



Crafting Technical Talent

Best Practices for
Building and Maintaining
a Technical Workforce



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Crafting Technical Talent: Best Practices for Building and Maintaining a Technical Workforce

This eBook explores the transformative power of effective skill development in shaping a dynamic and competent technical workforce.

As you read through these chapters, you'll uncover the secret to harnessing innate human curiosity, teaching technical skills inclusively, and structuring a balanced learning environment—all of which contribute to the thriving success of your organization.

Our philosophy for building a competent technical workforce involves embracing the following key concepts.

- 1 People naturally desire to learn, and fostering continuous learning keeps them highly engaged and motivated.
- 2 Technical skills can be taught and developed, even among those who come from nontechnical backgrounds.
- 3 Implementing strategic technical training and self-guided learning can lead your organization to success.



01

Bridging the Gap





Effective Onboarding Techniques for Nontechnical Workers in a Technical Environment

In today's rapidly evolving technological landscape, there is an escalating demand for a competent technical workforce across a broad spectrum of industries. This escalating demand has illuminated a substantial skill gap, with many workers transitioning into technical roles from different professional backgrounds.

To effectively tackle this multifaceted issue, organizations across all technical sectors must incorporate effective onboarding strategies that can equip these transitioning people with the skills for success in technical roles. One such solution is GPiLEARN+, which offers just-in-time learning tailored to the needs of your people at various stages of their career.



The Growing Demand for Technical Skills

The renewable energy sector and other technical industries are experiencing rapid growth, leading to increasing job opportunities. However, many of these jobs require specialized skills not commonly found among workers from nontechnical backgrounds. As a result, organizations must find ways to bridge these skill gaps and equip their workforce with the necessary expertise to succeed in these emerging fields.

To meet this challenge, employers must identify the fundamental skills that their people transitioning to technical roles need to thrive. Some of these foundational skills include:

Basic science and engineering concepts: A solid understanding of core principles in physics, chemistry, and engineering is essential for grasping more advanced technical ideas.

Mathematics: Proficiency in basic math and applying mathematical concepts to real-world problems is crucial for people in technical roles.

Measurements and units: Familiarity with standard units of measurement and the ability to accurately interpret data are vital for making informed decisions in a technical environment.

Critical thinking and problem-solving: Technical workers must be able to analyze complex situations, identify potential issues, and develop creative solutions to address these challenges.

Communication: Effective communication is critical, as people must be able to articulate their ideas clearly and collaborate with colleagues from diverse backgrounds.



The Path Forward

By adopting tailored onboarding techniques and combining them with the right training tools, employers can help their workforce develop the fundamental skills needed to succeed in technical environments. Such techniques and tools can also address the growing skill gaps in specific industries, such as renewable energy.

Here are six more strategies that organizations can use to enhance the onboarding process and help their people transitioning to technical roles:

1. Use Mentorship Programs

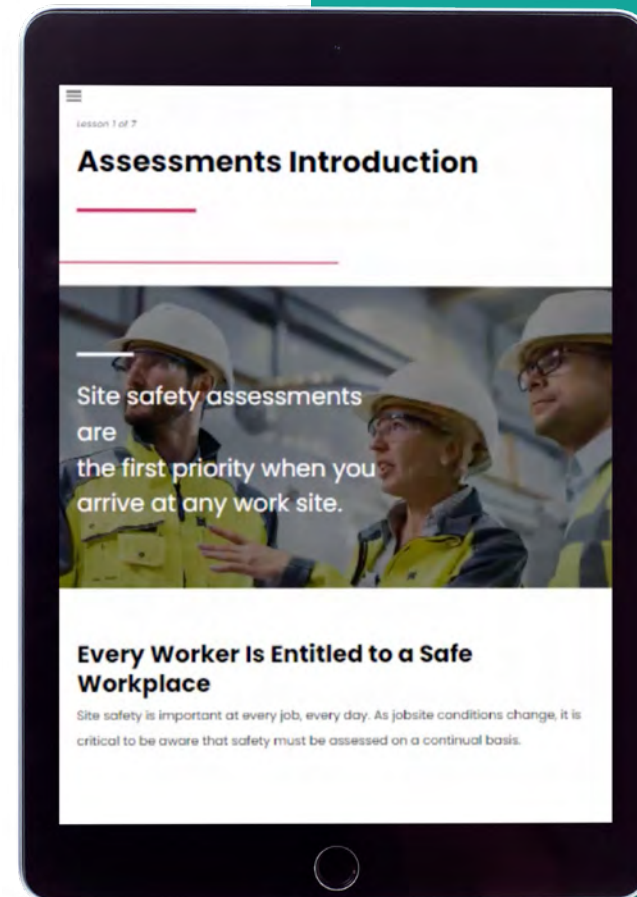
Pairing new technical workers with more experienced coworkers can provide valuable guidance and support during onboarding. Mentors can offer insights into the daily challenges of working in a technical role, share practical tips and advice, and help people navigate the complexities of their new work environment.

