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TOWARDS THE EFFECTIVE PROFESSIONAL UPSKILLING OF LOW-SKILLED EMPLOYEES: KEY INFLUENCING FACTORS

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Abstract

The increasing demand for skilled employees in contemporary economies underscores the importance of effective upskilling of the low-skilled. This study addresses the significant challenge of enhancing the professional development of low-skilled workers, focusing on the factors that either facilitate or hinder their engagement in learning activities. The primary aim was to identify the key characteristics that contribute to the effective professional development of low-skilled employees and the practical application of the skills they acquire. A systematic review was conducted, examining empirical studies published between 2004 and 2024. The search encompassed six databases, resulting in 352 identified articles. After rigorous screening and quality assessment, 22 high and good-quality studies (published in 2011-2023) were included in the final selection. The studies spanned various countries and methodologies, including qualitative, quantitative, and mixed-method designs. Key findings highlight that both personal and contextual factors influence the effectiveness of professional upskilling for low-skilled employees. Personal factors include motivation, self-direction, and reflexivity, while contextual factors encompass the quality of the work environment, learning opportunities, and institutional support. The review emphasises the importance of tailored training programmes, practical and interactive learning methods, continuous support and mentorship, and robust evaluation mechanisms. Effective transfer of training is facilitated by the relevance and applicability of training content, learner engagement and organisational support. The results highlight the need for holistic approaches that address both personal and contextual factors to enhance the professional development and skill utilisation of low-skilled workers; ultimately contributing to their career trajectories and job satisfaction.
Keywords: *adult education, low-skilled employees, upskilling, systematic review, training transfer*

Introduction

Traditionally, low-skilled individuals are defined as those whose formal education is limited to primary and lower secondary education, sometimes supplemented by short training courses. Many empirical studies (Abramovsky et al., 2011; Freitas et al., 2019; Kalenda et al., 2022; Kyndt et al., 2013b, 2013c; McQuaid et al., 2012) use national or international standard classifications (e.g., ISCED) to define low-skilled (low-qualified or low-educated) workers, emphasising educational attainment as a primary factor. Definitions sometimes incorporate literacy and proficiency levels alongside educational attainment. For instance, Helsinger et al. (2023) have characterised low-skilled adults as those with PIAAC literacy proficiency below level 1 or at level 1, generally associated with low educational qualifications. Some definitions are broader, encompassing not only formal educational attainment but also job-related characteristics and skills. For example, Kim et al. (2016) defined low-skilled workers as those with low education levels and poor technical skills, including those performing routine or manual jobs that demand only a high school diploma or up to one year of work experience.

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Wotschack (2020b) has adopted a unique approach by defining low-skilled workers as those in low-skilled jobs, irrespective of their formal qualifications, thus broadening the scope beyond educational credentials.

Beyond the traditional view, Illeris (2006) expanded the definition to encompass individuals in vulnerable positions due to changing societal and economic demands. This perspective offers a more comprehensive understanding of who the low-skilled are, highlighting their psychological barriers to education and emphasising the need for innovative, flexible, and psychologically sensitive approaches to effectively support low-skilled adults in engaging with lifelong learning opportunities. Similarly, Kureková et al. (2013) critiqued traditional definitions of the low-skilled, which typically rely on educational attainment (ISCED 0-2) and occupational categories (ISCO-88), arguing that these measures are too narrow and fail to capture the complexity and heterogeneity of low-skillness. Kureková et al. (2013) have proposed a broader multi-dimensional definition that encompasses various vulnerable groups, including those affected by structural economic changes and those with obsolete or mismatched skills, presenting a comprehensive and dynamic approach to conceptualising and measuring low-skillness, moving beyond traditional qualification-based definitions. This broader and more dynamic approach allows for a better understanding of who the low-skilled are and the sources of their low-skillness, ultimately leading to more effective policy interventions.

In this study, the "*low-skilled*" (Abramovsky et al., 2011; Barnes & Brown, 2016; Brown & Bimrose, 2018; Helsinger et al., 2023; Kim et al., 2016; McQuaid et al., 2012; Wotschack, 2020b), "*low-qualified*" (Raemdonck et al., 2012; Freitas et al., 2019; Kyndt et al., 2013a, 2013b, 2013c), "*low-educated*" (Kalenda et al., 2022; Tikkanen & Nissinen, 2018), and "*low-numerate*" (Liu, 2020) are used interchangeably to describe employees with limited educational attainment, qualifications, upskilling and other vulnerabilities. Upskilling or skills-upgrading (Gvaramadze, 2010; OECD, 2006) refers to professional development initiatives for the low-skilled workforce.

