

A Three-Dimensional Conceptual Framework of Workplace Learning: Integrating Supervisor Support, Peer Support, and Reflective Practice

Xiuqiang Feng, Rahimah Jamaluddin*, Mohd Hazwan Mohd Puad

Department of Science and Technical Education, Faculty of Educational Studies, Universiti Putra Malaysia, 43400 UPM Serdang, Serdang, Malaysia
Corresponding Author Email: imah_upm@upm.edu.my

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Abstract

Workplace learning is an important part of vocational education, yet its conceptualization remains varied across studies. Such variation makes it difficult to compare findings and explain how learning develops across workplace contexts. This paper therefore develops a three-dimensional framework of workplace learning centered on supervisor support, peer support, and reflective practice. Drawing on workplace learning theory and relevant empirical and theoretical literature, the framework brings together two social dimensions of learning and a reflective dimension through which students interpret and learn from workplace experience. Supervisor support provides guidance and developmental feedback, peer support facilitates informal interaction and collaborative learning, and reflective practice enables students to review experience and inform subsequent action. Bringing these three components together provides a clearer basis for examining student learning in authentic work settings and for designing workplace learning in technical and vocational education and training. The framework also provides a basis for future empirical testing across different educational and workplace contexts.

Keywords: Workplace Learning, Supervisor Support, Peer Support, Reflective Practice, Conceptual Framework

Introduction

Workplace learning generally refers to learning that occurs through participation in real work activities and workplace interactions, with an emphasis on situated and experiential knowledge acquisition (Soldo, 2021; Wang et al., 2022). It has long been an important component of technical and vocational education and training (TVET), where learning in authentic work settings provides students with opportunities to connect occupational knowledge with actual work practices. From traditional apprenticeship to contemporary vocational education, workplace-based experience has remained an important means of

developing occupational competence and preparing learners for participation in working life (Alemu, 2024; Billett, 2004).

The value of workplace learning lies in the opportunities it provides for students to engage with real tasks, workplace routines, and social interactions that are difficult to reproduce fully in classroom settings. Through participation in everyday work activities, learners encounter practical problems, observe how work is organized, interact with more experienced workers, and gradually develop an understanding of occupational practice (Billett, 2004; Zehr & Korte, 2020; Ceelen et al., 2023). As work environments continue to change in response to technological, organizational, and labour-market developments, workplace learning remains particularly relevant for helping vocational students develop the knowledge and capabilities needed to respond to changing work demands.

Despite its importance, workplace learning has been conceptualized in different ways across the literature. Some studies distinguish workplace learning according to forms of learning, such as formal, informal, and incidental learning (Rowden, 2002; Lohman, 2005). Others focus on particular aspects of the learning experience, including social interaction, reflection, or the broader conditions that shape learning in the workplace (Dornan et al., 2007; Helyer, 2015; Nikolova et al., 2014). Workplace learning has also been described through broader multidimensional or process-oriented frameworks that emphasize different stages, experiences, and contextual influences (Griffin, 2011; Steinberg et al., 2024). However, these approaches tend to focus on different forms, processes, or conditions of workplace learning rather than integrating its main learning processes within a common conceptual structure.

Although these perspectives have broadened understanding of workplace learning, this diversity is also reflected in considerable variation in how the concept is defined and operationalized across studies. As a result, the literature does not yet provide a sufficiently coherent account of the internal structure of workplace learning, making it difficult to compare findings across studies or to understand how its different elements relate to one another.

In response to these gaps, this paper aims to develop a conceptual framework that offers a clearer and more integrated understanding of workplace learning for students. The goal is to synthesize existing research and propose a coherent structure that captures the essential elements of how students learn when they engage in authentic work environments. In doing so, the study contributes by bringing together perspectives on workplace learning that have often been examined separately. The resulting framework provides a clearer conceptual basis for understanding workplace learning and for its future empirical examination in TVET contexts.

Literature Review

Workplace Learning and Related Concepts

Although workplace learning has been widely discussed in TVET research, it is often used alongside, or interchangeably with, a range of related terms such as work-based learning (Decker, 2021), work-integrated learning (Kiruthika & Valusa, 2024), work-related learning (Grosemans et al., 2021), internship (Santosa et al., 2024), work placement (Okolie et al., 2021), practical training (Yang & Xiang, 2025), on-the-job training (Loc et al., 2025), and

informal learning (Decius et al., 2019). These concepts overlap in important ways but also differ in their typical settings, degree of curricular integration, and primary focus.

The variety of meanings and applications has contributed to conceptual ambiguity in literature. Distinguishing these concepts is therefore important for interpreting empirical findings and understanding how learning occurs in workplace settings. To clarify the scope of the present study, Table 1 presents a brief comparison of workplace learning and several frequently used related terms.

