions concurrently has spread the audience too thin and in many cases the presenters have out-numbered the audience.

Cost of Convention Registration

A sizeable majority of chairs (77) agreed that the registration fee for a NAIT convention was reasonable. Some chairs commented that is was too low in comparison to other professional organizations convention fees.

Professional Development Units (PDU)'s Awarded for Convention Sessions

This question asked chairs if they felt there were enough PDU's awarded to them for attending various convention presentations and sessions. Although 57 chairs voted yes versus 21 against, the majority of the respondents were not Senior or Certified Industrial Technologists (CSIT or CIT). If only CSIT's and CIT's were allowed to vote on this issue, then only 20 chairs voted yes to the 21 who voted no. Therefore, more chairs felt there were not enough PDU's awarded at the convention. Responses of chairs from both accredited and non-accredited programs are shown in Figure 3.

All Meals and Banquet Fees Included in Convention Registration

Chairs were almost divided equally on how many felt that all meals and banquet fees should be included in the convention price. One chair commented that each individual should have a choice on where and what they can eat. Another chair commented that maybe more members would attend the banquet if they knew they already paid for it. Finally, a chair commented that if you let people go elsewhere for lunch they might not come back.

Number of Plant Tours Offered at Convention

Another overwhelming majority of chairs (70) agreed that there were enough plant tours offered at the NAIT convention.

Plant Tours Scheduled Against Presentations

A majority of chairs (60%) agreed that presentations should be going on concurrently to plant tours. Many of the chairs (39%) that disagreed with this statement commented that tours should be scheduled for the late afternoon to reduce conflicts.

Tour of IT Programs Available at Convention

Chairs from 72 programs agree that tours of area IT programs should be made available to convention attendees. Those chairs that disagreed noted that only tours of exemplary programs should be offered. However, who is to judge which programs are exemplary?

It is through this author's experience that each program has something unique about it which may be of value to faculty of other programs.

Golf Outings Scheduled Against Presentations

Almost the entire number of chairs (78) who voted on this issue agreed that golf outings should not conflict with meetings and presentations. Finally, at the Panama City, Florida Convention, the golf outing was scheduled after the break-out sessions. Maybe this questionnaire caused some people to start to think or maybe someone new was put in charge of the scheduling of events for last year's convention?

NAIT Membership

Most chairs queried were NAIT members. Interestingly enough, almost as many chairs from non-accredited programs (33) are NAIT members as chairs from accredited programs (39) as illustrated in Figure 4.

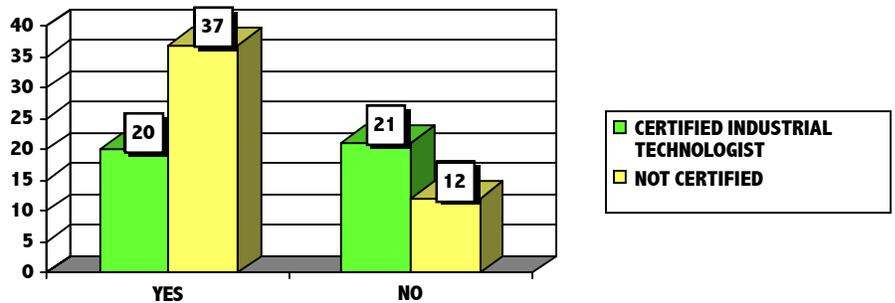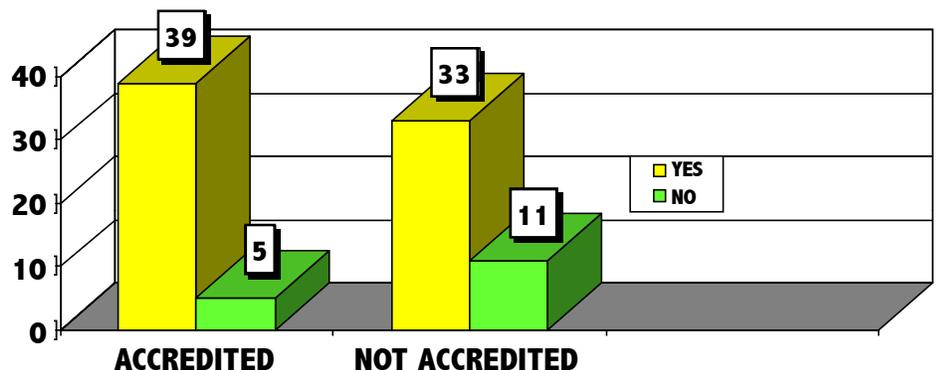*Figure 3. Number of Professional Development Units (PDU)'s Awarded for Convention Sessions Was Adequate*