2. Offer Hands-On Training

Incorporating hands-on training exercises into the onboarding process can help workers transitioning to technical roles gain practical experience with the tools, equipment, and procedures they will encounter. This type of training can help build confidence and reinforce the concepts learned through GPiLEARN+.

3. Promote Collaborative Learning

Encourage your people to collaborate with their technical colleagues on projects and tasks. This allows them to learn from their peers, develop a deeper understanding of the technical aspects of their role, and establish strong working relationships within the team.





4. Develop Soft Skills

In addition to fundamental technical skills, people transitioning to technical roles also need to develop soft skills such as adaptability, resilience, and time management. GPiLEARN+ can be complemented with workshops or training sessions that focus on strengthening these essential soft skills, which can help people excel in their new roles.

5. Review Progress Regularly

Schedule periodic check-ins during onboarding to review workers' progress, address any concerns or challenges, and provide constructive feedback. This ongoing support can help people feel more confident in their abilities and ensure that they continue to develop the skills needed for success in their technical roles.

6. Encourage Continuous Learning

Foster a culture of continuous learning and improvement within your organization by providing opportunities for workers transitioning to technical roles to attend industry conferences, workshops, and seminars. This can help them stay informed about the latest trends and developments in their fields and remain competitive in the job market.



The Right Tool for Onboarding

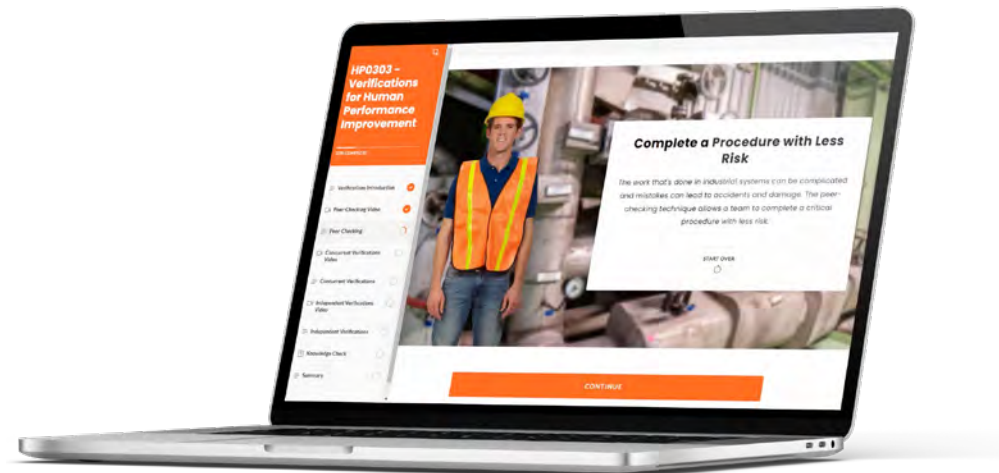
GPiLEARN+ for Onboarding Nontechnical Workers

GPiLEARN+ is an innovative learning platform designed to help organizations effectively onboard workers into technical roles. By offering a wide range of just-in-time learning resources, GPiLEARN+ enables people to acquire the fundamental skills they need at their own pace, ensuring a smooth and successful integration into the workplace.

