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Influence of Continuous Employee Training on Productivity, and Performance in the Construction Industry

Edwin B. Ubungin[1], Marjorie S. Velasco[1]
[1]School of Graduate Studies, Core Gateway College, Inc., San Jose City, Nueva Ecija, Philippines

Email: msvelasco@cgci.edu.ph

ABSTRACT

This study assessed continuous employee training, productivity, and work performance among employees of a construction firm undertaking school-building projects in San Jose City, Nueva Ecija, Philippines, during 2026. Using a descriptive research design, data were collected from 55 randomly selected employees holding administrative, technical, supervisory, and operative positions through a researcher-made questionnaire and analyzed using descriptive statistics. Respondents agreed on the importance of continuous employee training (M = 3.23, SD = 0.66), with occupational safety and health training receiving the highest assessment (M = 3.46, SD = 0.78), while training relevance to actual tasks received the lowest (M = 2.97, SD = 0.86). Overall productivity was rated Very Productive (M = 4.40, SD = 0.33), particularly in teamwork and collaboration (M = 4.69, SD = 0.47), whereas initiative in addressing challenges was relatively lower (M = 4.14, SD = 0.36). Performance in skills (M = 3.35, SD = 0.42) and quality of work (M = 3.32, SD = 0.57) was rated Outstanding. These findings underscore the perceived importance of workplace training alongside favorable productivity and performance assessments. Construction firms should strengthen job-specific training, practical problem-solving, safety instruction, and quality-control practices. The single-firm, questionnaire-based descriptive design limits generalizability and precludes causal inference. The study offers context-specific evidence to guide construction workforce development and supports SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), and SDG 9 (Industry, Innovation and Infrastructure) through potential contributions to skills development, safer work, and reliable infrastructure delivery.

Keywords: *Construction Industry, Continuous Training, Employee Performance, Employee Productivity, Occupational Safety, Work Quality*

1. INTRODUCTION

The construction industry plays a significant role in economic development, employment generation, and infrastructure improvement. Its operational efficiency depends largely on workforce competence, technical proficiency, occupational safety, and effective resource utilization. Continuous employee training is therefore an important human resource development strategy for strengthening construction workers' knowledge, practical skills, and work performance. Manoharan et al. (2024) emphasized the value of structured work-based training in improving construction labor performance and productivity, while Jian et al. (2025) identified worker skills, experience, supervision, and communication as important factors affecting construction labor productivity. Furthermore, Hayashi et al. (2023) highlighted the relevance of training and educational interventions in improving occupational safety and health among construction workers. These findings underscore the importance of examining continuous employee training in relation to workforce productivity and performance, particularly in construction projects requiring technical accuracy, operational coordination, and compliance with quality and safety standards.

Research Problem

Construction firms face persistent challenges related to workforce competency, operational inefficiencies, occupational hazards, project delays, and the quality of completed work. Although employee training is widely recognized as an important organizational practice, its practical value depends on the relevance of training activities to employees' responsibilities and their application in actual construction operations. Mtotywa and Mdlalose (2023) examined training assessment in relation to productivity improvement in construction companies, while Nielsen et al. (2023) demonstrated the importance of transferring acquired safety knowledge and skills into workplace practices. Similarly, Manoharan et al. (2024) emphasized the integration of work-based training, performance assessment, and productivity measurement in construction operations. Despite these contributions, the continuing assessment of employee training alongside productivity and work performance remains important in specific organizational and project contexts. In particular, evidence concerning employee perceptions of training relevance, technical competency, occupational safety, teamwork, and quality of work can support the development of more responsive training programs. Accordingly, the present study examines continuous employee training, productivity, and performance among employees of a construction firm undertaking school-building projects in San Jose City, Nueva Ecija, during Calendar Year 2026. It seeks to provide context-specific evidence that may guide workforce development and organizational improvement.

Assumptions of the Study

The study is guided by the assumption that continuous employee training is a relevant organizational practice for developing technical competence, promoting occupational safety, and supporting efficient work practices. Training is expected to be more useful when its content corresponds to employees' responsibilities and when acquired competencies can be applied in actual workplace activities. Nielsen et al. (2023) emphasized the importance of workplace support and training transfer, while Manoharan et al. (2024) highlighted the practical value of structured work-based training and performance assessment. The study also recognizes that employee productivity and performance are multidimensional and may be associated with workforce skills, supervision, communication, motivation, and organizational conditions. Jian et al. (2025) identified several interrelated factors influencing construction labor productivity, while Vuong and Nguyen (2022) emphasized the importance of appropriate performance measurement strategies. These assumptions provide a conceptual basis for assessing

employees' perceptions of training and their reported productivity and work performance without presuming that training alone determines these outcomes.