Figure 4. Number of Chairs that Were NAIT Members

IT Certification

This has been a highly contested issue since its inception. The question asked chairs if they were a Senior of Certified Industrial Technologist? Remarkably, only 28 chairs of the 98 who responded circled yes. Even more remarkable was that only 17 chairs are Certified Industrial Technologists out of the 40 plus accredited programs. Thus, more than half of the NAIT accredited programs are lead by individuals who are not certified. Is this a contradiction of terms or is there too much apathy towards the certification process?

Importance of Certification

Only 38 chairs felt it was important for students to become CIT. Sadly enough, half of the chairs who answered no to this question were from accredited programs.

Length of Membership

Approximately 60% of the chairs have been NAIT members for less than 10 years. However, the largest number of respondents (27%) have been NAIT members for 10-15 years. More detail regarding this issue is shown in Figure 5.

IT Student Organization

Only 34 chairs replied that they had an IT student organization at their program. Surprisingly enough, almost as many IT student organizations were active in non-accredited programs (15) as in accredited programs (19).

IT Student Organization Appeal

In this question, respondents were asked if they felt NAIT offered enough for its student members. Only 12 chairs thought the NAIT student organization had enough to offer, which was less than half of the chairs that have student organizations at their programs. Even more shocking, only three chairs from accredited programs felt NAIT offered enough for its student members (see Figure 6).

Alternative Student Organizations

This question was concerned with how many alternative student organizations were at IT programs. There were 55 programs that had an alternative student organization at their program. Chairs from 15 programs indicated that they had an IT student organization as well. Therefore, more IT programs (40) preferred the alternative student organization to the IT student organization.

Alternative Student Organizations Offer More

Only seven chairs thought the NAIT student organization had more to offer than an alternative student organization. Oddly enough, only three of the chairs with negative responses had IT student organizations. A detailed breakdown of how chairs from both accredited and non-accredited programs responded is depicted in Figure 7.

Accreditation Guidelines

Most of the chairs (66) responding to this question thought NAIT accreditation guidelines were acceptable. Six chairs felt they were not strict enough, five felt they were too vague, and only one felt they were too strict.

Minimum Number of Faculty

The majority of respondents' (49) thought at least three or more faculty members should be required to receive NAIT accreditation. There were 36 respondents who did not want this restriction applied to the accreditation process. The breakdown of these responses is presented in Figure 8.

ABET (Accreditation Board for Engineering and Technology) Accreditation

This question asked chairs if they felt their programs would be better off if they were ABET accredited, assuming IT programs could be accredited by ABET. The majority of chairs (59)