Table 1

Comparison of Workplace Learning and Related Educational Terms

Term	Definition core	Learning context	Core focus
Workplace Learning	Learning that occurs in the actual workplace during real job tasks or production	Real employment settings	Situated development of job competence
Work-Based Learning	Learning for, at, or through work, integrated into formal programs	Workplaces and simulated settings	Integration of work experience into formal learning
Work-Integrated Learning	Curriculum-based experiential learning that integrates academic and work activities	Academic and workplace settings	Curriculum-embedded real-world application
Work-Related Learning	Learning about work, often school-based or preparatory	Schools, simulated projects, enterprise visits	Raising awareness of work and developing career readiness
Internship	Temporary, structured work placements integrated into curricula	Workplace	Exposure to workplace and basic professional practice
Work Placement	Structured and time-bound work experience integrated into educational programs	Workplace	Curriculum-linked skill development and occupational exposure
Practical Training	Simulated or structured technical exercises for skill acquisition in controlled settings	Mainly on-campus (simulated workplace)	Institution-led technical and procedural training
On-the-Job Training	Training delivered by employer within normal work duties	Workplace	Task-specific performance improvement
Informal Learning	Learning that occurs without structured curriculum or explicit objectives	Everyday tasks, interactions, self-initiated	Self-directed, unstructured learning from work/life situations

Although Table 1 illustrates the main distinctions among these concepts, their definitions are not universally agreed upon and are not always applied consistently across studies. In practice,

considerable overlap remains among terms referring to learning through participation in work. The present study therefore adopts a working definition rather than attempting to establish rigid conceptual boundaries. Workplace learning is understood here as students' learning through engagement in authentic work activities and interactions in real workplace settings, encompassing both structured and unstructured experiences.

Conceptual Structure of Workplace Learning

Empirical studies conceptualize workplace learning in different ways, resulting in considerable variation in how its structure is understood. One approach distinguishes workplace learning according to types of learning, most commonly formal and informal learning. Rowden (2002), for example, categorizes workplace learning into formal, informal, and incidental learning, while Lohman (2005) focuses specifically on informal learning processes occurring in day-to-day work activities. However, workplace learning does not always fit neatly within these categories. It may include formal components, such as structured curricula, supervision, and assessment, alongside informal learning embedded in authentic practice and social interaction. Billett (2002) and Ma and Wu (2016) therefore describe workplace learning as combining formal and informal forms of learning. More recently, Lotfi et al. (2025) identified a range of components within informal workplace learning itself, including experience, critical reflection, collective learning, self-directed learning, and contextual factors. These studies suggest that classifications based on formality capture only one aspect of how learning occurs in the workplace.

Other studies examine particular processes or conditions within workplace learning. Some focus on its social dimension. Dornan et al. (2007), for instance, highlight interactions with patients, doctors, nurses, and peers as important influences on students' engagement in workplace learning. More recent research similarly shows that students' workplace learning is shaped by pedagogic practices and interactions with experienced colleagues, including demonstration, support for participation, and the gradual entrustment of vocational activities (Ceelen et al., 2023). Other studies give greater attention to learners' internal processes, particularly reflection, through which workplace experiences are interpreted and connected to subsequent learning and action (Helyer, 2015). This work provides detailed accounts of particular aspects of workplace learning, although these aspects are often examined separately.

A further body of research treats workplace learning as a broader multidimensional phenomenon. Steinberg et al. (2024), for example, developed a workplace learning inventory encompassing cognition, motivation, emotion, and contextual experiences across the learning process. Griffin (2011) conceptualizes workplace learning through stages including pre-learning, learning triggers, learning events, application, and impact. Other recent research has focused on the conditions that shape engagement in workplace learning. Wijga et al. (2025), for instance, organize the antecedents of workplace learning into individual and contextual factors, including personal characteristics, job characteristics, organizational conditions, and the wider work environment. These approaches capture important dimensions and conditions of workplace learning, but their primary concern is with the breadth, sequence, or antecedents of learning rather than with identifying a common set of processes through which learning takes place.

Taken together, the literature approaches workplace learning from different analytical positions. Studies variously classify forms of learning, examine particular social or cognitive processes, describe multidimensional learning experiences, or investigate the conditions that facilitate workplace learning. These perspectives have contributed to understanding different aspects of workplace learning, but they do not provide a consistent account of how the main learning processes within the workplace relate to one another. Greater conceptual integration is therefore needed to clarify the structure of workplace learning and the processes through which students learn from participation in authentic work settings.

Theoretical Foundations

Workplace Learning Theory, developed through the work of Billett (1992, 2001), provides a theoretical basis for understanding how learning occurs within real work environments. Rather than treating vocational learning as something that takes place primarily through formal instruction, this perspective emphasizes learning through participation in everyday work activities. Such participation brings learners into contact with authentic tasks, workplace practices, and the social conditions of work, all of which shape what and how they learn. Within this perspective, learning is influenced by the affordances available in the workplace and by how individuals engage with those affordances.

