Work-Based Learning Program: 2025 Cohort Report

Advanced Manufacturing Pathway · End-of-placement survey, n = 58 of 64 participants (91% response)

Placements worked best where experienced operators took time to teach, and 38% of participants received a job or apprenticeship offer from their host. The clearest gap was technical readiness: participants rated their preparation lowest, and print reading and CNC setup came up most often as skills they had to learn on the job.

64
participants placed with 19 employers

89%
completed their placement (57 of 64)

38%
offered a job or apprenticeship by their host

86%
would recommend their placement to a classmate

Placements

Share of 64 participants by placement type

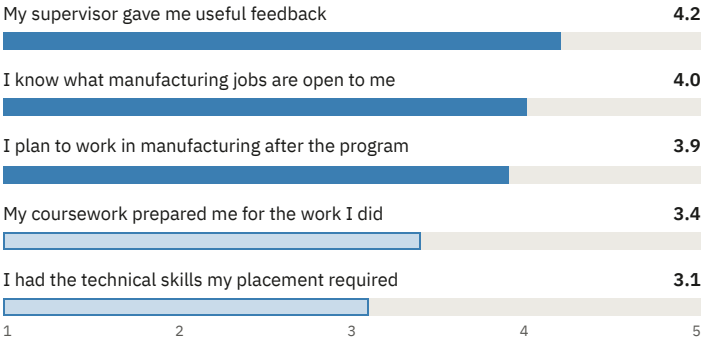


Paid internship 26 (41%) · Registered apprenticeship 22 (34%) · Pre-apprenticeship 16 (25%)

Host employers by sector: precision machining (7), medical devices (5), automotive suppliers (4), plastics and molding (3). Average placement: 10 weeks, 75% paid.

Survey ratings

Mean agreement, 1 = strongly disagree, 5 = strongly agree. Lighter bars mark the two lowest items.



What participants said

Themes from 274 open-ended comments, as a share of the 58 respondents who raised each one. Quotes are illustrative.

Learning from experienced operators
47% of respondents

Participants valued operators and leads who explained the why behind each step, and many named one person who shaped their placement.

"The machinists showed me tricks that weren't in any of our labs."

Print reading and GD&T
38% of respondents

Students could read prints in class but struggled with speed and tolerances on the floor.

"I could read a print in class, but not fast enough on the floor."

Asking for help on the floor
33% of respondents

Many were unsure when or how to interrupt a busy supervisor, especially in the first two weeks.

"Asking questions was the hardest part at first."

Safety culture
29% of respondents

Participants noticed how seriously hosts treated safety procedures, and most saw it as a positive.

"Lockout/tagout was taken more seriously than I expected, which I liked."

CNC setup, not just operation
26% of respondents

Coursework emphasized running parts; placements expected setup, offsets, and first-article checks.

"I wish we had spent more time on setup, not just running parts."

Shifts and transportation
21% of respondents

Second-shift placements were hard to reach without a car and hard to balance with classes.

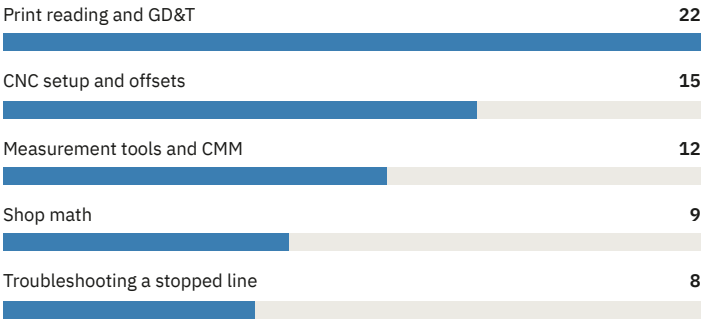
"Getting to second shift without a car was tough."

Gaps and recommendations

Work-Based Learning Program · Advanced Manufacturing Pathway · 2025 cohort

Where preparation fell short

Respondents who named each skill as one they had to learn on the job (n = 58)



Reading the two together

How the ratings and comments line up

The lowest-rated survey items were technical readiness (3.1) and coursework preparation (3.4). The comments explain why: the skills participants had to learn on the job were mostly practical versions of topics they had covered in class, at production speed. Supervisor feedback was the highest-rated item (4.2) and the most common positive theme, which suggests hosts are already filling part of the gap.

Recommendations

Each tied to the evidence behind it

1	**Add timed print-reading practice before placements** Short weekly exercises using real shop prints, with tolerances, in the semester before students are placed.	EVIDENCE Top gap (22 of 58); technical readiness rated 3.1
2	**Shift CNC lab time toward setup** Give each student at least one full setup, including offsets and a first-article check, before placement.	EVIDENCE CNC setup theme (26%); 15 named it a gap
3	**Teach students how to ask for help on the floor** A one-session orientation on shop-floor communication: when to interrupt, who to ask, and how to describe a problem.	EVIDENCE Asking for help theme (33%), concentrated in the first two weeks
4	**Plan around shifts and transportation** Match second-shift placements to students with transportation, or coordinate carpools with host employers.	EVIDENCE Shifts and transportation theme (21%)
5	**Name a mentor at each host** Ask each employer to name one operator as the student's go-to person, with a mid-placement check-in.	EVIDENCE Operator learning was the top theme (47%); feedback rated 4.2

How this report was produced

An LLM-assisted workflow coded every open-ended comment, checked against human coding before it ran on the full dataset.

Cohen's κ 0.81

Model and human agreement on a random sample of 60 comments (substantial agreement is above 0.7)

1. **Survey export.** 58 responses, 5 rating items, 5 open-ended questions
2. **Codebook.** 6 themes, refined over two rounds of human review, with edge cases defined first
3. **Validation.** Model coding compared with human coding on a random sample before the full run
4. **Full run.** 274 comments coded; ratings summarized in the same pass
5. **Interpretation.** Themes, gaps, and recommendations written by a researcher, not the model
6. **Next cohort.** The same workflow reruns on new survey data, so year-over-year comparisons are consistent