Some of the key features of GPiLEARN+ that make it ideal for onboarding include the following:

- **Customizable learning paths:** GPiLEARN+ allows organizations to create tailored learning paths for each employee, ensuring that they receive the training they need to succeed in their specific role.
- **Interactive learning modules:** The platform offers a variety of engaging learning modules that cover fundamental skills in science, math, measurement, critical thinking, and communication. These modules will help your people understand the core concepts they will encounter in their technical roles.

- **Practical, real-world examples:** GPiLEARN+ incorporates real-world examples and case studies into its learning modules, enabling your people to see how their newfound skills can be applied.
- **Assessment and feedback:** The platform includes built-in assessment tools that allow people to track their progress and receive feedback on their performance, helping them identify areas for improvement and continuously refine their skills.
- **Ongoing support:** GPiLEARN+ provides ongoing support and resources to help your people stay up to date with the latest developments in their fields.





A Culture of Continuous Learning

Bridging the gap between workers from diverse professional backgrounds and the demands of technical roles is a critical challenge for organizations. Organizations can address the emerging skill gaps, ensure a smooth onboarding process for new employees, and ultimately build a highly skilled and competitive technical workforce by implementing the strategies in this eBook and tools like the GPiLEARN+ platform.

Key Takeaways

- Workers transitioning to technical roles can be successfully onboarded through tailored training, mentorship, and hands-on experience.
- Mentorship programs, hands-on training, collaborative learning, and soft skills development can enhance the onboarding process for nontechnical workers.
- Investing in effective onboarding techniques is crucial for organizations to address the growing skill gaps in technical industries.
- Organizations can build a highly skilled and competitive technical workforce by leveraging learning platforms like GPiLEARN+ and adopting complementary strategies.



02

The Art of Transformation





Key Considerations for Developing Skills in Nontechnical Workers

In today's rapidly evolving workplace, developing technical skills in nontechnical workers has become crucial for organizational success. Here we explore three key strategies: comprehensive training programs, promoting continuous learning and growth mindsets, and incorporating assessments and feedback. By implementing these strategies and nurturing soft skills, organizations can empower their nontechnical workers to thrive in technical roles and contribute effectively to the ever-changing demands of the modern workforce.



3 Strategies for Developing Both Fundamental and Advanced Technical Skills in Nontechnical Workers

1. Providing Comprehensive Training Programs with Real-World Applications

Offer a mix of classroom instruction, hands-on training, and self-guided learning to provide workers transitioning to technical roles with a well-rounded education covering fundamental skills and industry-specific knowledge.

GP Strategies can help with instructor-led training, and the GPiLEARN+ platform can support self-guided learning to complete your program.

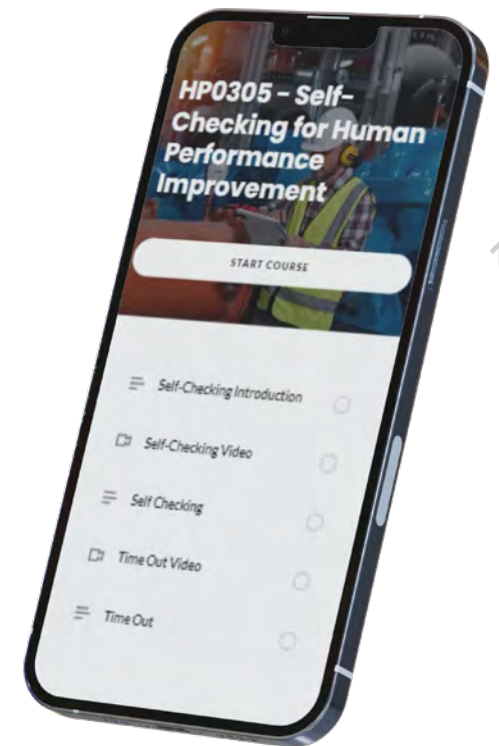
As workers transition into technical roles, they need opportunities to apply their newly acquired skills in real-world scenarios. Practical, hands-on experiences allow your people to consolidate their learning and gain a deeper understanding of the applications and implications of their new skillset. These experiences might include job shadowing, on-the-job training, or participation in collaborative projects directly using their new technical skills.

