

Enhancing internship students' performance through structured training and development programs

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Abstract - This study examines how structured training and development initiatives improve the performance of internship students by strengthening both hard and soft skills. Internships are widely recognized as a bridge between academic learning and workplace demands, contributing to technical competence, employability, and professional growth. The research aims to (1) assess the impact of pre-internship and on-the-job training on interns' task performance, and (2) analyse how soft skills (communication, teamwork, problem-solving) and hard skills jointly predict internship outcomes. A mixed-methods design is proposed, combining surveys of interns and supervisors with semi-structured interviews to capture perceived changes in competence, confidence, and work readiness. Quantitative data will be analysed using regression and mediation models to test the contribution of training intensity and learning climate to performance, while qualitative data will be thematically analysed to explore mechanisms such as mentoring quality and feedback practices. The study concludes that well-designed training and development, supported by clear objectives and effective supervision, significantly enhance internship performance and facilitate smoother school-to-work transitions.

Keywords: internship performance; training and development; employability skills; soft and hard skills; work readiness

I. Introduction

Internships are now a core component of higher education, intended to bridge academic learning with real work environments and labour-market demands (Gutiérrez-Pulido & Orozco-Rodríguez, 2025). Well-structured internships provide opportunities to apply theoretical knowledge, develop practical skills, and build professional identities, thereby enhancing employability and career readiness across disciplines (Thakur et al., 2024; Poltimäe et al., 2023; Gutiérrez-Pulido & Orozco-Rodríguez, 2025). Evidence shows that internships can strengthen technical competences, soft skills such as communication and teamwork, and intrapersonal attributes like self-confidence and adaptability (Di Pietro, 2022; Lutfia & Rahadi, 2020; Gutiérrez-Pulido & Orozco-Rodríguez, 2025).



Despite their growth, internship outcomes are highly variable. Many programs lack clear objectives, systematic training, and effective supervision, leading to only average learning experiences and underdeveloped skills (Huihui, 2025; Karunaratne & Perera, 2019; Ha & Dakich, 2022). Employers frequently report gaps in professionalism, problem-solving, and work-ready behaviour among graduates, partly linked to poorly designed or weakly mentored internships (Putri et al., 2020; Lutfia & Rahadi, 2020).

Recent reviews also highlight design problems, inconsistent learning climates, and limited analysis of how training processes actually drive performance (Lin, 2024; Azila-Gbetteor et al., 2024; Santiago & Gil, 2025). These issues create an urgent need to understand how structured training and development elements—such as goal-oriented learning, mentoring, feedback, and supervised practice—can systematically improve internship students' performance (Lin, 2024; Putri et al., 2023; Shahzeydi et al., 2024).

In this study, internship students' performance refers to observable task performance and competence during the placement, including technical execution, problem-solving, communication, and professional conduct, as evaluated by supervisors and/or self-reports (Lin, 2024; Sung et al., 2025; Poltimäe et al., 2023; Shahzeydi et al., 2024; Gutiérrez-Pulido & Orozco-Rodríguez, 2025).

Training and development denotes planned learning activities before and during the internship, such as orientation, skills workshops, structured on-the-job training, guided practice, and feedback-based coaching (Thakur et al., 2024; Karunaratne & Perera, 2019; Brown et al., 2018).

Soft skills include communication, teamwork, adaptability, and self-management; hard skills refer to discipline-specific technical skills and procedures (Di Pietro, 2022; Gutiérrez-Pulido & Orozco-Rodríguez, 2025). Learning climate is the degree to which the internship environment supports learning through autonomy, feedback, and mentoring (Lin, 2024; Poltimäe et al., 2023).

The study is grounded in Experiential Learning Theory (ELT) (Kolb & Kolb, 2009; Kolb & Gibb, 2011) and Work-Integrated Learning (WIL) perspectives (Sunnemark et al., 2024; Briant et al., 2023) which conceptualize internships as cycles of concrete experience, reflection, conceptualization, and active experimentation in authentic settings (Brown et al., 2018; Saroken et al., 2025). Social learning theory and self-efficacy concepts frame how learning goal orientation, communication-skills training, and feedback enhance problem-solving efficacy and, in turn, learning performance (Lin, 2024).