Billett's work also draws attention to the physical, social, and psychological conditions that shape participation in workplace learning. The physical dimension concerns the tasks, tools, and material arrangements that influence the opportunities available for participation. The social dimension reflects the interactive nature of workplace learning, particularly the ways in which learning is supported through observation, guidance, and participation with others. The psychological dimension concerns the learner's own engagement with workplace experiences, including how individuals interpret what they encounter, draw on prior experience, and exercise agency in responding to workplace demands (Billett, 2000, 2011, 2014).

From this perspective, workplace learning emerges through the relationship between the opportunities provided by the workplace and the ways in which individuals participate in and respond to those opportunities. Learning is therefore shaped by both the conditions of the workplace and the learner's engagement with everyday work experience. This theoretical perspective offers a useful basis for examining workplace learning as a situated process that develops through participation in authentic work settings. In the present study, it is used to examine the internal processes through which such learning takes place.

Methodology

This study adopts a conceptual research design to develop a clearer understanding of workplace learning and to propose an integrative conceptual framework for student learning in workplace settings. Conceptual research is particularly useful for synthesizing existing knowledge and clarifying relationships among concepts when the literature is theoretically dispersed or inconsistently structured (Jaakkola, 2020). The analysis draws on empirical and theoretical literature concerning workplace learning, with particular attention to how the concept has been defined, operationalized, and structured in previous studies.

The analysis proceeded in three stages. First, relevant publications were examined to identify the main ways in which workplace learning has been conceptualized and the assumptions

underlying these approaches. Second, empirical studies were reviewed to determine how different aspects of workplace learning had been examined, either separately or in combination. This comparison helped identify areas of conceptual overlap and inconsistency across the literature. Third, the recurring themes and mechanisms identified across these studies were synthesized into a coherent conceptual framework. The resulting framework brings together theoretical perspectives and empirical evidence to support further examination of workplace learning in student settings.

Findings and Discussion

Proposed Conceptual Framework of Workplace Learning

Workplace learning involves more than being physically present in a work setting; it depends on how individuals engage with their environment to construct meaning and develop competence. Existing research suggests that workplace learning occurs through the interaction between the opportunities afforded by the workplace and how individuals choose to participate in those opportunities (Billett, 2004; Ceelen et al., 2023; Mohamed et al., 2021). This perspective shifts attention from structural forms of learning, such as internships or apprenticeships, to the processes through which learning occurs within everyday work activities.

In workplace learning contexts, students are commonly supported by supervisors who provide guidance and oversight, as well as by peers, including classmates and colleagues who share the same work or learning environment (Sadeghi, 2020; Ceelen et al., 2023). Interactions with supervisors and peers are embedded in everyday work activities and constitute an important part of workplace learning. Workplace learning has a strong social and collaborative character, as learners acquire knowledge through observation, interaction, discussion, and guided participation with others (Billett, 2004; Ceelen et al., 2023). Interaction with supervisors and peers can therefore be regarded as an important part of how learning occurs in workplace settings.

Interactional learning through supervisors and colleagues has been identified as an important dimension of the learning potential of the workplace (Nikolova et al., 2014; Ceelen et al., 2023). Zehr and Korte (2020), for example, found that students who were physically located close to their team or supervisor reported more meaningful learning experiences. Such proximity gave students greater opportunities to observe work routines, engage in task-related discussions, and seek feedback during everyday work activities. Learning in the workplace therefore does not occur in isolation but is shaped through interaction with others. Within this social process, supervisor support and peer support represent two important sources of workplace learning.

Within interactional learning, supervisor support and peer support serve related but distinct functions. Supervisors commonly provide developmental feedback, role clarification, guidance, and oversight, whereas peers contribute through informal dialogue, shared problem-solving, observation, and readily available day-to-day assistance (Ceelen et al., 2023; McBeath et al., 2018). Their contributions differ because supervisors generally occupy a more formal and experienced position, while peers tend to interact with learners on a more horizontal and immediate basis. Previous studies have also distinguished learning from supervisors from learning through colleagues and peers (Billett, 2004; Coetzer, 2007). Yaghi and Bates (2020), for example, found that supervisor support and peer support independently

contributed to training transfer in higher education institutions. These differences provide a basis for considering supervisor support and peer support as separate components of workplace learning.

In addition to interaction with others, workplace learning involves cognitive and behavioral engagement on the part of the learner. Billett (2000) emphasizes that workplace learning depends not only on guidance from supervisors and other workers, but also on how individuals engage with and respond to their experiences. Learners reflect on what has occurred, evaluate their responses, and may experiment with different ways of acting in subsequent situations (Billett, 2000). Other studies similarly emphasize the importance of reflection and experimentation in learning from workplace experience (Alkan & Emmioğlu-Sarikaya, 2023; Wielenga-Meijer et al., 2010). These processes are particularly relevant in work situations that require individuals to interpret experience, adjust their actions, and respond to changing demands.