Numerous studies on the professional development of low-skilled employees (e.g., Barnes & Brown, 2016; Bimrose et al., 2016; Brown & Bimrose, 2018; Cedefop, 2016; Mariager-Anderson et al., 2016; Tomassini, 2016; Weber et al., 2016; Zanazzi, 2018) are based on the research findings from the "Narrative of Career/Labour Market Related Learning of Low-Skilled Workers" study. Funded by the European Centre for the Development of Vocational Training (Cedefop) and conducted in the UK, Czech Republic, Poland, Germany, France, Denmark, and Italy in 2013-2014, this study explored how low-skilled workers with poor socio-economic backgrounds perceive education and continuous learning. The study collected 105 biographies across the seven countries, highlighting what it means to be 'low-skilled' in these contexts. The findings reveal attitudes, aspirations, and expectations towards learning, demonstrating how adult and work-based learning can foster potential, re-engagement in education, and social mobility. Several research papers and reports on the low-skilled (OECD, 2017a, 2017b, 2019, 2020a, 2020b, 2022; Helsinger et al., 2023; Liu, 2020; Tikkanen & Nissinen, 2018) utilised comparable international data, particularly from the OECD Survey of Adult Skills, a component of the Programme for the International Assessment of Adult Competencies (PIAAC). A few studies (Mohr et al., 2016; Wotschack, 2020a, 2020b) relied on national survey data these include; the 2012 Federal Institute for Vocational Education and Training (BIBB), Establishment Panel and the German Institute for Employment Research (IAB) as well as Establishment Panel on Training and Competence Development (waves 2012 and 2013).

A recent study in Latvia (BIIS, 2020) profiled low-skilled employed adults (25+), highlighting their learning needs and effective engagement strategies in adult education. The typical profile was a male aged 45–64 with secondary or vocational education obtained before 1991, mainly working in construction, energy, transport, and storage sectors. The study found that learning motivation among low-skilled employees is driven by tangible benefits, with job or skills retention being the least common motivators. Motivation is higher among

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those aged 25–44 and decreases with age. Employers can foster motivation through demands or incentives, encouraging employees to pursue relevant knowledge or professions. The study (BIIS, 2020) also noted that many EU countries face similar challenges, and have developed legal frameworks to promote adult education.

The preliminary literature study results indicated a lack of systematic reviews on the effective professional upskilling of low-skilled adults. Consequently, this systematic literature analysis was conducted with the aim of answering the following research question: What characterises the effective professional upskilling of low-skilled employees and the transfer of its outcomes to practice?

Research Methodology

General Background

A systematic literature review was carried out as part of a research project focused on developing evidence-based solutions for the effective professional development of adults in Latvia, within the framework of the State Research Programme "Education" (SRP "Education") that was funded by the Ministry of Education and Science of the Republic of Latvia. The primary aim of SRP "Education" is to support evidence-based decision-making in the advancement of the education system and the achievement of strategic educational goals, while also generating new knowledge and practical solutions at institutional, local, and national levels.

Eligibility Criteria and Search Strategy

Six databases (i.e., Scopus, Web of Science, ERIC, Taylor & Francis, Wiley Online Library, Digital Education Resource Archive (DERA)) were selected for searching literature sources to conduct a systematic literature review. The databases were selected due to their extensive coverage of peer-reviewed journals, ensuring both breadth and quality. They also complement one another: Web of Science and Scopus offer broader coverage, while ERIC and DERA specialise in education. Additionally, Taylor & Francis and Wiley Online Library were included as supplementary sources. To initiate the search and selection of studies, the eligibility criteria were defined as well as keywords and their combinations were formulated (see Table 1).

Table 1
Eligibility Criteria

Criteria	Inclusion criteria	Exclusion criteria
Language	English	Other languages
Publication year	2004-2024	Before 2004
Full-text paper	Available	Not available
Publication type	Journal articles, research reports	Books, chapters, proceedings, etc.
Study type / design	Empirical studies (qualitative, quantitative, mixed-method)	Other study types / design
Target group	Low-skilled (low-qualified or low-educated) employees (workers)	High-qualified professionals, unemployed adults, low-skilled jobs (positions or occupations)
Study quality	Good or high	Low or moderate

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Study answers the research question	Partly or fully answers	Does not answer
Keywords and their combinations		
Step 1 Low-skilled employees OR low-skilled workers OR low-qualified employees OR low-qualified workers		
Step 2 Low-skilled employees OR low-skilled workers OR low-qualified employees OR low-qualified workers AND upskilling OR skill upgrading OR professional development OR learning OR training NOT low-skilled jobs OR low-skilled positions OR low-skilled occupations		
Step 3 Low-skilled employees OR low-skilled workers OR low-qualified employees OR low-qualified workers AND upskilling OR skill upgrading OR professional development OR learning OR training NOT low-skilled jobs OR low-skilled positions OR low-skilled occupations AND effective OR effectiveness OR effect OR impact OR influence		
Step 4 Low-skilled employees OR low-skilled workers OR low-qualified employees OR low-qualified workers AND upskilling OR skill upgrading OR professional development OR learning OR training NOT low-skilled jobs OR low-skilled positions OR low-skilled occupations AND transfer OR transfer of training OR training transfer OR transfer of learning OR learning transfer		

The literature search for the review was carried out in March 2024 in accordance with the PRISMA guidelines (Page et al., 2021). To ensure a rigorous approach, a four-step search strategy was employed (see Table 1). The strategy was customised to accommodate the unique search features of each database.