Objectives of the Study

The study generally aims to assess continuous employee training, productivity, and work performance among employees of a construction firm undertaking school-building projects in San Jose City, Nueva Ecija, during Calendar Year 2026. Specifically, it seeks to determine employees' perceptions of continuous training in terms of technical skills development, reduction of work-related errors, project completion, occupational safety and health, responsible construction practices, adaptability to industry developments, and relevance to assigned job responsibilities. It further aims to assess employee productivity through attendance and punctuality, problem-solving and decision-making, communication, safety compliance, teamwork, resource utilization, adaptability, project completion, initiative, and minimization of rework. Additionally, the study evaluates employee performance in terms of skills and quality of work. The findings are intended to provide a basis for recommending appropriate training and workforce development practices that may enhance organizational efficiency and support the consistent delivery of quality construction projects.

Theoretical or Conceptual Basis

The study is conceptually anchored in work-based training, continuous employee development, and the transfer of learning to workplace performance. These perspectives recognize employee training as a process through which workers acquire, strengthen, and apply competencies relevant to their responsibilities. Manoharan et al. (2024) presented an approach integrating construction labor training with performance assessment and productivity measurement, emphasizing the importance of connecting practical learning with operational requirements. Similarly, Nielsen et al. (2023) demonstrated that training outcomes should be examined not only through knowledge acquisition but also through the application of acquired skills in the workplace. Within this conceptual perspective, continuous employee training represents the principal organizational practice being examined, particularly in relation to technical proficiency, occupational safety, and job-specific learning. Employee productivity is considered through behavioral and operational indicators such as teamwork, problem-solving, resource utilization, and timely task accomplishment. Employee performance is assessed through skills and quality of work. Vuong and Nguyen (2022) supported the importance of systematic employee performance measurement, while Memon et al. (2023) emphasized the relevance of workplace and organizational factors to employee performance in the construction industry. Collectively, these studies provide a basis for examining training, productivity, and performance as related organizational concerns while recognizing that the present descriptive design does not establish causal relationships among them.

The study aligns with Sustainable Development Goal 4 (Quality Education), particularly Target 4.4, which emphasizes the development of relevant technical and vocational skills for employment. Continuous employee training contributes to the broader objective of lifelong learning through opportunities for construction workers to enhance their competencies and adapt to changing industry requirements. The importance of structured workplace learning is supported by Manoharan et al. (2024), who examined work-based training practices within construction operations. The study also supports Sustainable Development Goal 8 (Decent Work and Economic Growth), particularly the promotion of productive employment and safe working environments. Occupational safety and health training, technical skills development, and responsible workplace practices are relevant to improving employment conditions and supporting operational productivity. Hayashi et al. (2023) examined interventions intended to

improve construction workers' occupational safety and health, while Abegaz et al. (2025) identified associations between workplace safety practices and occupational injuries. Furthermore, the research is relevant to Sustainable Development Goal 9 (Industry, Innovation and Infrastructure) because competent construction personnel are essential to the effective implementation of infrastructure projects. By examining workforce training, productivity, and quality of work in school-building construction, the study may inform workforce development practices that support reliable infrastructure delivery. Its potential sustainability contributions are primarily educational, socioeconomic, occupational, and institutional, particularly through continuous skills development, workplace safety, efficient resource utilization, and improved construction management.

2. METHODOLOGY

Research Design

The study utilized a descriptive research design to assess employees' perceptions of continuous training, their productivity, and their performance in terms of skills and quality of work. This approach enabled the researchers to describe the respondents' assessments of these organizational variables within the construction industry.

Research Locale or Study Setting

The study was conducted in a construction firm undertaking school-building projects in San Jose City, Nueva Ecija, Philippines, during Calendar Year 2026. The research focused on employees involved in the firm's construction operations, including administrative, technical, supervisory, and operative functions.

Participants or Data Sources

The respondents comprised 55 employees occupying administrative, technical, supervisory, and operative positions in the construction firm. A random sampling procedure was employed to select respondents representing the different organizational functions involved in construction operations.

Research Instruments or Materials

A researcher-made survey questionnaire served as the primary data-gathering instrument. It was designed to assess continuous employee training, employee productivity, and work performance in terms of skills and quality of work. The instrument gathered respondents' assessments of training practices and their workplace productivity and performance.

Data Gathering Procedure

Permission to conduct the study was sought from the owner or manager of the construction firm. Following this process, the researcher-made survey questionnaire was administered to the selected respondents to obtain information concerning continuous employee training, productivity, and work performance. The collected responses served as the primary data for the study.