These reflective and experimental processes can be considered within the broader construct of reflective practice. Rather than treating reflection and experimentation as separate behaviors, reflective practice captures how learners process, evaluate, and act upon their workplace experiences (Griggs et al., 2018; Raelin, 2001). It involves interpreting experience and using what has been learned to adjust, test, and improve subsequent action (Prilla et al., 2014; Griggs et al., 2018). Reflection therefore becomes closely connected to practice when learners use their interpretation of previous experience to inform what they do next. In this study, reflective practice is conceptualized as a cognitive-behavioral process through which learners make sense of workplace experiences and use them to guide subsequent learning and action.

The literature therefore points to two closely related processes in workplace learning: learning through interaction with others and learning through the learner's own cognitive and behavioral engagement with experience (Eraut, 2004; Wielenga-Meijer et al., 2010; Nikolova et al., 2014; Billett, 2020). Within these processes, supervisor support and peer support represent different forms of social support for learning, while reflective practice captures how learners interpret and act upon workplace experiences. On this basis, the present study proposes supervisor support, peer support, and reflective practice as three key dimensions of workplace learning among students in TVET contexts. The proposed three-dimensional conceptual framework is presented in Figure 1.

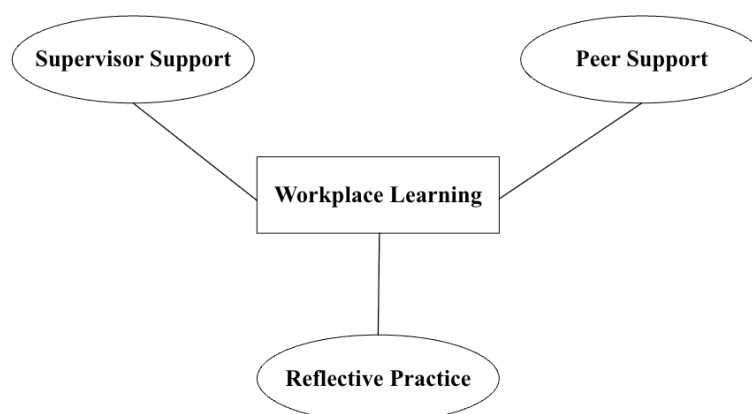


Figure 1. Three-Dimensional Framework of Workplace Learning

Supervisor Support

In student workplace learning contexts, particularly in TVET, supervisors are typically more experienced practitioners who support students' development during real-world work activities (Ali et al., 2022; Okolie et al., 2023). Depending on institutional and sectoral contexts, terms such as mentor, trainer, workplace educator, and preceptor are also used in the literature to describe similar roles (Ceelen et al., 2023). For consistency, this study uses "supervisor" as an umbrella term for these workplace-based support roles.

Research on student workplace learning conceptualizes and operationalizes supervisor support in different ways. Some studies focus on the functional role of the supervisor, describing supervisors as facilitators of learning and providers of guidance and feedback (Ali et al., 2022; Okolie et al., 2021). Such work emphasizes what supervisors contribute to students' learning and development within the workplace.

Other studies focus more specifically on the supportive behaviors provided by supervisors. These may include assistance, coaching, encouragement, feedback, goal setting, behavioral modelling, discussion of training content, and involvement in students' learning activities (Nuis et al., 2023; Okolie et al., 2023; Testers et al., 2019). This perspective treats supervisor support as a set of actions and interactions embedded in everyday workplace learning. Other studies emphasize students' perceptions of the support they receive. From this perspective, supervisor support is shaped not only by what supervisors do, but also by how students interpret and evaluate that support (Hurst et al., 2012; To & Lung, 2020).

These different perspectives show that supervisor support has been understood as a workplace role, a set of supportive behaviors, and a form of perceived relational support. The variation in conceptualization can make comparison across studies difficult, particularly when different aspects of supervision are measured under the same label.

In this study, supervisor support refers to the guidance and developmental assistance that students receive from workplace supervisors to support their learning, competence development, and career development during workplace learning. This definition incorporates both the instructional and relational aspects of supervision and provides a consistent basis for examining supervisor support within the proposed framework.

Peer Support

Peer support generally arises from relationships among individuals who share similar roles, status, or stages of development, although its meaning and functions vary across disciplines and contexts. In the literature on student workplace learning, the term is frequently used without an explicit conceptual definition. Instead, peer support is often described through its role in the learning process (Perrin, 2014; Cheraghi et al., 2021), as a form of social support (McBeath et al., 2018), or in terms of the outcomes it is expected to facilitate (Hirano et al., 2022).

Variation also exists in how a "peer" is defined. In some studies, peers are fellow students at similar developmental stages, and peer support is therefore understood as a reciprocal form of interaction. Binasari and Tentama (2025), for example, describe peer support among students in terms of mutual assistance, sharing, empathy, and friendship, with an emphasis on belonging and positive interpersonal feedback. Other studies adopt a more structured

arrangement in which higher-year or more experienced students support those with less experience. Cheraghi et al. (2021), for instance, describe a peer support approach in which trained postgraduate students provide support to undergraduate students. In this case, the relationship remains peer-based, but the support is more structured and less reciprocal. Some studies are less explicit about the direction of support. Testers et al. (2019), for example, identify fellow students as peers in the study context and colleagues as peers in the work context, without clearly specifying how support is exchanged between them.

