

Study on Online and Offline Training Effectiveness among Non-Teaching Staff in Autonomous Engineering Colleges

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Abstract: Training and development are essential components of human resource management that enhance employee knowledge, skills, productivity, and organizational effectiveness. In autonomous engineering colleges, non-teaching staff perform important responsibilities related to administration, examination management, laboratories, technical support, finance, student services, and institutional operations. The effectiveness of training programs directly influences their efficiency and service quality. The emergence of online training platforms has transformed conventional training practices by providing flexible, accessible, and cost-effective learning opportunities, whereas offline training continues to provide direct interaction, practical exposure, and immediate feedback.

Keywords: Employee Effectiveness, Non-Teaching Staff, Autonomous Engineering Colleges, Human Resource Development, Blended Learning.

I. INTRODUCTION

Higher education institutions operate in a rapidly changing environment influenced by technological advancement, digital transformation, accreditation requirements, and increasing administrative responsibilities. Autonomous engineering colleges require highly skilled non-teaching employees to manage academic records, laboratory activities, examinations, admissions, financial operations, and student support services.

Employee training is considered an important strategy for improving workplace competency and organizational performance. Effective training programs enable employees to acquire new knowledge, improve technical abilities, adapt to technological changes, and perform their duties efficiently. Research on employee development has consistently shown that training improves individual capabilities and contributes to organizational success.

Traditionally, organizations preferred offline training methods such as workshops, seminars, classroom sessions, and practical demonstrations. However, technological advancement has encouraged institutions to adopt online training through Learning Management Systems, webinars, video-based learning platforms, and virtual classrooms. Online training became especially important after the COVID-19 pandemic due to restrictions on physical gatherings.

The effectiveness of online and offline training depends on several factors including training design, content quality, trainer capability, employee motivation, institutional support, and technological infrastructure. Recent studies indicate that e-training effectiveness is strongly influenced by organizational support, digital infrastructure, and learner experience.

II. CONCEPTUAL FRAMEWORK OF THE STUDY

The study is based on the relationship between training methods and employee performance.

1. Independent Variable:

- **Training Effectiveness**
 - Online Training
 - Offline Training

2. Dependent Variable:

Employee Job Performance

1. Knowledge improvement
2. Technical skills
3. Work efficiency
4. Productivity
5. Job satisfaction
6. Organizational commitment

Moderating Factors:

1. Technology availability
2. Training content
3. Trainer expertise
4. Employee motivation

III. REVIEW OF LITERATURE

Training effectiveness has been widely studied in organizational and educational environments.

Aguinis and Kraiger (2011) highlighted that employee training improves individual performance, teamwork, and organizational outcomes. They emphasized systematic training evaluation for measuring effectiveness.

Salas (2012) reported that successful training depends on proper needs assessment, learning environment, and transfer of knowledge into workplace activities.

Chen (2010) examined technology-supported learning and found that electronic learning systems positively influence employee outcomes when users actively engage with digital learning environments.

Recent research by Shahidan (2023) demonstrated that training programs significantly influence employee performance, particularly in educational institutions where employees require continuous skill improvement.

Wilson (2023) investigated online training programs and reported positive relationships between online training, employee satisfaction, and job performance.

Kurrohman (2023) examined the influence of e-learning and in-house training on employee performance and suggested that combined training approaches improve employee competencies.

Table 1: Review of Previous Studies on Training Effectiveness (2010–2023)

Author & Year	Study Area	Method	Major Findings
Chen (2010)	E-learning and employee outcomes	Survey	Digital learning improves workplace performance
Aguinis & Kraiger (2011)	Training benefits	Review study	Training improves individual and organizational effectiveness
Salas (2012)	Workplace training effectiveness	Literature review	Training design influences knowledge transfer
Noe (2017)	Employee development	HR analysis	Continuous learning improves competency
Ren (2018)	Technology-based learning	Empirical study	Online learning increases accessibility