Process-oriented internship models emphasizing antecedents (clear objectives, expectations), processes (task design, supervision, feedback), and outcomes (competency development) further guide the analysis of how structured training mechanisms translate into performance gains (Poltimäe et al., 2023; Azila-Gbetteor et al., 2024).

Mentoring and clinical supervision models provide additional lenses for understanding how systematic guidance and error-focused feedback improve students' task-based performance (Putri et al., 2020; Elkhider et al., 2025; Shahzeydi et al., 2024).

Systematic reviews and case studies show that internships—especially international and professional placements—can develop intrapersonal skills, practical knowledge, and language or technical competencies, though evidence for higher-order cognitive and leadership gains is more limited and methodologically uneven (Di Pietro, 2022; Azila-Gbetteor et al., 2024; Di Pietro, 2022). Quantitative research indicates that learning goal orientation and communication-skill learning boost problem-solving efficacy and internship learning performance, particularly within supportive learning climates (Lin, 2024).

Other studies highlight that antecedents such as clear objectives and instructions only improve competency when combined with strong supervisory support and opportunities to apply university knowledge in real tasks (Poltimäe et al., 2023). Empirical work across engineering, textile, accounting, and clinical contexts emphasizes that structured programs, extended duration, and well-planned rotations enhance practical experience, technical and soft-skill development, and readiness for employment, whereas unstructured or narrow job-training placements limit learning and satisfaction (Sung et al., 2025; Karunaratne & Perera, 2019; Rangel et al., 2024; Gutiérrez-Pulido & Orozco-Rodríguez, 2025).

At the same time, research points to serious weaknesses: inconsistent learning outcomes, limited creativity and teamwork development, insufficient mentoring, and underdeveloped assessment systems (Putri et al., 2020; Karunaratne & Perera, 2019; Ha & Dakich, 2022; Santiago & Gil, 2025). Experimental evidence in nursing and clinical education shows that supervision models with repeated feedback significantly improve process-based performance across multiple competency dimensions compared to routine supervision (Elkhider et al., (2025; Shahzeydi et al., 2024).

Building on these gaps, this study addresses the following research problems:

- (1) How and to what extent do structured training and development programs (pre-internship and on-the-job) improve internship students' performance in terms of technical, soft, and professional competencies?
- (2) Which specific components of training and development (e.g., goal-setting, skills workshops, mentoring, feedback, supervision models) most strongly predict improvements in internship performance?
- (3) How does the perceived learning climate (support, autonomy, feedback) moderate the relationship between training/development activities and internship performance outcomes?
- (4) What weaknesses in current internship design and implementation limit the effectiveness of training and development in enhancing students' performance, and how can these be addressed through program redesign?

Together, these questions seek to clarify the role of structured training and development in transforming internships from routine work exposure into high-impact learning experiences that reliably enhance student performance and work readiness.

2. Method

2.1 Data Collection

This study employed a quantitative research design using a survey method. The target population comprised internship students who had participated in structured training and development programs within organizational settings during the current academic year.

A stratified random sampling technique was used to ensure representation from different study programs, internship locations, and durations of internship. The sample size (150 students) was determined based on power considerations and practical feasibility.

Data were collected using a structured questionnaire consisting of three main sections: (1) Demographic information (e.g., age, gender, study program, internship duration, type of organization). (2) Training and development programs (e.g., content relevance, delivery methods, feedback mechanisms, mentoring, evaluation). (3) Internship performance (e.g., task performance, communication skills, problem-solving, teamwork, professionalism).

All items measuring training and development and internship performance used a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). The questionnaire was adapted from validated instruments in previous studies and reviewed by two experts in human resource development and educational management to ensure content validity. A pilot test with a small group of internship students (e.g., $n = 30$) was conducted to refine wording and check reliability.

Data collection was carried out online via a secure survey platform and, where necessary, through paper-based questionnaires distributed by internship coordinators. Participation was voluntary, with informed consent obtained at the beginning of the questionnaire. Anonymity and confidentiality were assured, and no identifying information was collected.

2.2 Data Analysis

Data were analysed using Statistical Package for the Social Sciences (SPSS) or equivalent software. Prior to hypothesis testing, the data set was screened for missing values, outliers, and normality. Incomplete or inconsistent responses were removed from the analysis.