Identification and Selection Process

As a result of the search, 352 articles were identified (see Figure 1). After removing duplicate records ($n = 53$), the identified articles were screened. The first step was to select studies that met the inclusion criteria based on their titles, abstracts, and keywords. Subsequently, the selected studies were analysed in full text to determine their compliance with the inclusion and exclusion criteria: their relevance to the context of this study was then evaluated (e.g., provision or partial provision of an answer to the aforementioned research question), and assessed the overall quality of each study.

The collection of full-text study reports ($n = 24$) was examined by two researchers independently. The nineteen criteria (see Table 2) used for the evaluation of the quality of selected studies were based on the guidelines for extracting data and quality assessing of primary studies in educational research (EPPI-Centre, 2003) combined with a Critical Appraisal Skills Programme's (CASP) qualitative studies checklist (CASP, 2018) using a scale as follows: 0 (doesn't correspond), 1 (partly corresponds), 2 (fully corresponds), N/A (not applicable), leading to a potential score range of 0–38 points. The overall quality of each study was rated as high (a total score range of 30–38 points), good (a total score range of 20–29 points), moderate (a total score range of 10–19 points) or low (a total score range of 0–9 points).

The inter-rater agreement (Cohen's kappa) for two independent researchers was calculated. In six cases where consensus was not reached, a third researcher was involved in the quality assessment of the studies. The final decision on whether to exclude or include each paper in the final selection was based on the consolidated evaluation (moderate quality for 2 studies, good quality for 13 studies, high quality for 9 studies).

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Figure 1
PRISMA Flow Chart for Identification and Selection Process

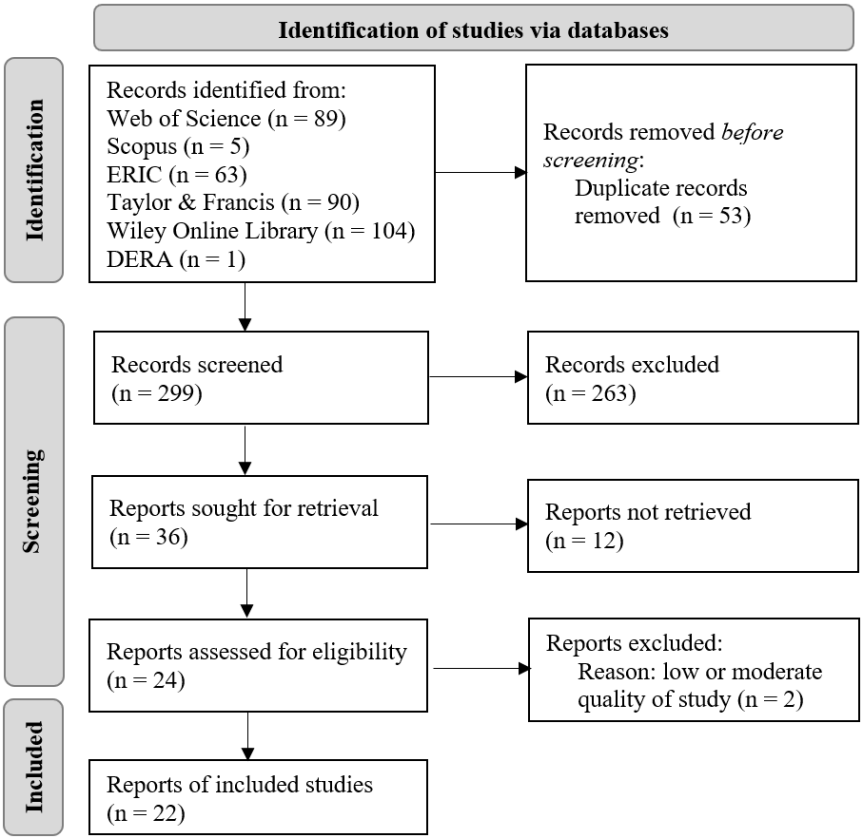

Table 2
Summary of the Quality Evaluation per Criterion (n = 22, a Final Selection Based on Consolidated Evaluation Results)

Evaluation criteria		Don't correspond	Partly correspond	Fully correspond
1.	Adequacy of context description	0	1	21
2.	Clarity of research aims	0	10	12
3.	Explicitness of research questions / hypotheses	8	0	14
4.	Relevance of research approach / design	0	4	18
5.	Adequacy of sample description	0	8	14
6.	Relevance of recruitment strategy	0	10	12
7.	Detail in data collection methods	0	12	10
8.	Relevance of data collection to research issue	0	6	16
9.	Replicability of the study	0	21	1
10.	Avoidance of selective reporting bias	0	20	2
11.	Consideration of ethical issues	20	2	0
12.	Reliability of outcome measures	13	1	8
13.	Validity of outcome measures	10	7	5
14.	Relevance of data analysis methods	0	4	18
15.	Rigour of data analysis	0	6	16
16.	Clarity of findings	0	1	21
17.	Generalisability of results	1	18	3
18.	Trustworthiness of conclusions	0	4	18
19.	Transparency in reporting research limitations	11	4	7

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The final selection included 22 good and high-quality studies published between 2011 and 2023 (Figure 2). The authors of these papers represent 13 countries (Figure 3). The systematic review includes empirical studies with qualitative, quantitative or mixed-method designs. The final selection comprised 5 qualitative studies, 10 quantitative studies and 7 mixed-method studies.

