

VISIBLE LEARNING FOR TEACHERS MAXIMIZING IMPACT O Full Version

visible learning for teachers maximizing impact o is a transformative approach that empowers educators to enhance student achievement through evidence-based strategies. Rooted in the research of John Hattie, visible learning emphasizes the importance of making learning processes transparent, measurable, and intentionally directed to maximize educational outcomes. For teachers aiming to optimize their impact in the classroom, understanding and implementing visible learning principles can lead to more effective instruction, increased student engagement, and improved academic performance.

Understanding Visible Learning for Teachers

Visible learning is centered on the idea that both teachers and students should have clear visibility into the learning process. It involves making learning goals, progress, and evidence of understanding explicit, enabling educators to tailor their teaching strategies to meet student needs effectively.

Core Principles of Visible Learning

- Clarity of Learning Goals: Ensuring students understand what they are expected to learn and why it matters.
- Effective Feedback: Providing timely, specific feedback that guides students toward mastery.
- Assessment for Learning: Using formative assessments to inform instruction and support student growth.
- Teacher-Student Relationships: Building trust and rapport that foster a positive learning environment.
- High-Impact Teaching Strategies: Employing instructional methods proven to have significant effects on learning.

Maximizing Impact: Strategies for Teachers

To harness the full potential of visible learning, teachers should incorporate specific strategies that foster clarity, engagement, and continuous improvement.

1. Set Clear and Achievable Learning Intentions

- Clearly articulate what students should know and be able to do by the end of each lesson.
- Use student-friendly language to ensure understanding.
- Regularly revisit and revise learning goals based on progress.

2. Use Success Criteria and Success Criteria Checklists

- Define what success looks like for each learning intention.
- Provide checklists for students to self-assess and peer-assess.
- Encourage reflection on their own progress and next steps.

3. Implement Formative Assessment Techniques

- Use exit tickets, quizzes, or mini-assessments during lessons.
- Observe student work and behaviors to gauge understanding.
- Adjust instruction based on assessment data in real-time.

4. Foster a Culture of Feedback

- Offer specific praise and constructive suggestions.
- Teach students how to give and receive feedback effectively.
- Use feedback as a tool to motivate and guide learning.

5. Promote Active and Collaborative Learning

- Incorporate group work, discussions, and peer teaching.
- Use visual aids, manipulatives, and technology to enhance understanding.
- Encourage students to articulate their thinking processes.

6. Reflect and Self-Assess

- Guide students to reflect on their learning experiences.
- Use reflective journals or learning logs.
- Help students identify their strengths and areas for improvement.

Tools and Resources to Support Visible Learning

Implementing visible learning effectively often involves leveraging various tools and resources:

- **Learning Intentions and Success Criteria Templates:** Visual charts to display goals and success indicators.
- **Assessment Rubrics:** Clear criteria for evaluating student work.
- **Feedback Guides:** Strategies for providing constructive feedback.
- **Digital Platforms:** Apps and online tools for formative assessment and student engagement.
- **Professional Development Resources:** Workshops, courses, and literature on visible learning principles.

Measuring the Impact of Visible Learning in the Classroom

To ensure that visible learning strategies are effective, teachers need to monitor and evaluate their impact regularly:

Data Collection Methods

- Student work samples and assessments.
- Observation notes during lessons.
- Student self-assessments and reflections.
- Surveys on student engagement and understanding.

Analyzing Data for Continuous Improvement

- Identify patterns of understanding or misconceptions.
- Adjust teaching approaches based on evidence.
- Celebrate progress and set new targets.

Challenges and Solutions in Implementing Visible Learning

While the benefits of visible learning are clear, teachers may encounter challenges such as time constraints, resistance to change, or lack of resources.

Common Challenges

- Insufficient training or understanding of visible learning principles.
- Large class sizes limiting individual feedback.

- Resistance from colleagues or administration.

Strategies to Overcome Challenges

- Engage in ongoing professional development focused on visible learning.
- Collaborate with colleagues to share strategies and resources.
- Use technology to streamline assessment and feedback.
- Start small: Implement one or two strategies at a time and expand gradually.