Given these differences, peer support needs to be defined in relation to the specific context in which it is examined. In this study, peer support refers to the interactions through which students receive help and encouragement from fellow learners or co-workers who occupy a similar or comparable position within the workplace learning environment. This definition distinguishes peer support from supervisory guidance while allowing for both reciprocal and more structured forms of support among individuals in comparable positions.

Reflective Practice

The conceptual roots of reflective practice can be traced to Dewey's (1933) notion of reflective thinking, in which reflection enables individuals to reconsider experience through inquiry and re-evaluation. Building on this foundation, Schön (1983) extended reflection to professional practice through the concept of the reflective practitioner. Reflective practice in this sense involves examining one's actions and assumptions, particularly in situations that require judgement, adjustment, or improvisation (Ng, 2012; Thompson & Thompson, 2023). Raelin (2001) later situated reflective practice more explicitly within workplace learning, arguing that reflection is not solely an individual cognitive activity but can also be embedded in social and workplace practices. Learning at work often takes place during practice itself, as individuals engage simultaneously with tasks, workplace conditions, and other people (Cox, 2005; Raelin, 2010; Fergusson & Van Der Laan, 2021). Reflection therefore provides a means through which workplace experience can be examined and interpreted rather than simply undergone.

Reflective practice has consequently become an important learning process in professional education and workplace learning (Ng, 2012; Slade et al., 2019). At its most basic level, reflection involves revisiting and examining previous experience in order to derive learning or insight (Ng, 2012; Griggs et al., 2018). Reflective practice extends this process by connecting reflection with subsequent practice. It involves not only considering what happened, but also using this understanding to inform later decisions and actions (Raelin, 2010; Griggs et al., 2018). In this way, reflective practice links experience, interpretation, and future action within the ongoing process of workplace learning. Accordingly, this study defines reflective practice as students' deliberate and critical review of their workplace learning experiences to guide more effective future actions.

Research Implications

The conceptual framework proposed in this study has both practical and theoretical implications for TVET. By bringing together supervisor support, peer support, and reflective practice as three key dimensions of workplace learning, the framework suggests that learning in workplace settings depends on more than participation in work tasks alone. For practitioners in placement organizations, access to meaningful tasks should therefore be accompanied by opportunities for guidance, interaction, and reflection. Strengthening

supervisory support, encouraging peer exchange, and providing opportunities for students to review their experiences may help students make better use of workplace learning opportunities and support their competence development. These practices may also help supervisors, mentors, and workplace educators create learning environments that are more responsive to students' developmental needs.

For educational institutions, the framework provides a basis for considering how workplace learning can be supported across different stages of a placement. Supervisor support, peer interaction, and reflective activities can be incorporated into pre-placement preparation, ongoing placement support, and post-placement review. Curriculum designers may, for example, include structured reflection, opportunities for peer exchange, and guidance for workplace supervisors on how to support student learning. These arrangements can help strengthen the connection between classroom learning and workplace experience and improve the pedagogical organization of workplace learning in TVET.

The framework also contributes to the conceptual understanding of workplace learning. Previous studies have often examined particular aspects of workplace learning separately, making it difficult to consider how different learning processes may operate together. By integrating supervisor support, peer support, and reflective practice within a single framework, this study provides a more coherent way of examining the social and individual processes involved in workplace learning. The framework may therefore provide a useful basis for future research examining how these dimensions relate to one another and how their roles may vary across different workplace learning contexts.

Recommendations for Future Research

The conceptual framework proposed in this study suggests several directions for future research. Further empirical studies are needed to examine how supervisor support, peer support, and reflective practice operate together in workplace learning. Although each dimension has been examined separately in previous research, less is known about their combined contribution to students' learning experiences or whether their relative importance varies across different contexts.

Future research could also examine how workplace conditions, such as organizational culture, work design, and supervisory arrangements, shape the operation of these dimensions. This would help clarify the conditions under which supervisor support, peer support, and reflective practice are more or less influential in student workplace learning.

Cross-cultural and cross-sectoral studies could further examine whether the proposed framework is applicable across different vocational fields and institutional settings. Such research could identify whether particular dimensions require adaptation in contexts with different learning traditions, supervisory practices, or training systems, and could also clarify how institutional and national conditions shape workplace learning.

Finally, future studies could develop and validate measurement tools based on the proposed conceptual framework. Such measures would allow the three dimensions to be examined together and provide a stronger basis for empirical testing of the framework across different workplace learning contexts.

Conclusion

This paper has proposed a conceptual framework of workplace learning that brings together three key dimensions: supervisor support, peer support, and reflective practice. The review of existing studies shows that these aspects of workplace learning have often been examined separately, making it difficult to understand how they relate to one another within a broader conceptual structure. By synthesizing insights from Workplace Learning Theory and relevant empirical research, the framework provides a more integrated account of the processes that shape students' learning experiences in workplace settings.