Figure 2
Distribution of the Number of Reports Included in the Final Selection by Year

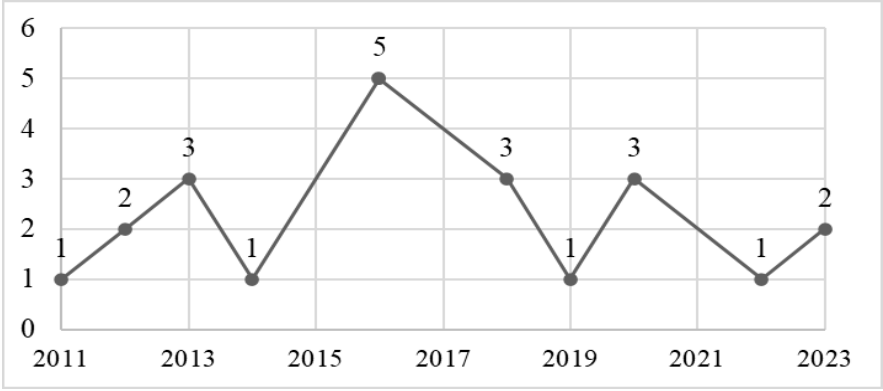
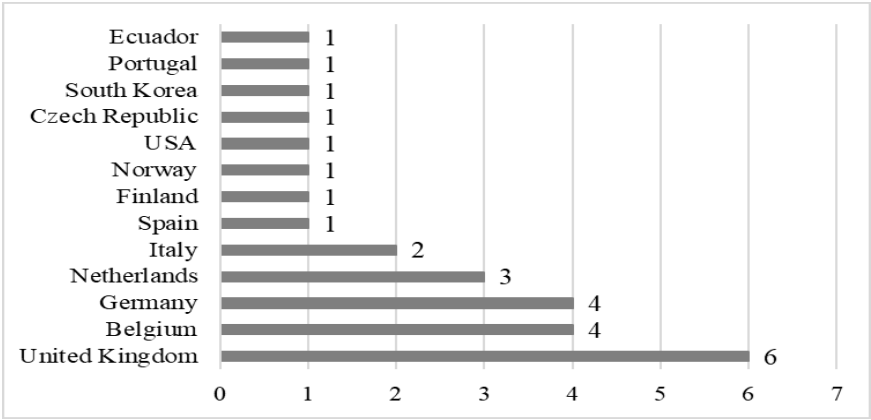


Figure 3
Countries Represented by the Authors of the Studies included in the Final Selection



Research Results

Study Characteristics

The characteristics of the studies included in the final selection are presented in Table 3, which summarises information on the research design and methods, location, sample, and purpose of each study.

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Table 3
Characteristics of the Studies Included in the Final Selection

Authors (year)	Study location	Study purpose	Study design, methods	Participants
Abramovsky et al. (2011)	United Kingdom	To evaluate a pilot programme aimed at improving employer-provided training for low-skilled workers	Mixed-methods study (interviews, surveys), pilot study	Each spring, approximately 10,000 low-skilled individuals, of whom about 1,500 live in first-wave trial areas and about 1,000 in second-wave trial areas.
Barnes & Brown (2016)	United Kingdom	To explore how low-skilled individuals could be assisted in their learning activities, career progression, and employment	Qualitative study (semi-structured interviews)	8 men and 7 women aged 25 to 40 years
Brown & Bimrose (2018)	France, Germany, Poland, Czech, Italy Republic, Denmark, United Kingdom	To identify the learning drivers for low-skilled workers	Qualitative study (semi-structured interviews)	105 low-skilled adults mainly aged 25 to 40 years, of whom 57 were re-interviewed about a year after the first interview.
Freitas et al. (2019)	Portugal	To assess the influence of the social aspects of the work environment and employees' perceived responsibility on the practical application of safety training outcomes	Quantitative study with experimental design, conducting two self-assessment measurements with a 3-month interval	203 low-qualified safety specialists (91% men) who attended a safety training programme led by internal safety trainers
Helsinger et al. (2023)	Canada, Netherlands, Norway, Sweden, USA	To analyse programmes and policies in five countries that support adult education and training	Mixed-method study (PIAAC 2012 survey data, semi-structured interviews, and desk research)	Working-age adults (25–65 years): PIAAC 2012 survey participants: Canada (n=19,142), Netherlands (n=3,638), Norway (n=3,562), Sweden (n=3,207), USA (n=3,593). Interview participants: 33 adult education experts from Norway (n=6), Netherlands (n=6), USA (n=7), Sweden (n=7), and Canada (n=7).
Hidalgo et al. (2014)	Netherlands	To evaluate the impact of training vouchers on low-skilled workers	Quantitative study, controlled randomised trial (experiment)	From 1,266 low-skilled workers, 639 workers (experimental group) were given training vouchers worth €1,000 each
Kalenda et al. (2022)	Czech Republic	To identify the structure and intensity of barriers to participation in adult informal education for low-educated workers	Quantitative study (survey with a representative sample)	457 low-educated workers (236 men and 221 women) who have not participated in adult informal education