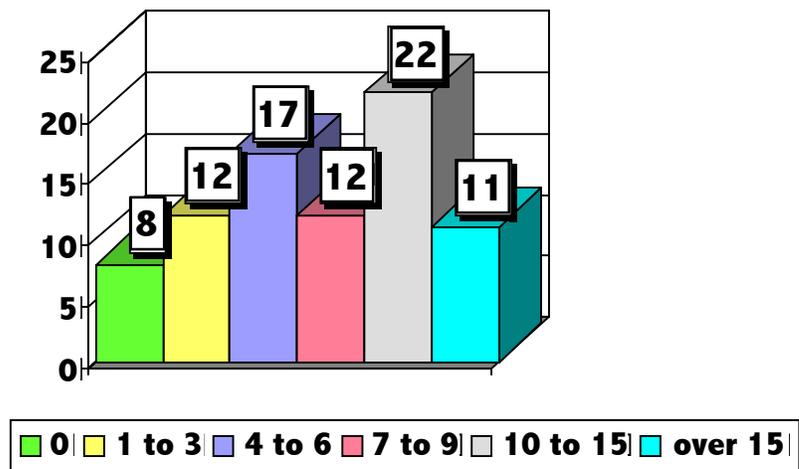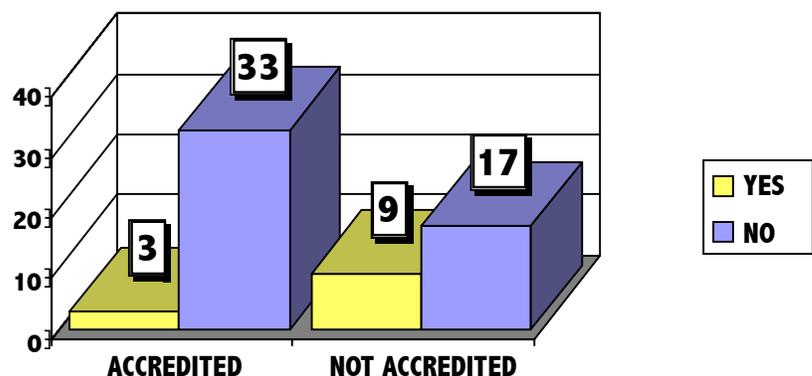*Figure 5. Number of Years Chairs Have Been NAIT Members*

Legend: 0 | 1 to 3 | 4 to 6 | 7 to 9 | 10 to 15 | over 15

Figure 6. Number of Chairs Who Felt NAIT Had Enough to Offer its Student Members

Legend: YES | NO

replied no to this question. However, 25 chairs felt ABET accreditation would improve their programs which is about 1/3 of the chairs who responded to this question. Respondents commented that their programs would get more recognition with ABET and possibly more chances for external funding. Others felt ABET accreditation would change the focus of IT programs and essentially make them watered down engineering programs.

Attendance to NAIT Conventions

This question was developed to determine how many chairs were actively involved in IT or at least attended the annual conventions. Over half (46) of the chairs had attended the 1998 convention in Indiana. Another 11 had attended the previous year's convention while another 14 had attended over three years ago. There were 16 chairs that had never attended a NAIT convention of which three were from accredited programs as illustrated in Figure 9.

NAIT Overall Rating

This question asked chairs to rate NAIT on a scale of 1 to 10 (10 being the best). Of the 78 chairs who felt comfortable rating NAIT, only one felt the organization deserved a rating of 10. The average of the ratings came to 6.92. This rating, which would be rounded up to a 7, can be equated with an average or satisfactory score. Figure 10 shows the frequency of the ratings from respondents.

Comments Regarding NAIT

The last question on the survey instrument allowed the respondents to list any suggestions they had to improve NAIT. Over one third of the respondents had several suggestions for improving NAIT. Some of these suggestions are as follows:

1. The name IT is <u>not</u> understood. Industrial Management may be better.
2. More visibility and interaction with industry is needed. Funds should be set aside for a well-organized marketing campaign to promote IT to industry.

3. Beef-up NAIT certification exam and require it for everyone, like engineering (P.E.). The exam must be recognized by industry!
4. Is it worth the cost to accredit programs if industry doesn't care?
5. Do something with the student organization – you currently have nothing to offer them but a journal that faculty may occasionally read.
6. Be more inclusive. Same people hold office and make decisions regarding the future of NAIT year after year.
7. Less formal banquet and other activities that will appeal to

younger faculty and students.
8. We shouldn't have to choose between plant tours, committee meetings, and/or presentations. Much better scheduling is needed.
9. Do Ph.D.'s need to be required for the applications-oriented programs that IT represents? MS and experience are in most cases more appropriate.
10. NAIT should merge with another association to increase membership.