The framework highlights that workplace learning involves not only participation in work tasks, but also social interaction and learners' engagement with their own experiences. By bringing these dimensions together, the framework provides a basis for future empirical research and for considering how workplace learning can be more effectively supported in TVET contexts. It may also contribute to a clearer understanding of how students learn through participation in authentic work environments.

References

- Alemu, Y. (2024). Apprenticeship as a work-based learning in Addis Ababa City Administration of Ethiopia. *Journal of Social and Development Sciences*, 14(2), 52–62. [https://doi.org/10.22610/jsds.v14i2\(S\).3849](https://doi.org/10.22610/jsds.v14i2(S).3849)
- Ali, A. A., Gardner, P., & Edmondson, B. (2022). Developmental relationships matter: Examining the joint role of supervisor support and mentor status on intern outcomes. *International Journal of Work-Integrated Learning*, 23(3), 335–346.
- Alkan, M. F., & Emmioğlu-Sarıkaya, E. (2023). Factors explaining workplace learning of Turkish research assistants. *Vocations and Learning*, 16(2), 371–393. <https://doi.org/10.1007/s12186-023-09320-3>
- Billett, S. (1992). Towards a theory of workplace learning. *Studies in Continuing Education*, 14(2), 143–155. <https://doi.org/10.1080/0158037920140205>
- Billett, S. (2000). Guided learning at work. *Journal of Workplace Learning*, 12(7), 272–285. <https://doi.org/10.1108/13665620010353351>
- Billett, S. (2001). Learning through work: Workplace affordances and individual engagement. *Journal of Workplace Learning*, 13(5), 209–214. <https://doi.org/10.1108/EUM0000000005548>
- Billett, S. (2002). Critiquing workplace learning discourses: Participation and continuity at work. *Studies in the Education of Adults*, 34(1), 56–67. <https://doi.org/10.1080/02660830.2002.11661461>
- Billett, S. (2004). Workplace participatory practices: Conceptualising workplaces as learning environments. *Journal of Workplace Learning*, 16(6), 312–324. <https://doi.org/10.1108/13665620410550295>
- Billett, S. (2011). *Vocational education: Purposes, traditions and prospects*. Springer Netherlands. <https://doi.org/10.1007/978-94-007-1954-5>
- Billett, S. (2014). Mimesis: Learning through everyday activities and interactions at work. *Human Resource Development Review*, 13(4), 462–482. <https://doi.org/10.1177/1534484314548275>
- Billett, S. (2020). *Learning in the workplace: Strategies for effective practice*. Routledge. <https://doi.org/10.4324/9781003116318>

- Binasari, E. S., & Tentama, F. (2025). Employability model for students in increasing career opportunities. *Journal of Education and Learning (EduLearn)*, 19(2), 1167–1178. <https://doi.org/10.11591/edulearn.v19i2.21255>
- Ceelen, L., Khaled, A., Nieuwenhuis, L., & de Bruijn, E. (2023). Pedagogic practices in the context of students' workplace learning: A literature review. *Journal of Vocational Education & Training*, 75(4), 810–842. <https://doi.org/10.1080/13636820.2021.1973544>
- Cheraghi, F., Hooshangian, M., Doosti-Irani, A., & Khalili, A. (2021). The effect of peer support approach on communication skills of nursing students in pediatric clinical setting. *Nurse Education in Practice*, 52, 102984. <https://doi.org/10.1016/j.nepr.2021.102984>
- Coetzer, A. (2007). Employee perceptions of their workplaces as learning environments. *Journal of Workplace Learning*, 19, 417–434. <http://dx.doi.org/10.1108/13665620710819375>
- Cox, E. (2005). Adult learners learning from experience: Using a reflective practice model to support work-based learning. *Reflective Practice*, 6(4), 459–472. <https://doi.org/10.1080/14623940500300517>
- Decius, J., Schaper, N., & Seifert, A. (2019). Informal workplace learning: Development and validation of a measure. *Human Resource Development Quarterly*, 30(4), 495–535. <https://doi.org/10.1002/hrdq.21368>
- Decker, D. (2021). *Higher education and apprenticeship alignment (Doctoral dissertation)*. Robert Morris University.
- Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. D.C. Heath and Company Publishers.
- Dornan, T., Boshuizen, H., King, N., & Scherpbier, A. (2007). Experience-based learning: A model linking the processes and outcomes of medical students' workplace learning. *Medical Education*, 41(1), 84–91. <https://doi.org/10.1111/j.1365-2929.2006.02652.x>
- Eraut, M. (2004). Informal learning in the workplace. *Studies in Continuing Education*, 26(2), 247–273. <https://doi.org/10.1080/158037042000225245>
- Fergusson, L., & Van Der Laan, L. (2021). Work + learning: Unpacking the agglomerated use of pedagogical terms. *Journal of Work–Applied Management*, 13(2), 302–314. <https://doi.org/10.1108/JWAM-12-2020-0053>
- Griffin, R. P. (2011). Workplace learning evaluation: A conceptual model and framework. *Industrial and Commercial Training*, 43(3), 172–178. <https://doi.org/10.1108/00197851111123631>
- Griggs, V., Holden, R., Lawless, A., & Rae, J. (2018). From reflective learning to reflective practice: Assessing transfer. *Studies in Higher Education*, 43(7), 1172–1183. <https://doi.org/10.1080/03075079.2016.1232382>
- Grosemans, I., Vangrieken, K., Coertjens, L., & Kyndt, E. (2021). Education–job fit and work-related learning of recent graduates: Head start or filling a gap? *Journal of Career Development*, 48(5), 638–653. <https://doi.org/10.1177/0894845320904789>
- Helyer, R. (2015). Learning through reflection: The critical role of reflection in work-based learning (WBL). *Journal of Work–Applied Management*, 7(1), 15–27. <https://doi.org/10.1108/JWAM-10-2015-003>
- Hirano, K. A., Khurana, A., Lindstrom, L., & DeGarmo, D. (2022). Examining the role of peer support on work experiences for young women with disabilities. *Journal of Career Development*, 49(3), 632–646. <https://doi.org/10.1177/0894845321991647>