2. Promoting Continuous Learning and a Growth Mindset

Encourage workers transitioning to technical roles to continue learning and refining their skills, even after they have completed their initial training.

Promoting a culture that values learning, adaptability, and resilience can help workers successfully navigate the challenges of transitioning into technical roles.

To do this, provide opportunities for your people to attend workshops, conferences, and other professional development events to help them stay current on industry trends, expand their knowledge, develop new skills, and foster a growth mindset. Encourage them to perceive challenges as opportunities for personal and professional development. They should savor their learning journey as an ongoing process wherein they continuously acquire new skills and improve existing ones.



3. Incorporating Assessments, Feedback Loops, and Performance Metrics

Regularly evaluate workers' progress as they transition to technical roles by providing constructive feedback to help them grow and improve. This ongoing support can help your people feel more confident in their abilities and ensure that they continue to develop the skills needed for their new roles.

To effectively track workers' progress transitioning to technical roles as they develop their new skills, establish feedback loops and performance metrics that provide tangible data on their growth. These tools can help people and their supervisors identify areas of strength and weakness, tailor training programs to address individual needs, and gauge the effectiveness of various learning strategies.

Consistently monitoring and assessing employee performance is how organizations can ensure that their workforce remains agile, skilled, and prepared for the demands of an ever-evolving technical landscape.

The Role of Soft Skills in Technical Transformation

By cultivating a balanced skillset that combines technical and soft skills, learning leaders can help workers transitioning to technical roles thrive and contribute meaningfully to the organization's success. In addition to fundamental technical skills, soft skills such as communication, teamwork, adaptability, and time management are critical for success in technical roles because they facilitate collaboration, enable effective problem-solving, and promote a positive work environment.

Key Takeaways

- Employers can successfully transform workers into skilled technical professionals by developing their fundamental skills, enhancing their soft skills, and combining learning strategies to promote continuous growth.
- A versatile and effective platform for cultivating these essential competencies provides a solid foundation for workers transitioning to technical roles.
- Organizations that invest in developing their people will benefit from a more adaptable, skilled, and engaged workforce that is better prepared to tackle the complex challenges of today's technical industries.



03

Cultivating Technical Mastery



Expanding Skills and Promoting Compliance in Today's Workforce

As your people evolve and prosper in their new technical roles, their skills must continue to advance, matching the ever-dynamic demands of industry as well as technological advancements. This chapter explores how to deepen your peoples' understanding of critical technical areas, ensure their readiness to comply with regulations and safety standards, and help them grow into leadership responsibilities.



4 Strategies for Advanced Skill Development and Specialization

Once individuals transition into their technical roles and are comfortable with basic skills, the next phase is to delve into advanced skill development and specialization. This phase includes learning about specific aspects of their chosen fields and industries.

1. Industry-Specific Training

An optimal learning trajectory should incorporate specialized modules that are meticulously tailored to a variety of sectors. For example, beyond mastering foundational skills in the manufacturing sector, people may need to understand complex elements such as advanced machinery operation, system design, and maintenance protocols. Honing safety protocols, chemical handling, and waste management skills would be crucial in the chemical industry.

On the other hand, engineers may need to develop a deeper understanding of project management, technical drafting, and design principles. In the energy sector, a firm grasp of the regulatory landscape, renewable technologies, and power distribution systems can be vital. Regardless of the industry, your training must cover advanced system design, operation, and maintenance topics.

2. Process Optimization and Efficiency

Adjust or redesign business processes and workflows to make them more streamlined and efficient. Companies can reduce waste, save time, cut costs, and increase output by making processes more efficient. More importantly, efficiency can lead to better products and services, enhancing customer satisfaction and loyalty.

Training that focuses on best practices for process optimization is invaluable. This training might include learning lean methodologies, Six Sigma principles, or other strategies for continuous improvement. Such training helps people identify bottlenecks, eliminate unnecessary steps, and find ways to perform tasks more efficiently.