Figure 7. Number of Chairs Who Felt Alternative Student Organizations Offered More to Students than NAIT's Student Organization
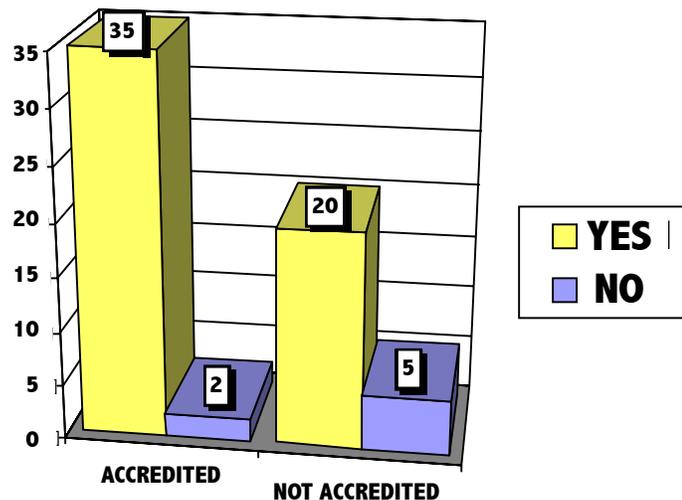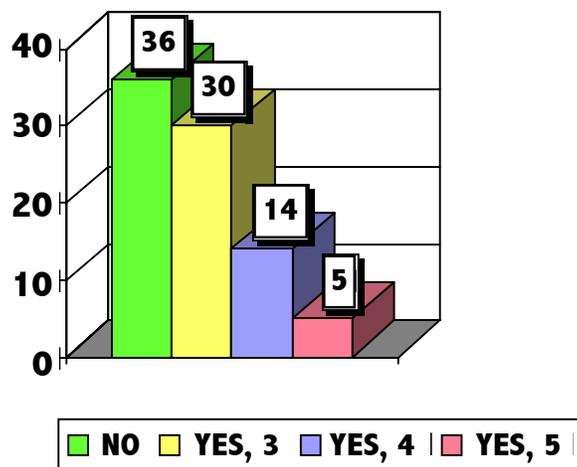

Figure 8. Minimum Number of Faculty for a Program

Conclusions and Recommendations

Based upon the replies of chairs at baccalaureate-level IT programs, the following conclusions can be made about the following issues that were addressed by this research:

Accreditation

Although two-thirds of the chairs were against ABET accreditation, it should be noted that one-third of the chairs feel that accreditation by ABET would give their program the recognition that it deserves. Over the past several years, this author has seen several IT programs transform into engineering technology programs. If a third of the chairs would welcome ABET accreditation, who says they might not jump ship? Once this trend begins, it may be a difficult one to stop. Does history need to repeat itself in which NAIT will follow the same path as Industrial Education?

Certification

As noted by Reese (NAIT 1998 Annual Business Meeting Minutes, p. 44), "The projected growth in membership and certification previously reported did not materialize this year." According to the responses of the chairs queried in this research, most of them are not certified and/or feel that certification is not important. If the leaders of the programs who educate the majority of IT graduates don't buy into certification, how can we ever make it work?

Student Organizations

If only three chairs from NAIT accredited programs feel that the NAIT student organization has enough to offer its students, then something must be seriously wrong with the structure of the organization. A journal geared for university faculty is not enough to offer students for their $15 dollar investment. This author ventures to guess that the profession can come up with more things to offer students to entice them to join.

Convention Format

It can be concluded by the overwhelming number of responses by the chairs that the following details regarding convention format should be considered:

1. The national convention should be held in October.
2. It should be located in a larger city that is accessible by most airlines.
3. It should follow the present day schedule (Wednesday-Saturday).
4. Golf outings should not conflict with presentations and other sessions.
5. The number of PDU's should be doubled for attending convention presentations/sessions since more certified IT chairs thought the number awarded was inadequate. This should cause convention attendance and the number of certifications to increase.
6. Tours of local IT programs should be made available.
7. Presentations should be limited to 30 minutes so there will be additional time made available for plant tours, golf outings, and other convention activities that may have conflicts.