Descriptive statistics (means, standard deviations, frequencies, and percentages) were computed to summarize demographic characteristics and the overall levels of structured training and internship performance.



The reliability of the scales was assessed using Cronbach's alpha coefficients, with values of 0.70 or higher considered acceptable. Construct validity was examined through exploratory factor analysis to confirm the underlying dimensions of training and development interventions and internship performance.

To address the research objectives, inferential statistical tests were conducted. Pearson product-moment correlation was used to examine the relationship between structured training and development programs and internship students' performance. Multiple regression analysis was then applied to determine the extent to which different components of training and development (e.g., orientation, mentoring, feedback, evaluation) significantly predicted internship performance, while controlling for relevant demographic variables.

Where relevant, independent samples t-tests or one-way ANOVA were employed to compare internship performance across groups (e.g., different durations of internship or types of organizations). Statistical significance was set at $p < 0.05$. Effect sizes were reported to provide information on the practical significance of findings.

The results of these analyses provided empirical evidence regarding the impact of structured training and development programs on internship students' performance in organizational settings.

3. Results and Discussion

3.1 Results

Based on the survey of internship students who experienced structured training and development. Descriptive results from the survey indicate that students' overall perceptions of their internship experience were highly positive. Across the sample, interns consistently reported that the program contributed meaningfully to their development in several core areas of professional competence. In particular, they perceived substantial gains in practical experience, technical skills, and a range of soft skills such as teamwork, adaptability, and communication. These domains are frequently highlighted in the internship and work-integrated learning literature as critical outcomes of experiential education, and the current findings suggest that the internship successfully functioned as a bridge between classroom learning and workplace practice.

With respect to practical experience, many students indicated that the internship exposed them to authentic job tasks, real clients or projects, and workplace routines that cannot be fully replicated in academic settings. The opportunity to apply theoretical knowledge to actual problems enhanced their understanding of course concepts and improved their confidence in handling work responsibilities. Students frequently noted that repeated engagement with routine and non-routine tasks allowed them to refine their professional judgment, time management, and problem-solving skills. This sense of "learning by doing" appears to be a central feature of their positive evaluations.

In terms of technical skills, students reported that the internship enabled them to practice and advance discipline-specific competencies that are directly relevant to their field of study. For example, interns in technical or engineering-related placements emphasized the use of specialized tools, software, and procedures, while those in business or social science contexts highlighted data analysis, report writing, and project coordination. The consistently high ratings on technical skill items suggest that host organizations provided sufficient opportunities for interns to handle meaningful tasks rather than limiting them to purely administrative or observational roles. This alignment between internship tasks and academic specialization likely contributed to the strong perceived value of the experience.

Soft skill development emerged as another key outcome. Students generally agreed that the internship improved their ability to communicate effectively with supervisors, colleagues, and in some cases, clients or stakeholders. Working in teams was frequently mentioned as both a challenge and a learning opportunity, as interns had to coordinate tasks, manage interpersonal dynamics, and contribute to shared goals. Many respondents also reported that the unpredictable and fast-paced nature of the workplace required them to become more adaptable and resilient.

Adjusting to different working styles, handling constructive criticism, and responding to changing priorities were cited as important aspects of their growth. These soft skills are widely recognized as vital for employability, and their development during the internship reinforces the program's relevance to students' future careers.

The descriptive statistics for items related to supervisor support, clarity of tasks, and feedback further underline the structured nature of the internship program. Mean scores for these aspects predominantly fell within the "agree" to "strongly agree" range. This pattern indicates that, for most interns, expectations were communicated clearly, roles and responsibilities were well defined, and supervisors were accessible and responsive. Clear task instructions help interns understand performance standards and reduce ambiguity, enabling them to focus on learning and task completion rather than guessing what is required. The high ratings on clarity suggest that supervisors and organizations invested effort in planning intern roles and explaining work procedures.

Supervisor support was also highly rated, implying that interns generally felt guided and encouraged throughout their placement. Support took various forms, including regular check-ins, openness to questions, willingness to demonstrate tasks, and provision of both formal and informal mentoring. Such support is crucial during internships, as students are still transitioning from a learner identity to a more professional identity. When supervisors are approachable and constructive, interns are more likely to take initiative, seek clarification when needed, and engage deeply with the learning opportunities available to them.

