

Informal Learning About Sustainability in the Workplace: A Systematic Review of Scope, Findings, and Gaps

Keywords

Informal Learning; Workplace Learning; Sustainability; Sustainable Development; Systematic Literature Review

Research Overview

This paper synthesizes two systematic international literature reviews to examine informal learning for sustainability in the workplace. It identifies key learning forms, thematic focuses, and influencing factors, while highlighting methodological approaches and research gaps, thereby clarifying the role and design of informal learning in supporting sustainable organizational transformation.

Abstract

Where transformation processes are changing the world of work (and thus corporate processes), it can be assumed that employees primarily (must) learn informally in order to adapt their knowledge and skills to new work-related challenges (e.g., Decius, 2020; Rausch, 2024). After all, formal learning opportunities are usually developed or rolled out with a delay, whereas new challenges or “problems” arising from daily workplace activities must be addressed immediately (ibid.).

“Sustainable transformation in companies” (e.g., energy and material savings, sustainable supply chain management) is considered a subject area that has likely led to some of the most fundamental changes in corporate value creation and occupational work processes in recent years (e.g., Weber & Achtenhagen, 2024; Hufnagl & Annen, 2024). After all, sustainability issues are considered highly complex (e.g., Scheunpflug & Costa, 2025), as they are not always clearly defined, are approached differently across academic disciplines, yet should simultaneously be viewed from an interdisciplinary perspective. It therefore stands to reason that they are difficult to fully grasp through

formal learning alone, meaning that informal learning is also gaining increasing importance in the context of sustainability issues (e.g. Pavlova & Singh, 2022). Nevertheless, there is a need for research regarding the role of informal learning in relation to sustainability (Lorber & Decius, 2026).

This paper therefore aims to (1) clarify the significance of informal learning for sustainable development based on existing literature, (2) to illustrate the concrete design of informal learning for sustainability in the workplace based on existing studies, (3) to identify specific topics and subject areas related to sustainability in companies/workplaces in the literature, (4) to systematize methodological approaches for capturing informal learning for sustainability in the workplace, and, building on this, ultimately (5) to derive implications for further research. To this end, two systematic international literature reviews aligned with the PRISMA scheme (Page et al., 2020) will be reported, and their results will be synthesized.

The overview of the significance of informal learning for sustainable development is based on a literature review conducted in 2023, which drew upon the databases FIS Bildung, peDOCS, and BNELIT. Although the N=29 studies evaluated were able to demonstrate, among other things, that informal learning is relevant to all 17 Sustainable Development Goals - thus addressing research question (1) - the specific design of informal learning in the respective contexts was rarely the subject of the studies. Based on the gaps identified in the results of the first review, we conducted another systematic literature review in 2025 using the databases PsycInfo, ERIC, and peDOCS; however, we focused on informal learning for sustainability in the workplace and did not include “informal learning” in the search string, but instead searched, for example, in the following combinations: (workers OR workforce OR employees) AND learning AND (sustainability OR “sustainable development”) AND (workplace OR companies OR organizations). The literature selection, conducted using predefined inclusion and exclusion criteria, resulted in N=12 contributions, which were analyzed using content analysis (based on Kuckartz & Rädiker, 2022). The criteria for the content analysis were approaches and forms of informal learning about sustainability, thematic focuses and content on sustainability within the context of informal learning processes in the workplace, as well as antecedents of sustainability-related informal learning. In addition,

the methodological design of the studies as well as the limitations and desiderata identified in them were reviewed.

It was found that in the majority of the studies, “learning in and through social interactions in the workplace,” “problem-based learning,” and “experience-based learning” are considered and described as forms and approaches of informal learning. At the individual level, the main antecedents are “self-efficacy” and “interest & motivation”; at the organizational level, they are primarily “work structures that promote cooperation,” “leadership behavior that supports sustainability,” and a conducive “organizational and learning culture.” Areas of focus for “sustainable transformation” often include the introduction or implementation of Corporate Social Responsibility (CSR) campaigns and measures, as well as process and product optimization in terms of energy efficiency, carbon footprint, waste prevention, and resource conservation. In this context, ecological sustainability aspects are given greater priority than social ones. The majority of the studies consist of qualitative case studies that examine learning in individual companies or clearly defined projects through observation and/or interviews. Quantitative studies involving surveys of employees and managers, though mostly cross-sectional in design, were also identified.

The results of this review ultimately allow us to answer the following questions: (2) how informal learning for sustainability in the workplace takes shape in practice and what the relevant individual and organizational conditions are, (3) which sustainability topics in the corporate and workplace context have been addressed in research to date, and (4) how informal learning for sustainability in the workplace can be measured. Based on the results of the two systematic literature reviews, we discuss the resulting implications for further research in this field.

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