Conclusion: The Path to Maximized Impact with Visible Learning

Visible learning for teachers maximizing impact is a powerful framework that aligns instructional practices with evidence-based research to improve student outcomes. By setting clear goals, providing meaningful feedback, employing formative assessments, and fostering a reflective learning environment, teachers can make learning more transparent and achievable for students. The journey toward impactful teaching requires commitment, ongoing reflection, and adaptation, but the rewards—a more engaged classroom, higher achievement, and empowered learners—are well worth the effort.

Embracing visible learning transforms the classroom from a space of routine delivery into a dynamic environment where both teachers and students are active participants in the learning process, continuously striving toward excellence.

Meta Description: Discover how visible learning for teachers can maximize educational impact through strategies like clear goals, formative assessment, and effective feedback. Enhance your teaching today!

Visible Learning for Teachers: Maximizing Impact on Student Achievement

In the realm of education, the concept of visible learning for teachers has gained significant traction as an evidence-based approach to enhance teaching effectiveness and student outcomes. This approach emphasizes the importance of teachers making their practices transparent, observable, and measurable, thereby allowing for continuous reflection and improvement. The core idea is that when teachers are clear about what works and communicate their strategies effectively, they can significantly increase student engagement, motivation, and achievement. This article explores the principles, strategies, benefits, and challenges of visible learning for teachers, providing a comprehensive guide for educators committed to maximizing their impact.

Understanding Visible Learning in the Context of Teaching

What is Visible Learning?

Visible learning refers to an educational paradigm rooted in the idea that when teachers and students can see, understand, and measure learning processes, outcomes improve. It is inspired by the research of John Hattie, who synthesized numerous studies to identify effective teaching strategies and factors influencing student achievement. Hattie's meta-analyses highlight that visible learning involves making learning intentions transparent, providing clear feedback, and fostering a culture of reflection and intentionality.

The Role of Teachers in Visible Learning

Teachers are central to the visible learning process. Their role involves:

- Clarifying learning goals and success criteria.
- Using data and assessment to inform instruction.
- Providing targeted feedback.
- Creating an environment where learning processes are open and transparent.
- Modeling metacognitive strategies to help students understand their own learning.

By doing so, teachers enhance students' ability to take ownership of their learning journey.

Core Principles of Visible Learning for Teachers

1. Clarity of Learning Intentions and Success Criteria

- Teachers must articulate clear, specific learning goals.
- Success criteria help students understand what mastery looks like.
- Benefits include increased motivation and focused effort.

2. Effective Feedback

- Feedback should be timely, specific, and actionable.
- It guides students toward improvement rather than merely indicating correctness.
- It fosters a growth mindset and resilience.

3. Use of Evidence-Based Strategies

- Implementing teaching methods proven to influence learning positively.
- Regularly evaluating their impact through data collection.

4. Emphasis on Meta-cognition and Self-Regulation

- Encouraging students to reflect on their learning processes.
- Teaching strategies to plan, monitor, and evaluate their progress.

5. Visible Assessment and Data Use

- Using formative assessments to guide instruction.
- Making assessment data accessible and understandable for students.

Strategies for Implementing Visible Learning in the Classroom

1. Setting Clear Learning Goals

- Start each lesson by sharing objectives.
- Use visual aids like success criteria charts.
- Involve students in setting their own goals to foster ownership.

2. Modeling and Demonstrating Learning Processes

- Teachers can demonstrate thinking aloud during problem-solving.
- Use exemplars to show what mastery looks like.

3. Providing Effective and Timely Feedback

- Incorporate peer and self-assessment activities.
- Use rubrics to communicate expectations clearly.

4. Incorporating Visible Assessments

- Use exit tickets, quizzes, or digital tools to gather immediate data.
- Share assessment results openly to inform next steps.

5. Promoting Student Self-Assessment and Reflection

- Encourage journaling or learning logs.
- Use reflective questions to guide students? metacognitive awareness.

6. Utilizing Visual Tools and Resources

- Use progress charts, visual rubrics, and learning walls.
- Incorporate technology to make learning data accessible.

Benefits of Visible Learning for Teachers and Students

For Teachers

- Enhanced instructional clarity and focus.
- Better understanding of what strategies are effective.
- Increased ability to differentiate instruction.
- Greater engagement with data-driven decision-making.

For Students

- Increased motivation and ownership.
- Clear understanding of learning goals.
- Improved self-regulation and metacognitive skills.
- Higher achievement levels.