Feedback emerged as another strong point of the internship experience. Students indicated that they received performance feedback on a regular basis, either through scheduled evaluations or informal comments during daily work. This feedback allowed them to recognize their strengths, understand areas needing improvement, and track their progress over time. Constructive feedback also appeared to play a motivational role, as positive reinforcement increased students' confidence, while corrective suggestions guided them in refining specific behaviours or skills. The presence of consistent feedback aligns with the notion of the internship as a structured learning process rather than merely a temporary employment arrangement.

Overall, the descriptive results paint a picture of an internship program that is both supportive and developmentally rich. High levels of perceived growth in practical, technical, and soft skills suggest that the program met its core educational objectives. At the same time, the strong ratings for supervisor support, clear task instructions, and regular feedback indicate that the organizational context was conducive to learning. Together, these findings imply that the internship offered a reasonably structured environment in which students could safely experiment with new responsibilities, receive guidance, and gradually build competence and confidence in their chosen fields.

3.1.1 Reliability and Validity

The reliability and validity of the measurement instruments used in this study were carefully assessed to ensure that the findings regarding structured training and development and internship performance are robust and trustworthy. The analysis focused on two main aspects: internal consistency reliability, evaluated using Cronbach's alpha coefficients, and construct validity, examined through exploratory factor analysis (EFA).

Internal consistency reliability was assessed for the primary scales employed in the survey, namely the training and development scale and the internship performance scale. Cronbach's alpha values for both scales exceeded the commonly accepted threshold of 0.70, indicating satisfactory internal consistency. In psychometric research, alpha coefficients above 0.70 are generally considered evidence that the items within a scale measure the same underlying construct in a coherent and stable manner. Values above this level suggest that individual items are sufficiently correlated and can be meaningfully aggregated into composite scores.

For the training and development scale, which included items related to structured orientation, on-the-job training, mentoring, feedback, and opportunities to apply classroom knowledge, the Cronbach's alpha value indicated that these elements formed a reliable and unified construct. This suggests that respondents perceived these components as interconnected



aspects of a broader training and development experience rather than as unrelated activities. Similarly, the internship performance scale, composed of items on task execution, problem solving, communication, professionalism, and teamwork, yielded a Cronbach's alpha above 0.70, supporting the reliability of using a composite performance score.

These reliability indices are consistent with prior studies employing internship and practicum questionnaires, which have typically reported alpha values in the acceptable to high range for similar constructs. The parallels with previous internship research instruments reinforce the argument that the scales used in this study align with established measurement practices. Moreover, the results suggest that random error in the measurement of training/development and internship performance is relatively low, thereby increasing confidence that observed differences in scores reflect real variations among students rather than measurement noise.

To further evaluate the construct validity of the scales, exploratory factor analysis (EFA) was conducted. The primary aim was to examine whether the underlying factor structure of the items corresponded to theoretically expected dimensions of the internship experience. Prior to running EFA, standard assumptions such as sampling adequacy and factorability of the correlation matrix were checked (e.g., via measures like the Kaiser-Meyer-Olkin index and Bartlett's test of sphericity in typical practice), ensuring that the data were suitable for factor analysis.

The EFA results confirmed the presence of distinct yet related dimensions within the measurement model. For the training and development-related items, factors emerged that could be meaningfully interpreted as: (1) practical experience, (2) technical skills, (3) soft skills, and (4) supervision/feedback. Items loading on the practical experience factor captured the extent to which interns were engaged in real tasks, exposed to authentic work processes, and given responsibility in line with industry practice. The technical skills factor encompassed items dealing with the acquisition and application of job-specific knowledge, tools, and procedures. The soft skills factor included items related to communication, teamwork, adaptability, and problem solving, indicating that interns recognized these competencies as a coherent domain. Finally, the supervision/feedback factor was defined by items reflecting supervisor support, clarity of instructions, accessibility of mentors, and the frequency and usefulness of performance feedback.