Remarks

Although some of the data presented in this paper is not too encouraging, the results from this research should be interpreted as a wake up call to unite NAIT members to promote IT.

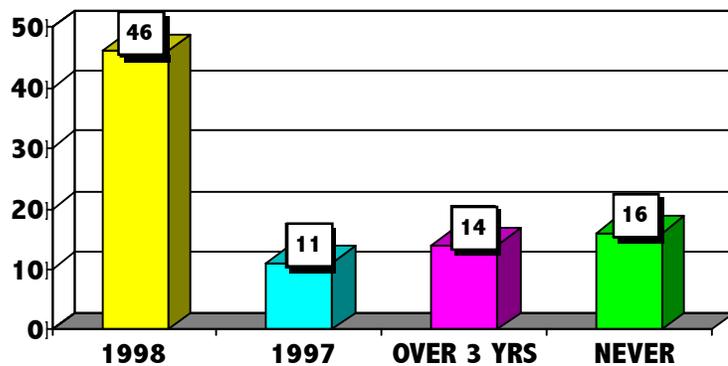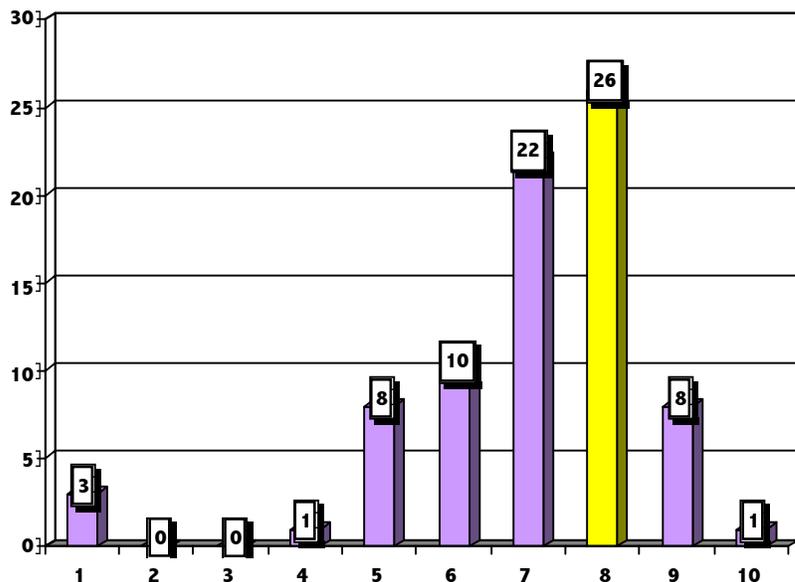*Figure 9. Last Time a Chair Attended a NAIT Convention*

Figure 10. Chairs Overall Rating of NAIT

If some of the recommendations (suggestions from chairs) are acted upon, NAIT could reverse this current trend of apathy and become a well-recognized national association.

This author believes that last year was a turning point for NAIT. It was evident that the leaders of NAIT were indeed listening to its constituents for the following reasons: (1) increase in convention attendance, (2) the Society of Manufacturing Engineers sponsorship for accreditation, (3) the establishment of a NAIT Foundation, (4) the release of a CD ROM promoting Industrial Technology to high school teachers and students, (5) the rescheduling of the convention golf outing and plant tour, (6) the suggestion by NAIT division presidents to group similar presentation topics for the same convention time slot, and (7) the general positive feedback that this author noted among convention attendees. However, a few members at the national level cannot turn an organization around by themselves. IT faculty, students, and other members must be equally committed to get the job done. Industrial Education at the teacher preparation level went through some turmoil and it has never recovered. Hopefully, we have learned something from history and the National Association of Industrial Technology will flourish in this new millennium.

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