Data Analysis

The collected data were analyzed using descriptive statistics, including frequency, percentage, mean, and standard deviation. Frequency and percentage were used to summarize respondent data, while the mean and standard deviation were employed to describe the respondents' assessments of continuous employee training, productivity, and work performance. The results provided the basis for interpreting the study variables and formulating conclusions and recommendations.

Ethical Consideration

Permission to conduct the research was sought from the owner or manager of the participating construction firm before data collection. This constituted the institutional authorization procedure reported in the study.

3. RESULTS AND DISCUSSION

3.1 Continuous Employee Training

3.1.1 Occupational Safety and Technical Skills Training

The respondents generally agreed on the importance of continuous employee training, as indicated by the composite mean of 3.23 (SD = 0.66). Occupational safety and health training obtained the highest mean of 3.46 (SD = 0.78), interpreted as Strongly Agree. Training in reducing construction errors followed with a mean of 3.37 (SD = 0.77), while technical skills development obtained 3.31 (SD = 0.76), both interpreted as Strongly Agree. These findings indicate that respondents particularly recognized the importance of safety awareness, error prevention, and technical competence in construction operations. The high assessment of occupational safety training emphasizes its perceived relevance in a work environment involving physical hazards, equipment operation, and compliance with safety procedures. Hayashi et al. (2023) identified training and education among interventions used to improve occupational safety and health in construction. Similarly, Abegaz et al. (2025) documented associations between safety climate, safety-related behaviors, and occupational injuries among construction workers. Nielsen et al. (2023) further demonstrated the importance of transferring acquired safety knowledge and technical competencies into actual workplace practices. These studies support the practical importance of continuous safety education and technical training, although the present findings represent employees' assessments rather than measured training effects.

3.1.2 Training Relevance and Operational Application

Training relevance to actual job responsibilities received the lowest mean of 2.97 (SD = 0.86), although it remained within the Agree category. Training contributions to project completion within schedule and budget, responsible construction practices, and adaptability to technological developments each obtained a mean of 3.06 (SD = 0.68), likewise interpreted as Agree. These results indicate that employees acknowledged the value of training while identifying opportunities to improve its relevance and application to workplace responsibilities. The comparatively lower assessment of training relevance suggests the need to align training activities more closely with employees' technical assignments and actual construction conditions. Ryu and Kim (2026) examined the effectiveness of safety and health education in construction and emphasized the importance of qualitative training factors in developing safety behaviors. Likewise, Mtotywa and Mdlalose (2023) highlighted the role of training assessment in addressing productivity concerns among construction companies. Manoharan et al. (2024) also demonstrated the importance of integrating work-based training with labor performance assessment and productivity measurement. Moreover, research documented by CPWR (2023) underscores the continuing relevance of construction-specific safety and health training. Collectively, these studies support the importance of practical, job-related, and regularly evaluated training programs.

3.2 Employee Productivity

3.2.1 Overall Productivity and Workplace Collaboration

Employee productivity obtained a composite mean of 4.40 (SD = 0.33), interpreted as Very Productive. Teamwork and collaboration recorded the highest mean of 4.69 (SD = 0.47), followed by safety compliance and resource utilization, both with means of 4.54 (SD = 0.51). Problem-

solving and decision-making obtained 4.46 (SD = 0.51), while attendance and punctuality and communication each recorded 4.43. Adaptability to changes received a mean of 4.31 (SD = 0.47), and project completion within budget and schedule obtained 4.29 (SD = 0.46). These findings indicate that employees rated their productivity favorably, particularly in coordination, safety compliance, and resource management. The high assessment of teamwork and collaboration reflects the importance of coordinated activities among employees performing different construction functions. Effective communication, resource management, and problem-solving are important considerations in maintaining construction productivity. Rasheed (2025) emphasized the relevance of employee efficiency and output quality to organizational performance. Similarly, Jian et al. (2025), through a systematic review and meta-analysis, identified workforce competencies, management practices, and site-related conditions as factors influencing construction labor productivity. Huynh et al. (2025) further highlighted the value of systematic productivity assessment and management in construction projects. These studies provide a broader context for understanding the respondents' favorable assessments of workplace productivity.