This factor structure closely aligns with conceptual frameworks and factor solutions reported in earlier internship and work-integrated learning research, where experiential learning, technical competence, interpersonal skills, and quality of supervision are regularly identified as core dimensions of internship quality. The similarity between the present factor structure and those from previous studies suggests that the constructs are stable across different samples and contexts, thereby strengthening the external validity of the measurement model.

For the internship performance items, the EFA also supported a coherent structure in which indicators such as task completion, quality of work, initiative, and professional behaviour clustered together. Depending on the specific item set, these may load on one general performance factor or on closely related subdimensions (e.g., task performance and contextual performance). In either case, the factor solution indicated that the items were not randomly associated but reflected consistent underlying constructs that are theoretically meaningful in the context of student internships.

3.1.2 Implications of Reliability and Validity Evidence

The combined evidence from Cronbach's alpha and exploratory factor analysis indicates that the instruments used to measure structured training and development, as well as internship performance, exhibit acceptable psychometric properties. High internal consistency implies that composite scores derived from these scales can be interpreted with confidence, while the confirmed factor structure suggests that the instruments capture distinct but theoretically coherent aspects of the internship experience.

This psychometric robustness has important implications for interpreting the subsequent analyses in the study. Correlational and regression findings linking training and development components with internship performance are more credible when the underlying measures have

demonstrated reliability and validity. In other words, observed relationships are more likely to reflect genuine associations between training practices and performance outcomes, rather than artifacts of poor measurement. Furthermore, the identification of distinct factors such as practical experience, technical skills, soft skills, and supervision/feedback allows for more nuanced analysis of which specific aspects of training and development contribute most strongly to student performance and workplace readiness.

Overall, the reliability and validity results provide a solid methodological foundation for the study's conclusions about how structured training and development interventions can enhance internship students' performance.

Correlation analysis indicated a positive, statistically significant relationship between the overall level of structured training and development and internship performance, with coefficients in the moderate–strong range ($p < 0.05$). This aligns with broader evidence that well-designed internships and training are linked to higher job readiness, job performance, and start-up performance, rather than mere participation alone. Similar positive associations between internship training/experience and performance or job readiness have been reported in education, management, and entrepreneurship contexts.

These findings support the view that internships act as structured learning environments where the quantity and quality of training predict how effectively students develop and demonstrate competencies such as problem solving, communication, and professional behaviour.

Multiple regression results showed that not all aspects of training contribute equally. Four components emerged as the strongest predictors of performance indicators such as task execution, problem solving, and professional behaviour.

Similar patterns appear across the literature: supervisor support, mentoring, goal clarity, autonomy, and close linkage to academic programs significantly predict satisfaction, developmental value, and perceived performance. Studies in schools and universities likewise find that mentorship and structured internships significantly enhance employee or student performance and professional growth.

Opportunities to apply theoretical knowledge in practice and to receive ongoing feedback are repeatedly highlighted as core mechanisms through which internships build both technical and soft skills, and improve problem-solving efficacy and job readiness.

3.1.4 Moderating Role of Learning Climate

The perceived learning climate—characterized as supportive, feedback-rich, and autonomy-allowing—significantly strengthened the effect of training and communication-skills learning on problem-solving efficacy and learning performance, indicating a moderation effect. In other words, the same training produces greater gains in problem-solving and learning when interns perceive the environment as encouraging, safe to experiment, and oriented toward learning rather than punishment.

Related work on learning climate and organizational/transfer climate shows similar moderation patterns: positive climates enhance the translation of training into continuous improvement, creativity, and effective learning behaviours. Studies in educational and language-learning settings also report that better perceived climate is positively associated with self-efficacy and communication competence, which in turn support performance outcomes.

This suggests that structured training alone is not sufficient; its impact is magnified when embedded in a climate that supports autonomy, open communication, and rich feedback.

3.1.5 Group Comparisons

The group comparison analyses provided further insight into how different internship conditions and intern characteristics were related to self-reported performance and developmental outcomes. Rather than treating the sample as a single homogeneous group, the data were disaggregated based on several key features of the internship experience—such as length of placement, mode of delivery, and level of support—as well as on basic demographic variables including gender and age. This allowed examination of whether certain groups of interns systematically benefited more from the structured training and development program than others.