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Kim et al. (2016)	South Korea	To explore how learning activities of low-skilled workers influence skill enhancement	Quantitative study (survey)	1,319 low-skilled workers employed in manufacturing
Kyndt et al. (2013a)	Belgium	To explore the factors influencing the learning intentions of low-qualified workers	Quantitative study with cross-sectional design	246 low-qualified workers from eight organisations characterised by a high number of low-qualified workers
Kyndt et al. (2013b)	Belgium	To explore the learning intentions of low-qualified workers as the first step towards actual participation in learning	Mixed-methods study with cross-sectional design (survey and semi-structured interviews)	Survey completed by 652 low-qualified workers from 11 different organisations; 15 semi-structured interviews conducted
Kyndt et al. (2013c)	Belgium	To explore the learning intentions of low-qualified workers as a determining factor for their actual participation in learning	Mixed-methods study with cross-sectional design (survey and semi-structured interviews)	Survey completed by 673 low-qualified workers (329 women and 344 men); 14 semi-structured interviews conducted
Liu (2020)	Germany, USA, South Korea	To explore how motivational factors are related to the employment status and actual participation in lifelong learning of low-numerate adults	Quantitative study using OECD PIAAC data	2,447 adults in the USA, 1,924 in Germany, and 3,377 in South Korea
McQuaid et al. (2012)	United Kingdom	To identify the barriers and drivers for low-skilled workers' engagement in workplace learning	Mixed-methods study (survey, brief qualitative face-to-face or telephone interviews with employers and training providers in the care sector)	Surveyed 310 workers; interviews conducted with their 24 employers and three interviews with training providers in the care sector
Mohr et al. (2016)	Germany	To analyse the participation of low-skilled workers in employer-provided training and explore mechanisms promoting participation in training	Quantitative study (survey)	Over 2,000 companies (BIBB Establishment Panel on Training and Competence Development)
Nielsen et al. (2023)	Spain, Italy	To evaluate the effectiveness of a safety training programme for migrant workers in construction and how the support of co-workers and supervisors can facilitate successful outcomes	Mixed-methods study using knowledge tests before and after training (survey) and interviews with training participants to explore their learning experiences	Pre-training survey completed by 119 construction workers (96% men); post-training survey by 57 workers. Semi-structured interviews conducted with supervisors (n=18) three months after training and with the training participants (n=25) six months after training.

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Raemdonck et al. (2012)	Belgium	To explore the impact of self-directedness in learning and career on the employability of low-qualified workers	Mixed-methods study with two measurements and telephone interviews	First measurement: 408 low-qualified workers from 35 companies; second measurement: 284 workers
Tikkanen & Nissinen (2018)	Norway, Finland, Sweden, Denmark	To explore and compare the drivers of participation in work-related lifelong learning among low-skilled workers in four Nordic countries	Quantitative study using OECD PIAAC data	1,172 low-skilled workers (including 419 in Denmark, 215 in Finland, 288 in Norway, and 250 in Sweden)
Tomassini (2016)	Italy	To explore the extent to which low-skilled workers practice reflexivity in addressing various problematic situations and finding specific paths in very challenging life circumstances	Qualitative study (unstructured interviews)	15 low-skilled adults (aged 26 to 41 years, 6 women and 9 men)
Weber et al. (2016)	Germany	To explore the dynamics of learning and career development processes among low-skilled workers	Qualitative study (narrative interviews) combining content analysis and biographical research methods	23 narrative interviews involving 15 people (5 men and 10 women aged 25 to 42 years); eight out of 15 were interviewed a second time
Wotschack (2020a)	Germany	To explore how institutional measures at the organisational and sectoral levels affect the likelihood and extent of employer investment in further training for low-skilled workers in Germany	Quantitative study conducting regression analyses	All regression analyses based on a sample of 4,009 companies participating in the 2011 and 2013 surveys (The IAB Establishment Panel)
Wotschack (2020b)	Germany	To identify social mechanisms and favourable organisational conditions promoting involvement of low-skilled workers in training programmes	Quantitative study conducting regression and cluster analyses	All analyses based on a sample of 6,824 companies with at least one low-skilled worker from the 2011 survey (The IAB Establishment Panel)
Zanazzi (2018)	Italy	To examine the condition of low-educated and low-skilled workers in Italy, focusing on the effects of the economic crisis on this vulnerable group	Qualitative study (narrative interviews)	15 low-skilled adults (6 women and 9 men aged 26 to 41 years), of whom 12 were employed and three were unemployed during the interview.