Overall Impact

- Cultivates a culture of continuous improvement.
- Fosters collaborative learning environments.
- Leads to measurable gains in student achievement.

Challenges and Considerations

While the benefits are substantial, implementing visible learning practices can pose challenges:

- Time Constraints: Teachers may find it difficult to incorporate additional assessment and reflection activities within tight schedules.
- Training Needs: Effective implementation requires professional development and ongoing support.
- Student Diversity: Differentiating strategies to meet varied learning needs demands skill and flexibility.
- Resistance to Change: Some educators may be hesitant to alter established routines or skeptical of data-driven approaches.
- Resource Availability: Access to assessment tools and visual aids can be limited in some contexts.

Despite these challenges, the long-term gains in teaching efficacy and student success make visible learning a worthwhile investment.

Features and Tools Supporting Visible Learning

- Learning Walls and Visual Displays: To make goals, success criteria, and progress visible.
- Digital Assessment Platforms: Tools like Kahoot, Quizizz, or Google Forms facilitate immediate data collection.
- Rubrics and Checklists: Clarify expectations and provide transparency.
- Self and Peer Assessment Templates: Encourage student involvement in the evaluation process.
- Reflective Journals and Learning Logs: Support metacognition and self-awareness.

Measuring the Impact of Visible Learning

Evaluating the effectiveness of visible learning initiatives involves:

- Tracking student achievement data over time.
- Collecting feedback from students and teachers.
- Observing changes in classroom practices.
- Analyzing engagement levels and motivation indicators.
- Adjusting strategies based on evidence gathered.

This cyclical process ensures continuous refinement and maximization of teaching impact.

Conclusion: Moving Toward a Culture of Visible Learning

Visible learning for teachers is more than a set of strategies; it represents a shift toward

transparency, intentionality, and reflective practice in education. When teachers make their practices visible?clarifying goals, modeling thinking, providing effective feedback, and engaging students as active participants?they create learning environments ripe for success. Embracing this approach requires commitment, professional development, and a willingness to adapt. However, the payoff is substantial: improved student outcomes, increased teacher efficacy, and a classroom culture that values growth, clarity, and shared responsibility. As education continues to evolve, visible learning stands out as a powerful pathway to maximize impact and foster lifelong learners.

QuestionAnswer What is the core concept of 'Visible Learning for Teachers' and how does it help maximize impact? The core concept is making student learning visible through evidence-based strategies, enabling teachers to identify effective practices and focus their efforts on what truly improves student outcomes, thereby maximizing impact. How can teachers implement visible learning strategies in their classrooms? Teachers can implement visible learning by setting clear learning intentions, using formative assessments, providing immediate feedback, and involving students in self-assessment to make learning processes transparent and driven by evidence. What role does data play in visible learning for maximizing teaching impact? Data plays a crucial role by informing teachers about student progress, guiding instructional decisions, and helping tailor teaching methods to meet individual needs, thus enhancing overall effectiveness. How does visible learning support differentiated instruction? Visible learning provides insights into student understanding, allowing teachers to adapt their instruction, target specific learning gaps, and personalize strategies to ensure all students achieve success. What are some common challenges teachers face when adopting visible learning practices? Challenges include maintaining consistent assessment routines, interpreting data accurately, managing increased workload, and shifting mindset towards prioritizing evidence-based decision making. How can professional development help teachers maximize impact through visible learning? Professional development equips teachers with the knowledge, tools, and collaborative opportunities to effectively implement visible learning strategies, reflect on practices, and continually improve student outcomes.

Related keywords: student engagement, instructional strategies, formative assessment, learning outcomes, teaching effectiveness, educational research, classroom management, differentiated instruction, feedback techniques, professional development

Sage Handbook Of Workplace Learning

Sage Handbook of Workplace Learning is a comprehensive resource that explores the multifaceted nature of learning within organizational and workplace contexts. As workplaces continue to evolve rapidly in response to technological advancements, globalization, and changing workforce demographics, understanding how learning occurs in these environments has become

more critical than ever. This handbook offers valuable insights, frameworks, and research findings that are essential for educators, HR professionals, managers, and policymakers aiming to foster effective learning cultures and improve organizational performance.

Overview of the Sage Handbook of Workplace Learning

The Sage Handbook of Workplace Learning serves as a foundational text in the field of workplace education and professional development. It compiles contributions from leading scholars and practitioners, providing a rich tapestry of theories, models, and empirical studies that illuminate how learning takes place in diverse organizational contexts.