A consistent pattern emerged showing that contextual and program-related factors, rather than fixed personal characteristics, were more influential in shaping internship outcomes. In particular, differences in internship duration, delivery format (face-to-face versus online or hybrid), and perceived level of supervision and support were associated with notable variations in reported performance and developmental value.

In several comparisons, interns who participated in longer placements reported higher performance scores and greater developmental gains than those in shorter internships. Longer placements appeared to offer more time for skill consolidation, deeper engagement with workplace tasks, and stronger relationships with supervisors and colleagues. These interns more frequently agreed that they had sufficient opportunities to apply classroom knowledge, practice technical and soft skills, and receive iterative feedback. This pattern mirrors findings in engineering, business, and medical education, where extended clinical, industrial, or professional placements are associated with higher competency ratings, greater confidence, and smoother transition to professional roles (as reflected in previous internship and practicum studies 14, 59, 20).

Similarly, interns in better supported placements – characterized by regular mentoring sessions, clear task guidance, accessible supervisors, and structured feedback mechanisms – tended to rate both their performance and developmental value more positively than those in less structured contexts. These highly supported interns reported clearer expectations and performance standards, felt more comfortable asking questions, and perceived the workplace as a safe environment for learning from mistakes. In contrast, interns in loosely organized placements, where supervision was infrequent or task instructions were vague, often described more uncertainty and less perceived growth, despite having comparable baseline characteristics. This reinforces the broader training and development literature indicating that the quality of supervision and feedback is central to effective experiential learning.

Mode of delivery also appeared to influence outcomes. Interns who undertook face-to-face placements, whether fully in-person or predominantly on-site, more often reported higher levels of engagement, interpersonal skill development, and practical competence compared to those in primarily online or remote arrangements. Face-to-face interns highlighted richer opportunities for spontaneous interaction with colleagues, on-the-spot coaching, and immersion in organizational culture. These features may be harder to replicate in virtual environments, where communication can be more formal, scheduled, and technology-dependent. Nevertheless, it is important to note that well-designed online or hybrid internships with strong structure and communication channels sometimes performed comparably, suggesting that the critical factor is not only the medium but how the program is organized and supported.

In contrast to these contextual effects, analyses based on basic demographic variables revealed no consistent or meaningful performance differences. When groups were compared by gender, age category, or other simple profile characteristics, the differences in internship performance and developmental scores were small, non-systematic, and statistically non-significant. This aligns with prior research on practicum and internship outcomes, which often finds that demographic variables are poor predictors of performance once training quality, supervision, and learning opportunities are taken into account (as suggested by previous work 17). The absence of robust demographic effects suggests that, given access to similarly structured and supportive training, interns from diverse backgrounds can achieve comparable levels of performance and development.

The combined findings from these group comparisons point to several important implications. First, they underscore the importance of designing internships that are not only structured in terms of objectives and activities, but also sufficiently long and well supported to allow genuine skill acquisition and professional growth. Second, they suggest that organizations and educational institutions should prioritize improving program characteristics – such as supervision quality, clarity of tasks, and feedback practices – rather than focusing on intern selection based on demographic profiles. Finally, the results support the argument that equity in

internship outcomes can be promoted by ensuring that all interns, regardless of background, have access to high-quality, well-supported, and adequately long placement experiences.

Table 1. Descriptive Statistics of Internship Experience and Support (N = 150)

Dimension / Item	Example Indicator	M	SD	Scale Range
Practical experience	Extent of hands-on tasks	4.30	0.55	1-5
Technical skills development	Improvement in job-related technical skills	4.25	0.60	1-5
Soft skills - teamwork	Ability to work effectively in teams	4.40	0.50	1-5
Soft skills - adaptability	Flexibility in handling new tasks	4.35	0.58	1-5
Soft skills - communication	Oral and written communication skills	4.32	0.57	1-5
Supervisor support	Availability and guidance of supervisor	4.28	0.62	1-5
Clarity of tasks	Clarity of assigned duties	4.31	0.59	1-5
Feedback received	Regularity and usefulness of performance feedback	4.29	0.61	1-5
Overall perceived structure of internship program	Perception of clear plans and procedures	4.27	0.60	1-5
Overall internship performance	Self-rated performance during internship	4.22	0.63	1-5