3.2.2 Employee Initiative and Minimization of Rework

Although overall productivity was rated Very Productive, initiative in addressing delays and workplace challenges obtained the lowest mean of 4.14 (SD = 0.36), interpreted as Productive. Production of work requiring minimal corrections or rework followed with a mean of 4.17 (SD = 0.38), also interpreted as Productive. These indicators received lower ratings than teamwork, safety compliance, and resource utilization, suggesting comparatively greater opportunities for improvement in proactive problem-solving and work accuracy. The lower assessment of employee initiative highlights the relevance of developing independent problem-solving, timely decision-making, and preventive responses to operational difficulties. Pratama et al. (2023) emphasized the organizational relevance of proactive work behavior, particularly in anticipating problems and initiating improvements. Similarly, Çukurovali et al. (2026) identified positive associations between proactive personality, innovative work behavior, and employee performance in the insurance sector, offering complementary evidence from another organizational setting. In construction, the practical importance of limiting rework is further supported by Mtotywa and Mdlalose (2023), who examined operational productivity indicators, including rework and resource utilization. These findings indicate the potential value of strengthening employee initiative and quality-oriented work practices.

3.3 Employee Performance in Terms of Skills and Quality of Work

3.3.1 Employee Skills

Employee performance in terms of skills obtained a mean of 3.35 (SD = 0.42), interpreted as Outstanding. This result indicates that respondents favorably assessed employees' ability to perform assigned construction responsibilities and apply their technical competencies. The relatively low standard deviation indicates limited variation in the respondents' assessments of employee skills. The outstanding assessment of employee skills reflects the perceived importance of technical competence in performing construction tasks accurately and efficiently. Triansyah et al. (2023) identified several organizational and individual factors associated with employee performance, including management practices, motivation, and continuous improvement. Similarly, Timsina and Jha (2023) examined talent management practices in the construction industry and identified the relevance of training, employee retention, and performance management to workforce performance. Manoharan et al. (2024) further emphasized the integration of work-based learning and performance assessment in building construction projects. These studies provide support for maintaining technical competency development as an important aspect of construction workforce management.

3.3.2 Quality of Work

Employee performance in terms of quality of work obtained a mean of 3.32 (SD = 0.57), interpreted as Outstanding. This finding indicates that respondents positively assessed employees' ability to meet work requirements, follow construction procedures, utilize materials and equipment, and produce outputs consistent with expected quality standards. The standard deviation indicates some variation in responses, although the overall assessment remained favorable. The outstanding assessment of work quality emphasizes the importance of technical accuracy, proper procedures, and consistent performance standards in construction activities. Vuong and Nguyen (2022) highlighted the significance of systematic performance measurement in evaluating employee effectiveness and organizational outcomes. Similarly, Memon et al. (2023) examined the relationship between job satisfaction and employee performance in the construction industry, demonstrating the relevance of workplace conditions to performance outcomes. Huynh et al. (2025) also emphasized structured productivity management and performance assessment in construction operations. These studies reinforce the importance of maintaining employee competencies, appropriate supervision, and continuous performance evaluation to support quality construction outputs.

4. CONCLUSIONS AND RECOMMENDATIONS

The study examined continuous employee training, productivity, and work performance among 55 employees of a construction firm undertaking school-building projects in San Jose City, Nueva Ecija, during 2026. Findings revealed that employees recognized the importance of continuous training, particularly occupational safety and health, technical skills development, and error prevention. Employee productivity was assessed as very productive, with teamwork, safety compliance, and resource utilization emerging as notable strengths. Likewise, employee performance in terms of skills and quality of work was rated outstanding, indicating favorable assessments of workforce competence and adherence to construction standards. However, the relatively lower ratings for training relevance, employee initiative, and minimization of rework suggest areas requiring further attention. Overall, the findings highlight the organizational importance of continuous workforce development and provide a practical basis for improving training relevance, sustaining productivity, and maintaining quality performance in school-building construction operations.

Construction firm administrators and managers should strengthen continuous employee training programs, prioritizing job-specific technical competencies, occupational safety and health, and the practical application of acquired skills. Training activities should be regularly reviewed to ensure their relevance to employees' responsibilities and actual construction requirements. To sustain favorable productivity levels, management should maintain effective teamwork, communication, safety compliance, and responsible resource utilization while implementing periodic performance evaluations. Particular attention should be given to improving employees' initiative in addressing operational challenges through practical problem-solving activities, appropriate technical guidance, and continuous skills enhancement. Quality control procedures should likewise be strengthened to minimize construction errors, unnecessary corrections, and rework. Furthermore, regular assessments of employees' technical competencies and work quality should inform future training priorities. Future researchers are encouraged to examine additional factors influencing productivity and performance, including work experience, motivation, job satisfaction, and management practices, using broader samples from construction companies in different geographic locations.

The study was limited to 55 respondents from a construction firm undertaking school-building projects in San Jose City, Nueva Ecija, during Calendar Year 2026. Its specific organizational, geographic, and project context limits the generalizability of the findings to other construction settings. The descriptive research design, questionnaire-based assessments, and use of descriptive statistical techniques provided information on employees' perceptions and reported performance but did not establish causal relationships between continuous training, productivity, and performance. Future investigations may involve larger samples, multiple construction firms, additional organizational variables, and analytical approaches capable of examining relationships among the study variables.