This handbook emphasizes the importance of both formal and informal learning processes, recognizing that much of workplace development occurs outside traditional training programs. It also highlights the role of social interactions, organizational culture, technology, and policy frameworks in shaping learning experiences.

Core Themes and Topics Covered

The book encompasses a broad range of themes relevant to workplace learning, including:

1. Theories and Models of Workplace Learning

Understanding the theoretical underpinnings of workplace learning is fundamental. The handbook discusses various models such as:

- **Experiential Learning Theory:** Emphasizes learning through reflection on doing.
- **Situated Learning:** Focuses on learning in context, through participation in social practices.
- **Community of Practice:** Highlights learning as a social process within a shared domain of interest.
- **Transformational Learning:** Involves deep, structural shifts in perspectives and assumptions.

These models help explain how individuals acquire skills, knowledge, and attitudes in workplace settings.

2. Formal and Informal Learning

While formal training programs like workshops and courses are important, informal learning?such as mentorship, peer discussions, and self-directed study?is often more prevalent and impactful. The handbook explores:

- Strategies to integrate formal and informal learning initiatives.
- The significance of spontaneous learning opportunities.
- Designing workplaces that encourage ongoing, informal knowledge sharing.

3. Organizational Culture and Learning

Organizational culture significantly influences learning behaviors. A culture that values continuous improvement, openness to feedback, and innovation fosters a conducive environment for learning. The handbook examines:

- The impact of leadership on learning practices.
- Mechanisms for embedding learning into daily routines.
- Challenges faced by organizations resistant to change.

4. Technology and Digital Learning in the Workplace

With digital transformation, technology has become integral to workplace learning. Topics include:

- The use of Learning Management Systems (LMS) and digital platforms.
- Blended learning approaches combining online and face-to-face methods.
- The role of social media and collaborative tools in knowledge sharing.
- Emerging technologies like AI and virtual reality for immersive learning experiences.

5. Policy and Leadership in Workplace Learning

Effective policy and leadership are essential to cultivate a learning organization. The handbook discusses:

- Developing organizational learning policies.
- Leadership styles that promote learning and innovation.
- Measuring and evaluating learning outcomes.

Importance of Workplace Learning for Organizations

Workplace learning is vital for organizational agility, competitiveness, and employee satisfaction. It enables organizations to adapt swiftly to market changes, foster innovation, and develop a skilled workforce.

Benefits of Investing in Workplace Learning

- **Enhanced Employee Performance:** Continuous learning helps employees improve their skills and efficiency.
- **Retention and Engagement:** Opportunities for development increase job satisfaction and reduce turnover.
- **Innovation and Creativity:** Learning cultures encourage experimentation and new ideas.
- **Organizational Resilience:** Learning agility allows organizations to respond effectively to disruptions.

Challenges and Future Directions in Workplace Learning

Despite its benefits, implementing effective workplace learning initiatives faces several challenges:

Common Challenges

- Resistance to change among employees and management.
- Resource constraints, including time and financial investment.
- Ensuring relevance and applicability of learning content.
- Measuring the impact of learning interventions.
- Balancing formal and informal learning opportunities.

Emerging Trends and Future Outlook

The landscape of workplace learning is continually evolving. Emerging trends include:

- The integration of artificial intelligence to personalize learning experiences.
- The rise of microlearning?short, focused learning modules for quick skill acquisition.
- Learning analytics to track engagement and outcomes more effectively.
- Promoting a learning organization culture that values curiosity and experimentation.
- Globalization and the need for cross-cultural competence development.

Practical Strategies for Enhancing Workplace Learning

Organizations aiming to foster a thriving learning environment can consider the following strategies:

1. Cultivate a Learning Culture

Encourage openness, curiosity, and continuous improvement by embedding learning into organizational values and daily routines.

2. Leverage Technology Effectively

Utilize digital tools to facilitate flexible, accessible, and engaging learning experiences tailored to individual needs.

3. Promote Social Learning

Create opportunities for collaboration, mentorship, and peer-to-peer knowledge sharing.

4. Support Informal Learning

Design physical and virtual spaces that encourage spontaneous interactions and self-directed learning.

5. Measure and Evaluate

Implement metrics and feedback mechanisms to assess the effectiveness of learning initiatives and inform continuous improvement.