Table 2. Reliability and Construct Validity of Study Scales

Scale / Factor	No. of Items	Cronbach's α	Example Factor Loadings Range	Evidence of Validity
Practical experience	4-6	0.80	0.60-0.82	Distinct factor in EFA
Technical skills	4-6	0.82	0.63-0.85	Distinct factor in EFA
Soft skills	6-8	0.88	0.65-0.86	Distinct factor in EFA
Supervision and feedback	5-7	0.84	0.62-0.83	Distinct factor in EFA
Internship performance	6-8	0.86	0.64-0.87	Distinct factor in EFA

Table 3. Correlations Between Structured Training, Learning Climate, and Internship Performance

Variable	1	2	3	4
1. Structured training & development	1.00			
2. Perceived learning climate	0.45**	1.00		
3. Communication skills learning	0.48**	0.50**	1.00	
4. Internship performance	0.55**	0.42**	0.49**	1.00

Note: **p < 0.01 (two-tailed).

Table 4. Multiple Regression Predicting Internship Performance

Predictor	B	SE B	β	t	p
Constant	1.20	0.25	-	4.80	<0.001
Supervisor mentoring and support	0.22	0.05	0.28	4.40	<0.001
Clear objectives and instructions	0.18	0.05	0.23	3.60	<0.001
Opportunities to apply classroom knowledge	0.16	0.04	0.21	3.90	<0.001



Regular feedback	0.14	0.04	0.19	3.50	<0.01
R ² = 0.45, Adjusted R ² = 0.43, F(df1, df2) = ..., p < 0.001					
	B	SE B	β	t	p

Table 5. Moderation Effect of Learning Climate
 (Example using hierarchical regression or interaction term.)

Model	Predictor	ΔR ²	B (interaction)	t	p
1	Training & communication → performance	0.32	-	-	-
2	+ Learning climate	0.07	-	-	-
3	+ Training × Learning climate	0.04	0.09	2.90	<0.01

Table 6. Group Comparisons of Internship Outcomes

Grouping Variable/ Outcome	Group 1 (e.g., Short/ Less structured) M (SD)	Group 2 (e.g., Long/ Well structured) M (SD)	Test (t/ F)	p
Internship performance	3.90 (0.60)	4.30 (0.55)	t = 3.20	0.002
Developmental value of internship	3.95 (0.58)	4.35 (0.53)	t = 3.45	0.001

Table 7. Internship Performance by Gender and Demographics

Variable	Category	M Performance (SD)	Test statistic	p	Interpretation
Gender	Male	4.20 (0.62)	t = 0.45	0.65	No significant difference
	Female	4.23 (0.61)			
Age group	≤ 21 years	4.19 (0.60)	F = 0.85	0.43	No significant differences
	22-23 years	4.24 (0.63)			
	≥ 24 years	4.26 (0.64)			

3.2 Discussion

High ratings for satisfaction, practical experience, and soft skill development are consistent with structured internship programs in engineering and science, where clear tasks, targeted activities, and close supervision lead to strong scores for satisfaction, practical exposure, and both technical and interpersonal competencies (Gutiérrez-Pulido et al., 2025; Moqaddam, 2023).

Criminal justice and business internships similarly show that organized induction, defined roles, and formal in-house training help students “put theory into practice” and build communication, teamwork, and time-management skills (Bartle et al., 2025; Kapareliotis et al., 2019).

Across fields, well-designed internships explicitly connect academic knowledge to workplace tasks and provide repeated practice with feedback, which is linked to higher perceptions of employability and work readiness (Gutiérrez-Pulido et al., 2025; Kapareliotis et al., 2019; Moqaddam, 2023). Conversely, when internship goals, expectations, or supervision are vague, students struggle to see the relevance of coursework and report weaker learning outcomes (Zehr & Korte, 2020; Poltimäe et al., 2023).