3. Advanced Troubleshooting and Problem-Solving

As technical professionals progress in their careers, the complexity of the challenges they encounter naturally increases. With these heightened responsibilities comes the necessity for a deeper and more nuanced understanding of systems and problem-solving methodologies. Your technical professionals may need to unravel intricate systems, ranging from complex machinery in manufacturing plants to multifaceted software architecture in information technology (IT) roles. These tasks require understanding the individual components and how they interconnect and influence one another to create a cohesive, functioning whole.

Problem identification is another critical skill for technical professionals. Common issues might include inefficiencies in production lines or potential issues in process flows, for example. The ability to anticipate, recognize, and resolve these issues helps professionals excel in their roles. Furthermore, workers may be called upon to develop innovative solutions to the problems they identify. Developing solutions could mean devising a more efficient workflow process in manufacturing, creating a novel algorithm to improve software performance, or implementing a renewable energy solution in a traditional energy environment.

The key here is not just problem-solving but innovative problem-solving, which involves creative thinking, adaptability, and a willingness to venture into uncharted territory.

4. Compliance and Safety Readiness

Adherence to regulations is integral to the functioning of any organization, particularly those operating within technical industries. Various governing bodies—including OSHA and others—establish guidelines and requirements to ensure safe, ethical, and effective operations, and your people must be thoroughly versed in these requirements.

Take, for instance, the North American Electric Reliability Corporation (NERC). For organizations operating within the energy sector, aligning with NERC standards is not just recommended; it's mandated. These regulations ensure the power grid's security, which is paramount for both the industry and the public, so proper training in understanding and adherence aids seamless compliance and prevents disruptive infractions.

Safety readiness is critical in technical industries where workers often interface with powerful machinery, hazardous materials, or high-risk environments. Knowledge and application of essential safety procedures, correct usage of personal protective equipment, and effective strategies for hazard identification mitigate risk—and save lives.



Developing Frontline Leaders in Technical Organizations

As workers move from individual contributor positions into leadership roles, their responsibilities significantly expand and diversify. They transition from focusing primarily on their technical proficiency to managing teams, coordinating projects, and making strategic decisions. Recognizing the importance of this shift, organizations must invest in comprehensive training for these new leaders.

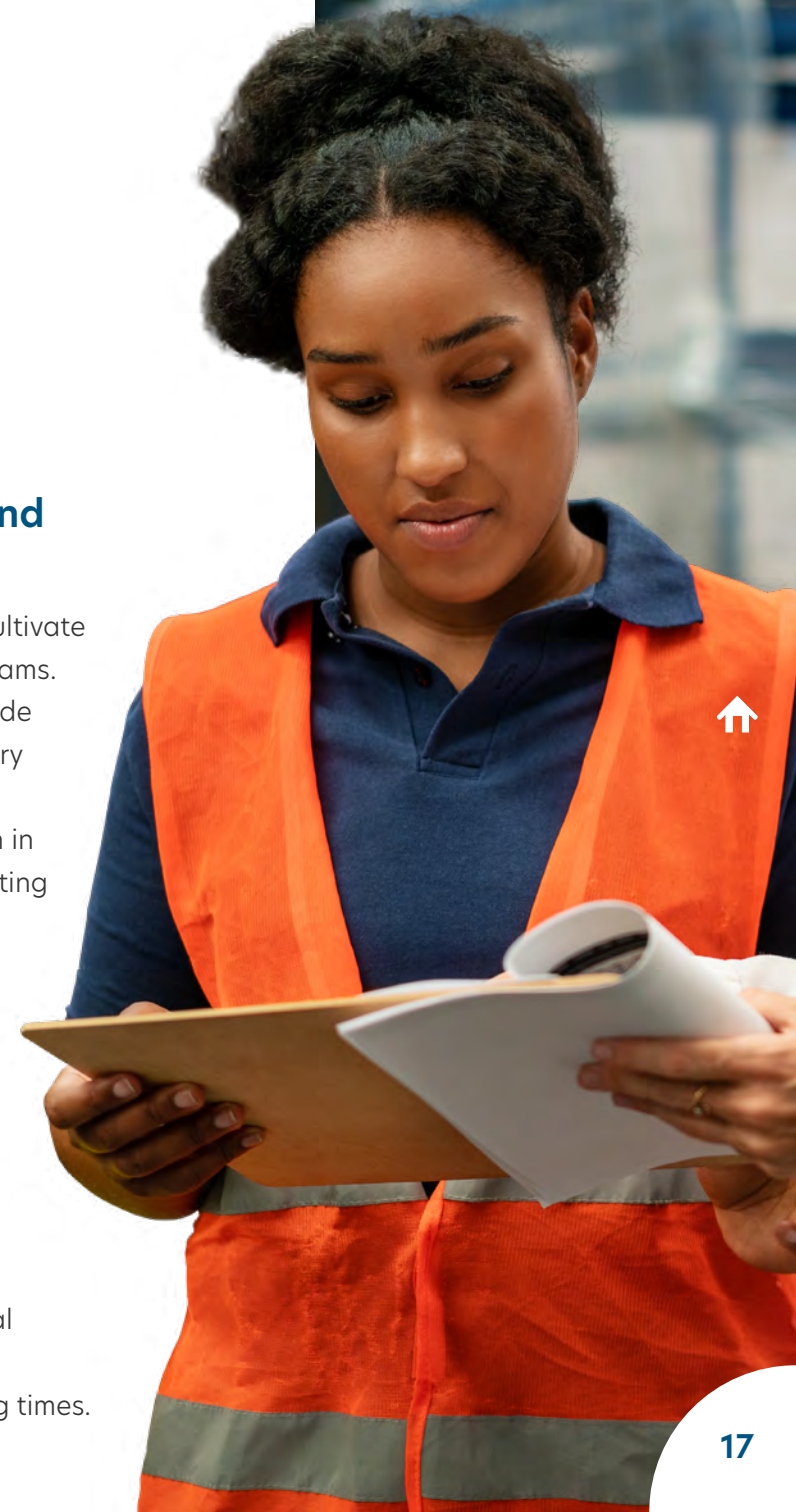
The initial step in leadership development involves instilling all necessary skills. Frontline leaders must be adept at various soft skills, including communication, strategic decision-making, conflict resolution, and team management. Good leaders must be able to articulate vision, motivate their teams, and guide their personnel through complex projects.