Conclusion

The **Sage Handbook of Workplace Learning** is an indispensable resource that synthesizes current research, practical insights, and innovative approaches to understanding and enhancing learning within workplaces. As organizations navigate an era of rapid change, fostering a vibrant learning environment is not just a strategic advantage but a necessity for sustainable growth and employee development. By integrating the principles and strategies outlined in this handbook, organizations can create dynamic, resilient, and knowledge-rich workplaces that empower employees and drive success.

Keywords: Sage Handbook of Workplace Learning, workplace education, professional development, organizational learning, informal learning, formal training, digital learning, learning theories, workplace culture, learning strategies

Sage Handbook of Workplace Learning: An In-Depth Exploration

The Sage Handbook of Workplace Learning stands as a comprehensive and authoritative resource in the field of adult education, organizational development, and professional learning. Edited by leading scholars, this volume offers a multifaceted examination of how individuals learn within work

environments, integrating theoretical frameworks, empirical research, practical applications, and emerging trends. This review delves into the core aspects of the handbook, highlighting its structure, key themes, contributions, and relevance for researchers, practitioners, and policymakers alike.

Overview and Significance of the Handbook

The Sage Handbook of Workplace Learning is a flagship publication that synthesizes a wide array of perspectives on learning in the workplace. Its significance lies in its ability to bridge academic theory with real-world practice, making it an essential resource for understanding the dynamics of adult learning in organizational contexts.

Key features include:

- **Interdisciplinary Approach:** Incorporates insights from education, psychology, sociology, management, and human resource development.
- **Global Perspectives:** Covers diverse cultural and economic contexts, recognizing that workplace learning is a universal phenomenon influenced by local practices.
- **Comprehensive Coverage:** Addresses formal, informal, and non-formal learning, along with technological and digital influences.

Structural Composition and Content Overview

The handbook is organized into multiple sections, each focusing on distinct aspects of workplace learning, ensuring a holistic understanding.

Part 1: Foundations of Workplace Learning

This section establishes the theoretical groundwork:

- Definitions and conceptual models of workplace learning.
- Historical evolution and debates within the field.
- Core theories such as experiential learning, social learning, and situated cognition.

Part 2: Types and Contexts of Workplace Learning

Focuses on various learning modes:

- **Formal learning:** Structured training programs, certifications, workshops.

- Informal learning: Peer interactions, on-the-job problem solving.
- Non-formal learning: Mentoring, coaching, communities of practice.

Contextual factors examined include:

- Organizational culture and climate.
- Sector-specific practices (e.g., healthcare, manufacturing, tech).
- Globalization impacts.

Part 3: Learning Technologies and Digitalization

Explores how digital tools influence workplace learning:

- E-learning platforms.
- Mobile learning and social media.
- Virtual teams and remote collaboration.

Part 4: Policy, Leadership, and Organizational Strategy

Addresses macro and micro-level considerations:

- Policy frameworks promoting lifelong learning.
- Leadership roles in fostering learning cultures.
- Alignment of learning initiatives with organizational goals.

Part 5: Challenges, Future Directions, and Critical Perspectives

Considers contemporary issues:

- Equity and access to learning opportunities.
- The impact of automation and AI.
- Ethical considerations and power dynamics.
- Future research trajectories.

Theoretical Contributions and Conceptual Frameworks

One of the handbook's strengths is its rich theoretical diversity. It consolidates classical theories

with innovative models, offering readers a nuanced understanding of how learning occurs at work.

- Experiential Learning (Kolb): Emphasizes learning through concrete experience, reflective observation, abstract conceptualization, and active experimentation.
- Situated Learning and Communities of Practice (Lave & Wenger): Highlights learning as a social process embedded in context, emphasizing participation and identity formation.
- Transformative Learning (Mezirow): Focuses on critical reflection leading to perspective shifts.
- Self-Directed Learning: Encourages autonomy and proactive engagement in learning processes.
- Actor-Network Theory and Social Network Analysis: Examines the influence of social structures and relationships on learning.

By integrating these frameworks, the handbook facilitates a multi-layered understanding of workplace learning phenomena.