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The extraction of data for analysis from the results, discussion, and/or conclusion sections of each study was carried out by one researcher. All studies were categorised according to nine aspects of analysis (see Table 4), which facilitated the synthesis of the data to answer the research question.

Table 4

Distribution of the Studies Included in the Final Selection by Aspect(s) of Analysis

Authors (publication year)	Types / clusters	Drivers of learning	Learning motivation	**Reflexivity**	Learning intentions	Self-directedness	Learning support	Learning barriers	Effectiveness and transfer	A number of aspects analysed
Abramovsky et al. (2011)							X		X	2
Barnes & Brown (2016)							X	X	X	3
Brown & Bimrose (2018)		X	X					X	X	4
Freitas et al. (2019)							X		X	2
Helsinger et al. (2023)							X		X	2
Hidalgo et al. (2014)							X		X	2
Kalenda et al. (2022)	X		X				X	X		4
Kim et al. (2016)						X			X	2
Kyndt et al. (2013a)	X				X	X	X		X	5
Kyndt et al. (2013b)			X		X		X			3
Kyndt et al. (2013c)	X		X		X	X	X			5
Liu (2020)			X				X			2
McQuaid et al. (2012)		X	X				X	X		4
Mohr et al. (2016)		X					X		X	3
Nielsen et al. (2023)							X		X	2
Raemdonck et al. (2012)						X	X			2
Tikkanen & Nissinen (2018)		X						X		2
Tomassini (2016)	X			X						2
Weber et al. (2016)	X			X			X			3
Wotschack (2020a)	X						X		X	3
Wotschack (2020b)	X	X					X			3
Zanazzi (2018)	X									1
A number of studies	8	5	6	2	3	4	17	5	11	

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Aspect 1: Types and Clusters of Low-Skilled Employees

The first aspect of the analysis related to low-skilled employees' clusters and / or types was discussed in eight studies (Kalenda et al., 2022; Kyndt et al., 2013a, 2013c; Tomassini, 2016; Weber et al., 2016; Wotschack, 2020a, 2020b; Zanazzi, 2018). Kalenda et al. (2022) developed an empirically driven typology of low-skilled workers based on their participation in non-formal adult education in the Czech Republic: (1) not interested in non-formal adult education; (2) potential learners, and (3) those who recognise work-related contribution of non-formal adult education. Zanazzi (2018) identified six clusters of low-skilled workers (i.e., marginality, excellence, opportunity, difficult life transitions, rural world, disregard for learning) that emerged from the analysis of the interviews based on low-skilled workers' learning experiences and social contexts in Italy. Kyndt et al. (2013a) identified clusters of low-skilled workers based on learning intentions in Belgium. Wotschack (2020b) examined clusters based on institutional and policy to support low-skilled workers in Germany. Tomassini (2016) and Weber et al. (2016) identified clusters based on how low-skilled workers reflect on their career experiences and manage their career development, emphasising the importance of reflexive resilience. Low-skilled workers can be categorised into various types or clusters based on factors such as learning intentions (Kyndt et al., 2013a, 2013c), participation in education (Kalenda et al., 2022), reflexive practices (Tomassini, 2016; Weber et al., 2016), social context and career trajectories (Zanazzi, 2018), and the level of institutional support (Wotschack, 2020a, 2020b). Understanding these typologies and clusters helps in tailoring training programmes and policies to address the specific needs and motivations of low-skilled employees (Kalenda et al., 2022; Kyndt et al., 2013a, 2013c; Zanazzi, 2018).

Aspect 2: Drivers of Learning of Low-Skilled Employees

The second aspect of the analysis related to low-skilled employees' drivers of learning was discussed in five studies (Brown & Bimrose, 2018; McQuaid et al., 2012; Mohr et al., 2016; Tikkanen & Nissinen, 2018; Wotschack, 2020b). Brown and Bimrose (2018) focused on the drivers of learning among low-skilled individuals across multiple European countries, identifying factors such as labour market-orientated learning, learning encouraged by significant others, work-related practical learning, enhancing self-efficacy and self-improvement. McQuaid et al. (2012) examined driver learning within the context of economic and employment conditions and highlighted the impact of job security, economic incentives, and employer support on the motivation of low-skilled workers to engage in learning activities. Mohr et al. (2016) explored the psychological and social factors that drive learning among low-skilled workers and identified key motivators such as personal development, job satisfaction, and the desire for career advancement. Tikkanen and Nissinen (2018) explored the role of workplace environments in fostering a learning culture among low-skilled employees and highlighted that supportive workplace practices, including mentoring and on-the-job training, significantly enhance low-skilled employees' learning engagement. Wotschack (2020b) analysed the role of institutional and policy support in driving learning among low-skilled workers in Germany and found that government initiatives and employer-sponsored training programmes play crucial roles in encouraging continuous learning and skill development.