- Hurst, J. L., Good, L. K., & Gardner, P. (2012). Conversion intentions of interns: What are the motivating factors? *Education + Training*, 54(6), 504–522. <https://doi.org/10.1108/00400911211254280>
- Jaakkola, E. (2020). Designing conceptual articles: Four approaches. *AMS Review*, 10, 18–26. <https://doi.org/10.1007/s13162-020-00161-0>
- Kiruthika, U., & Valusa, B. (2024, December). Work–integrated learning: Elevating educational outcomes and career prospects in higher education. In *2024 IEEE International Conference on Teaching, Assessment and Learning for Engineering (TALE)* (pp. 1–7). Bengaluru, India: IEEE.
- Loc, T. B., Thanh Ngan, N. T., Linh, L. D., & Luan, N. T. (2025). On-the-job training: Enhance experience and increase success for the student community in Vietnam. *SAGE Open*, 15(1), 1–13. <https://doi.org/10.1177/21582440241311160>
- Lohman, M. C. (2005). A survey of factors influencing the engagement of two professional groups in informal workplace learning activities. *Human Resource Development Quarterly*, 16(4), 501–527. <https://doi.org/10.1002/hrdq.1153>
- Lotfi, H., Karami, M., Safaei Movahed, S., & Francom, G. M. (2025). What is informal workplace learning: A qualitative meta-synthesis. *Journal of Workplace Learning*, 37(2), 171–193. <https://doi.org/10.1108/JWL-05-2024-0108>
- Ma, S. G., & Wu, G. (2016). Analysis of the types of workplace learning: Historical origins and theoretical models. *Journal of Distance Education*, 34(1), 19–27. <https://doi.org/10.15881/j.cnki.cn33-1304/g4.2016.01.002>
- McBeath, M., Drysdale, M. T. B., & Bohn, N. (2018). Work–integrated learning and the importance of peer support and sense of belonging. *Education + Training*, 60(1), 39–53. <https://doi.org/10.1108/ET-05-2017-0070>
- Mohamed, H., Puad, M. H. M., Rashid, A. M., & Jamaluddin, R. (2021). Workplace skills and teacher competency from culinary arts students' perspectives. *Pertanika Journal of Social Sciences & Humanities*, 29(1), 107–125. <https://doi.org/10.47836/pjssh.29.1.06>
- Ng, S. (2012). Reflection and reflective practice: Creating knowledge through experience. *Seminars in Hearing*, 33(02), 117–134. <https://doi.org/10.1055/s-0032-1311673>
- Nikolova, I., Van Ruysseveldt, J., De Witte, H., & Syroit, J. (2014). Work–based learning: Development and validation of a scale measuring the learning potential of the workplace (LPW). *Journal of Vocational Behavior*, 84(1), 1–10. <https://doi.org/10.1016/j.jvb.2013.09.004>
- Nuis, W., Segers, M., & Beausaert, S. (2023). Measuring mentoring in employability–oriented higher education programs: scale development and validation. *Higher Education*, 87(4), 899–921. <https://doi.org/10.1007/s10734-023-01042-8>
- Okolie, U. C., Mlangi, S., Nwosu, H. E., Mezieobi, K., Okorie, C. O., & Abonyi, S. O. (2023). Work placement supervisor support and students' proactive career behaviors: The moderating role of proactivity. *Journal of Career Development*, 50(1), 168–184. <https://doi.org/10.1177/08948453211073913>
- Okolie, U. C., Ochianwata, C., Ochianwata, N., Igwe, P. A., & Okorie, G. O. (2021). Perceived supervisor support and learner's career curiosity: The mediating effect of sense of belonging, engagement and self–efficacy. *Higher Education, Skills and Work–Based Learning*, 11(5), 966–982. <https://doi.org/10.1108/HESWBL-09-2020-0207>
- Perrin, J. (2014). Features of engaging and empowering experiential learning programs for college students. *Journal of University Teaching and Learning Practice*, 11(2), 1–12. <https://doi.org/10.53761/1.11.2.2>