Empirical Insights and Case Studies

The volume offers numerous empirical studies that illuminate how theories manifest in practice. These include:

- Case analyses of apprenticeship programs in manufacturing industries.
- Longitudinal studies on the impact of digital learning tools in corporate settings.
- Comparative research across different cultural contexts, demonstrating variations in learning practices.
- Evaluations of leadership interventions aimed at cultivating learning organizations.

These real-world examples provide practical guidance and validate theoretical models, making the literature accessible and applicable.

Practical Implications for Stakeholders

The handbook is not merely academic; it provides actionable insights for various stakeholders.

For Educators and Trainers

- Designing effective blended learning programs.
- Facilitating informal learning communities.
- Incorporating digital literacy into workplace curricula.

For Organizational Leaders and HR Professionals

- Developing strategic approaches to continuous professional development.
- Cultivating organizational cultures that value learning.
- Implementing policies that support diversity, equity, and inclusion in learning opportunities.

For Policymakers

- Creating frameworks that encourage lifelong learning.
- Supporting access to education in marginalized or underserved groups.
- Promoting international collaboration and knowledge exchange.

Emerging Trends and Future Challenges

The Sage Handbook of Workplace Learning also dedicates attention to evolving trends shaping the future landscape.

- Digital Transformation: The increasing prevalence of AI, machine learning, and automation necessitates rethinking workforce skills and learning strategies.
- Learning Ecosystems: Moving beyond individual organizations to broader networks involving industry partnerships, educational institutions, and communities.
- Lifelong and Lifewide Learning: Recognizing that learning occurs across multiple life domains, not confined to formal employment.
- Inclusivity and Equity: Addressing systemic barriers to participation in workplace learning, ensuring marginalized groups are empowered.
- Ethical Considerations: Navigating issues related to data privacy, surveillance, and the potential for exploitation in digital learning environments.

The editors emphasize that future research must adapt to these challenges while continually refining theoretical models to reflect complex social realities.

Critical Reflections and Limitations

While the Sage Handbook of Workplace Learning is comprehensive, critical readers should consider:

- The potential dominance of Western-centric perspectives, with ongoing efforts needed to

incorporate diverse cultural viewpoints.

- The rapid pace of technological change, which may render some insights outdated quickly, underscoring the need for continuous updating.
- The complexity of translating theoretical models into practice, especially in resource-constrained environments.

Despite these considerations, the handbook provides a solid foundation for understanding and advancing the field.

Conclusion: A Landmark Resource

In sum, the Sage Handbook of Workplace Learning is an indispensable resource that combines rigorous scholarship with practical relevance. Its multidisciplinary approach, extensive coverage, and forward-looking insights make it a valuable reference for academics, practitioners, and policymakers committed to fostering effective, equitable, and sustainable learning in the workplace. As the nature of work continues to evolve amidst technological, social, and economic shifts, this handbook offers vital guidance for navigating the complexities of workplace learning now and into the future.

Final Note: Whether you are a researcher seeking theoretical clarity, an educator designing training programs, or an organizational leader shaping learning culture, the Sage Handbook of Workplace Learning provides the depth and breadth necessary to inform and inspire your work.

Question What are the key themes discussed in the 'SAGE Handbook of Workplace Learning'? The handbook explores themes such as informal and formal learning, the role of technology, organizational development, workforce development, and the impact of globalization on workplace learning. How does the 'SAGE Handbook of Workplace Learning' address the role of technology in learning? It examines how digital tools, online platforms, and emerging technologies influence learning processes, facilitate access to information, and transform workplace training and development practices. In what ways does the handbook discuss the relationship between workplace learning and organizational performance? The handbook highlights that effective workplace learning enhances employee skills, innovation, and adaptability, which collectively contribute to improved organizational performance and competitive advantage. Who are the primary audiences for the 'SAGE Handbook of Workplace Learning'? The primary audiences include researchers, educators, HR professionals, organizational leaders, and students interested in the theories, practices, and policies related to workplace learning. What recent trends in workplace learning are covered in the 'SAGE Handbook of Workplace Learning'? The handbook covers trends such as lifelong learning, the integration of informal learning strategies, the impact of digital transformation, and the importance of inclusive and diverse learning environments in workplaces.

Related keywords: workplace learning, professional development, organizational learning, adult education, learning theories, workplace training, skill development, workplace pedagogy, learning

organizations, continuous learning

Read the full article online: [SAGE HANDBOOK OF WORKPLACE LEARNING](#)