Aspect 3: Motivational Factors in Learning for Low-Skilled Employees

The third aspect of the analysis related to low-skilled employees' learning motivation was discussed in six studies (Brown & Bimrose, 2018; Kalenda et al., 2022; Kyndt et al., 2013b, 2013c; Liu, 2020; McQuaid et al., 2012). Brown & Bimrose (2018) examined learning

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motivation among low-skilled workers, emphasising the role of career narratives and learning biographies in shaping individuals' motivation to engage in learning activities. Their study highlighted how personal life stories and career aspirations serve as powerful motivators for learning and development. Kalenda et al. (2022) developed a typology of low-skilled workers based on their participation in non-formal adult education in the Czech Republic. They identified different motivational profiles, including those of not interested in learning, potential learners, and individuals who recognise the work-related benefits of education. This typology helps to understand varying levels of motivation among low-skilled workers. Kyndt et al. (2013b, 2013c) explored the learning intentions and motivation of low-skilled workers in Belgium. They found that intrinsic factors such as personal growth, job satisfaction, and career progression play crucial roles in motivating these individuals to pursue learning opportunities. Kyndt et al. (2013b, 2013c) also emphasised the importance of extrinsic motivation factors, including economic incentives and employer support. Liu (2020) investigated the motivational factors influencing low-skilled workers' engagement in learning activities in China. The study identified key motivational factors such as the desire for job security, income improvement, and social recognition. Liu's (2020) findings underscored the significance of both personal and socio-economic factors in shaping learning motivation. McQuaid et al. (2012) analysed the economic and employment conditions affecting learning motivation among low-skilled workers. They highlighted how job security, financial incentives, and supportive workplace environments contribute to enhancing motivation to engage in learning and development activities. These studies collectively provide an understanding of the various factors that impact learning motivation among low-skilled workers. The identified motivators include personal aspirations (Brown & Bimrose, 2018; Kyndt et al., 2013b, 2013c; Liu, 2020), socio-economic conditions (McQuaid et al., 2012; Liu, 2020), and workplace support (Kalenda et al., 2022; McQuaid et al., 2012).

Aspect 4: Reflexivity and Reflexive Practices of Low-Skilled Employees

The fourth aspect of the analysis related to low-skilled employees' reflexivity was discussed in two studies (Tomassini, 2016; Weber et al., 2016). Tomassini (2016) explored the concept of reflexivity and reflexive resilience among low-skilled workers, focusing on how they perceive and engage in self-assessment and critical thinking about their work and learning experiences. This study highlighted the importance of reflexivity in enabling low-skilled workers to recognise their own learning needs, set personal goals, and make informed decisions about their career and development pathways. This offered methods for managing various situations and helped in identifying specific pathways within often challenging life circumstances. Weber et al. (2016) examined the role of reflexive practices in the context of workplace learning and emphasised that fostering a reflexive attitude among low-skilled workers can lead to improved learning outcomes and greater adaptability in the workplace. Reflexivity was shown to enhance workers' ability to critically evaluate their skills, identify areas for improvement, and seek relevant learning opportunities. Both studies (Tomassini, 2016; Weber et al., 2016) underscored the significance of reflexivity in the learning and development processes of low-skilled employees. Reflexivity helps workers to become more self-aware, proactive, and engaged in their personal and professional growth. It enables them to better understand the relevance of their learning experiences and to integrate new knowledge and skills into their daily work practices.

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Aspect 5: Low-Skilled Employees' Learning Intentions

The fifth aspect of the analysis related to low-skilled employees' learning intentions was discussed in three studies (Kyndt et al., 2013a, 2013b, 2013c). Kyndt et al. (2013a) explored the factors that influence learning intentions among low-skilled workers in Belgium, identifying key elements such as individual motivation, perceived relevance of the learning, and support from employers and colleagues. The study highlighted that personal (e.g., gender and educational background) and contextual factors play significant roles in shaping learning intentions. It was found that a supportive work environment, characterised by encouragement from supervisors and the availability of learning resources significantly enhances learning intentions among low-skilled workers. Kyndt et al. (2013b) delved deeper into the motivational aspects influencing low-skilled workers' intentions to learn. This study emphasised intrinsic motivators, such as personal growth, job satisfaction, desire for career progression, and extrinsic motivators including economic incentives and job security. The findings suggest that when learning is perceived as beneficial and relevant to job roles and career prospects, low-skilled workers' intentions to learn increase. Kyndt et al. (2013a, 2013c) examined the predictive effect of self-directedness and career aspirations on learning intentions and found that higher levels of self-directedness are associated with stronger learning intentions. Workers who exhibit self-directed learning behaviours and have clear career aspirations are more likely to engage in learning activities. The study also found that a supportive work environment, characterised by positive relationships with colleagues and supervisors, access to learning resources, and opportunities for career advancement, significantly boosts the likelihood of low-skilled employees intending to engage in learning activities.