5. REFERENCES

Abegaz, T., Deressa, W., & Moen, B. E. (2025). Association between safety climate, safety participation, safety compliance, and occupational injuries among workers in large-scale building construction projects in Ethiopia. *International Archives of Occupational and Environmental Health, 98*(7), 685–694. https://doi.org/10.1007/s00420-025-02164-5

CPWR—The Center for Construction Research and Training. (2023). *Topics in construction safety and health: Training: An interdisciplinary annotated bibliography*. https://stacks.cdc.gov/view/cdc/132449

Çukurovali, A., Çelebi, A. I., Işiktaş, S., & Karavelioğlu, A. M. (2026). Proactive personality, innovative work behavior, and employee performance: Evidence from the insurance sector in Northern Cyprus. *Frontiers in Psychology, 17*, Article 1796666. https://doi.org/10.3389/fpsyg.2026.1796666

Hayashi, H., Li, Y., Sussman, D. D., Okuzono, S., Viswanath, K., & Kawachi, I. (2023). A scoping review of interventions to improve occupational safety and health of construction workers. *American Journal of Health Promotion, 37*(8), 1162–1170. https://doi.org/10.1177/08901171231193783

Huynh, N. M., Le-Hoai, L., & Do, C. D. (2025). Assessing and improving labour productivity management in construction: A practical framework and measurement tool. *Construction Economics and Building, 25*(1), 69–96. https://doi.org/10.5130/AJCEB.v25i1.8895

Jian, F., Liu, Q., Feng, C., Hu, Q., Yu, Q., & Guo, Q. (2025). Critical factors affecting construction labor productivity: A systematic review and meta-analysis. *Buildings, 15*(14), Article 2463. https://doi.org/10.3390/buildings15142463

Manoharan, K., Dissanayake, P., Pathirana, C., Deegahawature, D., & Silva, R. (2024). Assessing the performance and productivity of labour in building construction projects through the application of work-based training practices. *Construction Innovation, 24*(2), 558–583. https://doi.org/10.1108/CI-05-2022-0126

Memon, A. H., Khahro, S. H., Memon, N. A., Memon, Z. A., & Mustafa, A. (2023). Relationship between job satisfaction and employee performance in the construction industry of Pakistan. *Sustainability, 15*(11), Article 8699. https://doi.org/10.3390/su15118699

Mtotywa, M. M., & Mdlalose, S. (2023). The influence of assessment on training to improve productivity of construction companies. *Problems and Perspectives in Management, 21*(1), 169–182. https://doi.org/10.21511/ppm.21(1).2023.15

Nielsen, K., Ng, K., Vignoli, M., Lorente, L., & Peiró, J. M. (2023). A mixed methods study of the training transfer and outcomes of safety training for low-skilled workers in construction. *Work & Stress, 37*(2), 127–147. https://doi.org/10.1080/02678373.2022.2086646

Pratama, A. S., Sridadi, A. R., Eliyana, A., Anggraini, R. D., & Kamil, N. L. M. (2023). A systematic review of proactive work behavior: Future research recommendation. *The Journal of Behavioral Science, 18*(2), 136–151. https://so06.tci-thaijo.org/index.php/IJBS/article/view/260647

Rasheed, H. (2025). Analyzing the impact of employee productivity on organizational performance. *ISRG Journal of Economics, Business & Management, 3*(2), 158–166. https://doi.org/10.5281/zenodo.15128542

Ryu, S.-W., & Kim, D.-J. (2026). A study on improving the effectiveness of special safety and health education in the construction industry through empirical analysis. *Journal of Wellbeing Management and Applied Psychology, 9*(2), 183–190. https://doi.org/10.13106/jwmap.2026.vol9.no2.183

Timsina, P., & Jha, P. K. (2023). Impact of talent management on employee performance in construction industry of Eastern Nepal. *Apex Journal of Business and Management, 1*(1), 77–90. https://doi.org/10.61274/apxc.2023.v01i01.006

Triansyah, F. A., Hejin, W., & Stefania, S. (2023). Factors affecting employee performance: A systematic review. *Journal Markcount Finance, 1*(3), 150–159. https://doi.org/10.55849/jmf.v1i2.102

Vuong, T. D. N., & Nguyen, L. T. (2022). The key strategies for measuring employee performance in companies: A systematic review. *Sustainability, 14*(21), Article 14017. https://doi.org/10.3390/su142114017