Shahidan (2023)	University employee training	Quantitative study	Training positively affects employee performance
Wilson (2023)	Online training programs	Survey	Online training improves satisfaction and performance
Kurrohman (2023)	E-learning and in-house training	Quantitative analysis	Blended training improves employee capability

IV. ONLINE TRAINING EFFECTIVENESS AMONG NON-TEACHING STAFF

1. Online training refers to learning activities delivered through digital platforms such as:
2. Learning Management Systems
3. Webinars
4. Video conferencing
5. Online assessment systems
6. Digital learning modules

V. ADVANTAGES OF ONLINE TRAINING

1. Flexibility

Employees can access learning materials according to their availability without leaving their workplace.

2. Cost Effectiveness

Online programs reduce expenses related to travel, accommodation, and physical infrastructure.

3. Digital Skill Development

Online training improves technological competency among administrative and technical employees.

4. Continuous Learning

Employees can revisit training materials whenever required.

VI. OFFLINE TRAINING EFFECTIVENESS AMONG NON-TEACHING STAFF

Offline training involves face-to-face interaction between trainers and employees through:

Workshops

Seminars

Practical demonstrations

Classroom sessions

VII. ADVANTAGES OF OFFLINE TRAINING

1. Practical Learning

Technical and laboratory staff benefit from direct demonstrations and hands-on practice.

2. Immediate Feedback

Employees can directly communicate with trainers and resolve doubts.

3. Better Social Interaction

Physical interaction improves teamwork, communication, and employee engagement.

Table 2: Comparison Between Online and Offline Training

Factors	Online Training	Offline Training
Learning Mode	Digital platforms	Classroom-based
Flexibility	High	Limited
Cost	Lower	Higher
Interaction	Moderate	High
Practical Exposure	Limited	Excellent

Accessibility	Anywhere	Location dependent
Technology Skills	Strong improvement	Moderate
Feedback	Online feedback	Immediate feedback

VIII. RESEARCH METHODOLOGY

1. Research Design

The study follows a descriptive and analytical research design.

2. Population

The population includes non-teaching employees working in autonomous engineering colleges.

3. Sample Size

A sample of 200 non-teaching staff members may be selected.

4. Sampling Technique

Stratified Random Sampling technique may be adopted.

Table 3: Proposed Sample Distribution

Category of Staff	Sample Size
Administrative Staff	80
Technical/Laboratory Staff	60
Examination Department Staff	30
Supporting Staff	30
Total	200

OBJECTIVES OF THE STUDY

1. To examine the effectiveness of online training programs among non-teaching staff.
2. To evaluate the effectiveness of offline training programs.
3. To compare online and offline training outcomes.
4. To analyze the relationship between training effectiveness and employee performance.
5. To suggest strategies for improving training programs in autonomous engineering colleges.

HYPOTHESES

H₀₁: Online training has no significant impact on the job performance of non-teaching staff.

H₀₂: Online training significantly influences job performance.

H₀₃: Offline training has no significant impact on employee effectiveness.

H₀₄: Offline training significantly improves employee effectiveness.

H₀₅: There is no significant difference between online and offline training effectiveness.

IX. DATA ANALYSIS TECHNIQUES

The collected data can be analyzed using:

Statistical Tool	Purpose
Percentage Analysis	Demographic analysis
Mean & Standard Deviation	Measuring training effectiveness
t-Test	Comparing online and offline groups

ANOVA	Testing differences among groups
Correlation	Relationship between training and performance
Regression Analysis	Predicting employee performance

X. CONCLUSION

Training effectiveness plays an important role in improving the performance of non-teaching staff in autonomous engineering colleges. Online training provides flexibility, accessibility, and technological advancement, whereas offline training ensures practical learning, interpersonal interaction, and immediate guidance. The literature from 2010–2023 indicates that both approaches contribute positively to employee development. However, a blended training approach integrating online convenience with offline practical experience provides a more effective solution for modern higher education institutions. Effective training policies can improve employee productivity, administrative efficiency, and institutional quality.

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