- Prilla, M., Blunk, O., Bimrose, J., & Brown, A. (2014). *Reflection as support for career adaptability: A concept for reflective learning in public administration*. In Milos K., Alexander M., Viktoria P., Michael P., Thomas U., & Fridolin W. (Eds.), *Proceedings of the 4th Workshop on Awareness and Reflection in Technology-Enhanced Learning* (pp. 65–71). CEUR Workshop Proceedings. <http://ceur-ws.org/Vol-1238/paper5.pdf>
- Raelin, J. A. (2001). Public reflection as the basis of Learning. *Management Learning*, 32(1), 11–30. <https://doi.org/10.1177/1350507601321002>
- Raelin, J. A. (2010). Work-based learning: Valuing practice as an educational event. *New Directions for Teaching and Learning*, 124(124), 39–46. <https://doi.org/10.1002/tl.419>
- Rowden, R. W. (2002). The relationship between workplace learning and job satisfaction in US small to midsize businesses. *Human Resource Development Quarterly*, 13(4), 407–425. <https://doi.org/10.1002/hrdq.1041>
- Sadeghi, T. (2020). Associations between workplace learning patterns, social support and perceived competency. *Human Resource Development International*, 23(1), 5–24. <https://doi.org/10.1080/13678868.2019.1627512>
- Santosa, D. F., Adil, A. S., Wikansari, R., & Oktariani, E. (2024). Improving the internships quality in supporting vocational college students' job search success. *Jurnal Aplikasi Manajemen*, 22(1), 161–174. <https://doi.org/10.21776/ub.jam.2024.022.01.13>
- Schön, D. (1983). *The Reflective Practitioner*. Basic Books, New York.
- Slade, M. L., Burnham, T., Catalana, S. M., & Waters, T. (2019). The Impact of Reflective Practice on Teacher Candidates' Learning. *International Journal for the Scholarship of Teaching and Learning*, 13(2), 1–8. <https://doi.org/10.20429/ijstol.2019.130215>
- Soldo, S. (2021). Definitions and measures of workplace learning and job satisfaction in the context of industry 4.0. In *DIEM: Dubrovnik International Economic Meeting*, 6(1), 191–203. <https://doi.org/10.17818/DIEM/2021/1.20>
- Steinberg, E., Marsch, S., Yanagida, T., Dörrenbächer-Ulrich, L., Pfeiffer, C., Bührle, P., Schwarz, L., Auer, U., Kleinsorgen, C., & Perels, F. (2024). Development and validation of the workplace learning inventory in health sciences education: A multimethod study. *Advances in Health Sciences Education*, 29(4), 1075–1129. <https://doi.org/10.1007/s10459-023-10295-y>
- Testers, L., Gegenfurtner, A., Van Geel, R., & Brand-Gruwel, S. (2019). From monocontextual to multicontextual transfer. *Frontline Learning Research*, 23–42. <https://doi.org/10.14786/flr.v7i1.359>
- Thompson, S., & Thompson, N. (2023). *The critically reflective practitioner*. Bloomsbury Publishing.
- To, W. M., & Lung, J. W. Y. (2020). Factors influencing internship satisfaction among Chinese students. *Education + Training*, 62(5), 543–558. <https://doi.org/10.1108/ET-01-2020-0023>
- Wang, X., Lin, W., Xue, T., Green, A., Gu, L., He, Y., Huang, X., Jin, Z., & Wu, Y. (2022). Workplace learning in China: Transferring training into practice to improve performance. *International Journal for Research in Vocational Education and Training*, 9(3), 294–315. <https://doi.org/10.13152/IJRVET.9.3.1>
- Wielenga-Meijer, E. G. A., Taris, T. W., Kompier, M. A. J., & Wigboldus, D. H. J. (2010). From task characteristics to learning: A systematic review. *Scandinavian Journal of Psychology*, 51(5), 363–375. <https://doi.org/10.1111/j.1467-9450.2009.00768.x>

- Wijga, M., Beausaert, S., & Kyndt, E. (2025). What drives workplace learning: A systematic review of key antecedents. *Journal of Workplace Learning*, 37(9), 90–113. <https://doi.org/10.1108/JWL-05-2025-0119>
- Yaghi, A., & Bates, R. (2020). The role of supervisor and peer support in training transfer in institutions of higher education. *International Journal of Training and Development*, 24(2), 89–104. <https://doi.org/10.1111/ijtd.12173>
- Yang, H., & Xiang, J. (2025). Peer support and academic engagement: The moderated mediation model for college students. *Psychology in the Schools*, 62(1), 281–295. <https://doi.org/10.1002/pits.23324>
- Zehr, S. M., & Korte, R. (2020). Student internship experiences: Learning about the workplace. *Education + Training*, 62(3), 311–324. <https://doi.org/10.1108/ET-11-2018-0236>