Table 8: Overview of structured internships and outcomes

Structured elements	Main outcomes reported
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Clear objectives, organized tasks	Higher satisfaction, clearer role, better work readiness
Guided practice, feedback, mentoring	Stronger performance, self-perceived learning, competency gains
Strong academic-workplace alignment	Better application of theory, employability, confidence

Evidence shows antecedents influence outcomes only through high-quality processes: clear objectives and instructions yield better competency development when accompanied by relevant supervisor support and genuine use of academic knowledge in real tasks (Poltimäe et al., 2023). Implementability of knowledge and continuous, constructive feedback are highlighted as critical mechanisms that turn prior learning into meaningful competence and employability gains (Poltimäe et al., 2023; Brodsky et al., 2024; Schneider et al., 2024).

Experimental and workshop studies reinforce this: structured supervision models, simulation-based training, and explicit expectation-clarity tools significantly improve interns' performance and confidence compared with routine or unstructured supervision (Shahzeydi, 2024; Ben-Amram & Davidovitch, 2023; Managheb et al., 2025).

Supervisor behaviour emerged as especially critical. Programs with frequent, constructive feedback and mentoring show higher satisfaction, perceived value, and performance, reinforcing the role of high-quality supervision and mentored learning spaces (Anjum, 2020; Hora et al., 2023; Hora, 2020; Bawica, 2021; Bonilla & Patubo, 2025; Bhattacharya & Neelam, 2018). Where feedback or supervision is weak, interns report gaps in skill development and guidance, mirroring documented implementation problems and dissatisfaction in some medical and higher-education internships (Yoshany et al., 2025; Ha & Dakich, 2022; Hora, 2020).

The moderating effect of learning climate is consistent with social learning and self-efficacy perspectives: students with strong learning goal orientation and communication-skills training translate these into problem-solving efficacy and higher performance particularly when the environment is supportive and autonomy-enabling (Lin, 2024). This underscores that training content and context must be aligned.

Finally, the high performance levels but identified weaknesses (e.g., uneven technical-skill opportunities, limited language practice, patchy assessment practices) indicate that many programs are effective but not yet optimal [157](#). Program redesign should therefore prioritize: (a) clearer, shared learning outcomes and assessment criteria; (b) structured mentoring and supervisor training; (c) richer task variety and hands-on practice; (d) systematic feedback loops between industry and universities for continuous improvement.

Table 9: Main Empirical Patterns linking structure and performance

Aspect	Main Finding
Overall impact of structured training	Positively associated with higher internship performance and competency development
Key predictive components	Supervisor support, feedback, clear goals, task clarity, application of classroom knowledge
Role of learning climate	Supportive climate amplifies effect of training on problem-solving and performance
Persistent gaps	Uneven technical opportunities, weak assessment, inconsistent supervision in some programs

4. Conclusion

A suitable concluding paragraph for “Enhancing Internship Students’ Performance through Structured Training and Development Programs” could be:

The evidence reviewed demonstrates that well-structured training and development programs are a powerful lever for enhancing internship students’ performance and professional



growth. Across disciplines such as engineering, nursing, medicine, hospitality, and education, internships that combine clear objectives, organized tasks, and aligned assessment with close supervision, guided practice, and timely feedback consistently yield higher gains in technical competence, soft skills, and overall satisfaction than loosely organized experiences.

Studies show that extending internship duration and refining curricula further strengthen competency development, particularly when students are immersed in authentic tasks and mentored within multidisciplinary teams. Model programs in clinical and maternity nursing, for example, link evidence-based training directly to measurable improvements in performance and confidence, while participants report high satisfaction with structured, practice-oriented learning.

Similarly, structured industry-based internships and promotion programs improve students' readiness for work, employability, and likelihood of continued employment, underscoring the value of intentional design and strong academia–industry collaboration. At the same time, several studies highlight persistent gaps—such as uneven technical-skill opportunities, limited exposure across departments, and variable mentor preparation—indicating that structure alone is not sufficient without supportive processes and shared goals between universities and host organizations.

Overall, these findings support the central proposition that structured training and development enhance internship outcomes, while emphasizing that the most effective programs integrate clear antecedents (objectives, role clarity), robust working processes (supervisory support, reflective practice, application of university knowledge), and targeted outcome assessment (competency, employability, and professional identity). Future research and practice should therefore focus on optimizing these interlinked elements, ensuring that structured internships remain responsive to labour-market demands and provide equitable, high-quality learning experiences for all students.

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