Promoting a Learning Culture and Change Management Skills

As leaders, these individuals should work to cultivate a culture of continuous learning within their teams. They must encourage team members to upgrade their skills and regularly stay abreast of industry advancements. This could involve promoting knowledge sharing, encouraging participation in professional development activities, or facilitating access to self-guided learning resources.

Furthermore, as technical industries are often characterized by their evolution, frontline leaders need to be equipped with the skills and tools to lead their teams through periods of transition, whether due to technological shifts, organizational restructuring, or regulatory changes.

Effective change management ensures minimal disruption to team morale and helps foster innovation and productivity during challenging times.



Key Takeaways

- Specialized training modules allow people to delve deeper into specific technical disciplines, equipping them with the knowledge and expertise they need to excel.
- Comprehensive compliance training in safety, environmental, NERC, and human resources domains ensures adherence to necessary regulations and promotes a safer and more inclusive work environment.
- Comprehensive leadership training helps new leaders transition from technical roles, manage effectively, and foster a culture of continuous learning within their teams.
- With an intentional, systematic approach, organizations can effectively monitor workers' training progress and completion, identify areas for improvement, and ensure that they meet objectives.



04

Driving Performance



Assessing and Addressing Skill Gaps in Your Technical Workforce

Every technical organization must constantly adapt and evolve to maintain its competitive edge, and that starts with ensuring that the workforce has the skills and expertise to drive success. Let's explore the role of training in addressing skill gaps among technical workers.

Identifying Skill Gaps

Managers and training professionals must proactively identify skill gaps within their technical workforce. Some effective methods for this include:

- **Performance reviews:** Regular evaluations can help identify areas where your people are struggling or underperforming. By assessing an employee's performance in relation to established benchmarks, managers can pinpoint specific skill gaps and determine the most effective ways to address them.

- **Employee surveys:** Gathering employee feedback can provide valuable insights into their perceptions of their own skills and improvement opportunities. Surveys can also help managers identify common trends and challenges within the organization, allowing for targeted interventions to address widespread skill gaps.
- **Task analysis:** Analyzing the tasks and responsibilities associated with specific job roles can help managers identify the skills necessary for success in these positions. By comparing the skills required for a particular job with the skills your people possess in those roles, managers can identify gaps and develop targeted training programs to bridge them.





