



PathTech LISTEN

Mixed Methods Longitudinal Investigations of Students in Technician Education

Research Brief Series

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Perspectives from the Field: Industry Pilot Survey Results

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The PathTech LISTEN team administered a pilot industry survey to fifteen (15) industry professionals who participated in the 2018 High Impact Technology Exchange Conference in Miami, Florida. Industry Sectors represented were Technology & Nanotechnology, Energy (2), Manufacturing (Precision Manft, Laser Manft, Advanced Manft), Machine Design, Education, Advanced Materials, Aerospace / Engineering, Laser & Electro-Optics, Nuclear, Cross-Industry and Defense.

These industry professionals indicated the need for the following technical skills in new hires:

Technical Skills Needed in New Hires

- ▶ Read technical drawings 73%
- ▶ Measurement 67%
- ▶ Electricity / electronics 53%
- ▶ Mechanical testing 53%
- ▶ Work safely 47%
- ▶ Wiring 40%
- ▶ Read charts/graphs 40%
- ▶ Coding 33%
- ▶ Others: data science, tool & die, creativity & problem-solving, material management, laser techs, “plumbing” - gas, liquid, vacuum, *etc*

The participants indicated the need for the following “soft” skills in new hires:

“Soft” Skills Needed in New Hires

- ▶ Teamwork / Collaboration 100%
- ▶ Personal Responsibility & Work Ethic 93%
- ▶ Problem-Solving 87%
- ▶ Verbal Communication 87%
- ▶ Ethics 80%
- ▶ Time Management 80%
- ▶ Written Communication 73%
- ▶ Social Skills 73%
- ▶ Planning & Organizing 73%
- ▶ Other: Documentation, Leadership, Innovation

Participants encouraged the following educational paths for their employees: Take courses at the community college (93%), Earn certificates (60%), Earn AA/AS degrees (47%), Comments: expect employees to already have AS degrees.

Of the group surveyed, 73% of participants hired from two-year technical programs, and 27% said they did not. They said they mainly hired from these programs: data science, analytics, cyber, MTT, CNC, mechatronics (2), MTMS, EE, CS, laser tech, machine tech, drafting, mechanical, electrical, nuclear engineering tech, senior technician. They also said they hire from these Disciplines: engineering, IT, applied math, computer science, maintenance, tool & die, engineering tech (2), chemistry, material tech, technicians.

Participants hired new employees using the following channels:

What channels are used for hiring?

- ▶ Internships / Co-ops 82%
- ▶ Faculty referrals 55%
- ▶ On-campus job fair 45%
- ▶ On-campus interviewing 45%
- ▶ Social media (*i.e.* LinkedIn) 45%
- ▶ Alumni networks 45%
- ▶ Campus job boards 27%
- ▶ Other: Headhunter, partner with colleges
- ▶ Comments: Don’t know where to recruit from at colleges, don’t hire from two-year programs - need senior folks

When the industry professionals were asked if they have hired a student from a two-year technical program in the last year, 53% responded YES and 47% responded NO.

This pilot survey, the results, and stakeholder feedback at the HITEC conference will be used to develop industry outreach initiatives to facilitate connections between technician programs and employers.