Addressing Skill Gaps

Organizations should consider a training approach that combines self-guided learning at the point of need, interactive learning experiences, and job-specific task learning. These methodologies provide people with the resources and support necessary to develop their skills and knowledge, ultimately promoting overall performance improvement.

Self-Guided Learning at the Point of Need (Just-In-Time Learning)

This approach allows workers to access training resources precisely when needed, ensuring the immediate application of new skills and knowledge in real-world situations. By offering just-in-time learning opportunities, organizations empower people to take charge of their own development, leading to greater motivation and engagement in the learning process.

Interactive Learning Experiences

Interactive training fosters active engagement and promotes knowledge retention by allowing people to practice new skills in a controlled environment. Techniques such as simulations, virtual labs, and hands-on workshops encourage experiential learning and provide your people with immediate feedback on their performance, helping them fine-tune their skills and gain confidence in their abilities.



Job-Specific Learning

Job-specific task learning ensures that training is targeted, relevant, and practical by focusing on the work and responsibilities associated with each employee's role. This approach enables people to develop a deep understanding of the processes, tools, and systems they will encounter in their day-to-day work, equipping them with the knowledge and skills to be true experts in their roles.

By adopting these effective methods for addressing technical skill gaps, organizations can create a robust, adaptable workforce capable of meeting the challenges of an ever-evolving technical landscape. GP Strategies and GPiLEARN+ can help, offering a comprehensive solution for workforce development.

Key Takeaways

- Managers and training professionals can identify skill gaps by conducting regular assessments, observing employee performance, and openly communicating with their teams.
- Addressing skill gaps requires a combination of training methodologies, such as self-guided learning at the point of need, interactive learning experiences, and job-specific task learning.
- These methodologies empower people to take charge of their own development, leading to better knowledge retention, improved performance, and a more adaptable workforce.



05

Building a Resilient and Adaptable Technical Workforce



The Road Ahead

Fostering Continuous Learning and Engagement

Learning leaders should promote curiosity, open communication, and knowledge sharing to boost employee satisfaction and contribution and support the overall success of the organization. Consider the following approaches:

- **Offer various learning opportunities.** Cater to diverse learning styles by providing multiple avenues for skill development, such as eLearning courses, workshops, webinars, and mentoring programs. When many learning opportunities are available, people can select the training methods that best suit their preferences and needs.
- **Set clear goals and expectations.** Outline the skills, knowledge, and performance levels each employee needs to succeed in their roles. This clarity will help them understand the value of continuous learning and how it aligns with their career development and organizational success.
- **Provide regular feedback and support.** Constructive feedback helps people identify areas for improvement, while ongoing support equips them to understand the practical applications of new skills and improve their performance.
- **Recognize and reward learning achievements.** Celebrate your people for their learning milestones, certifications, or other accomplishments. This can be done through formal awards, promotions, or public acknowledgment during team meetings. Demonstrating appreciation for peoples' efforts in learning and development fosters a sense of pride and motivation to continue their growth.



Preparing for the Challenges of the Future

As we navigate the future, the existence of a learning-oriented workforce provides a beacon of reassurance amid uncertainties. With your people eager to learn and grow and learning leaders armed with the insights presented here, skill gaps can transform into opportunities for crafting a robust, future-ready technical talent pool.

If you have questions or would like to consult with GP Strategies about your organization's technical workforce learning strategy, reach out to us by emailing info@gpstrategies.com.





GP Strategies Corporation is one of the world's leading talent transformation providers. By delivering award-winning learning and development solutions, we help organizations transform through their people and achieve meaningful change. GP Strategies has delivered our innovative consulting, learning services, and talent technology solutions to over 6,000 organizations globally.

Our extensive network of expert learning specialists, combined with our transformation focus and custom solutions, deliver superior business results. Whether your initiative requires developing the skills of your talent, the implementation and adoption of learning technologies, or refining critical processes,

GP Strategies is a transformation partner you can trust.

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