Aspect 6: Low-Skilled Employees' Self-Directedness in Learning

The sixth aspect of the analysis related to low-skilled employees' self-directedness in learning was discussed in four studies (Kim et al., 2016; Kyndt et al., 2013a, 2013c; Raemdonck et al., 2012). Self-directed learning involves an individual's initiative in diagnosing their learning needs, intentions, formulating goals, identifying resources, and evaluating learning outcomes (Kyndt et al., 2013c; Raemdonck et al., 2012). Raemdonck et al. (2012) examined the role of self-directedness in learning and highlighted its positive impact on employability and career outcomes for low-skilled workers. Kyndt et al. (2013a, 2013c) explored the relationship between self-directedness in career and learning and the learning intentions of low-qualified workers; it was found that encouraging self-directed learning is closely linked to stronger learning intentions. Kim et al. (2016) and Raemdonck et al. (2012) pointed out that self-directed learning and self-learning lead to significant improvements in skill acquisition and job performance. By managing their own learning processes, workers can achieve better job performance and career development. However, to maximise these benefits, it is essential to provide low-skilled employees with the appropriate resources and support systems. Studies by Kyndt et al. (2013a, 2013c) and Raemdonck et al. (2012) emphasise the importance of offering guidance, learning materials, opportunities for self-assessment and goal setting to support self-directed learning.

Aspect 7: Support for Low-Skilled Employees' Learning

The seventh aspect of the analysis related to support for low-skilled employees' learning was discussed in seventeen studies (Abramovsky et al., 2011; Barnes & Brown, 2016; Freitas et al., 2019; Helsinger et al., 2023; Hidalgo et al., 2014; Kalenda et al., 2022; Kyndt et al., 2013a, 2013b, 2013c; Liu, 2020; McQuaid et al., 2012; Mohr et al., 2016; Nielsen et al., 2023;

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Raemdonck et al., 2012; Weber et al., 2016; Wotschack, 2020a, 2020b). These multiple studies highlight the crucial role of both institutional and employer support in enhancing learning opportunities and skill development. Institutional support, including government policies and initiatives, plays a significant role in providing the necessary framework and resources for learning. For instance, Helsinger et al. (2023), McQuaid et al. (2012), and Wotschack (2020a, 2020b) demonstrated the positive impact of such support on low-skilled employees' learning and skill acquisition.

Employer support is equally important. Various studies (e.g., Abramovsky et al., 2011; Barnes & Brown, 2016; Freitas et al., 2019; Helsinger et al., 2023; Hidalgo et al., 2014; Kalenda et al., 2022; Kyndt et al., 2013a, 2013b, 2013c) have shown that supportive workplace practices such as training programmes, financial incentives, and creating a positive learning environment lead to improved learning intentions, outcomes and job performance. Helsinger et al. (2023) particularly emphasised the effectiveness of tailored training programmes and continuous professional development opportunities, while Hidalgo et al. (2014) highlighted the importance of comprehensive training initiatives and active employer engagement in fostering employee development. Employers should invest in creating and sustaining supportive learning environments to enhance employee development.

Workplace learning opportunities, such as on-the-job training, mentoring, and collaborative learning are also vital. Research by Kalenda et al. (2022), Mohr et al. (2016), Nielsen et al. (2023), and Raemdonck et al. (2012) indicated that learning within the workplace is highly effective for skill acquisition. Raemdonck et al. (2012) specifically highlighted the importance of personalised learning approaches that cater to individual learning needs and preferences, significantly improving learning outcomes and job performance.

Aspect 8: Low-Skilled Employees' Learning Barriers

The eighth aspect of the analysis related to low-skilled employees' learning barriers was discussed in five studies (Barnes & Brown, 2016; Brown & Bimrose, 2018; Kalenda et al., 2022; McQuaid et al., 2012; Tikkanen & Nissinen, 2018). These studies identified a variety of barriers that hinder the participation of low-skilled workers in learning activities. Kalenda et al. (2022) explored the barriers to non-formal adult education among low-educated workers in the Czech Republic. They identified dispositional barriers (such as lack of motivation and self-confidence), institutional barriers (including rigid educational structures), and situational barriers (incorporating work-life balance and financial constraints). McQuaid et al. (2012) highlighted the institutional and economic barriers to learning for low-skilled employees in the UK. Structural and technology barriers, such as lack of access to educational resources and limited access to technology, inadequate funding and limited availability of training programmes significantly impede low-skilled workers' participation in learning (Barnes & Brown, 2016; Brown & Bimrose, 2018; Kalenda et al., 2022; Tikkanen & Nissinen, 2018).

Aspect 9: Effectiveness and Transfer of Low-Skilled Employees' Training

The ninth aspect of the analysis related to effectiveness, efficiency, and transfer of low-skilled employees' training was discussed in eleven studies (Abramovsky et al., 2011; Barnes & Brown, 2016; Brown & Bimrose, 2018; Freitas et al., 2019; Helsinger et al., 2023; Hidalgo et al., 2014; Mohr et al., 2016; Nielsen et al., 2023; Kim et al., 2016; Kyndt et al., 2013a; Wotschack, 2020a). These studies examine the impact of various training programmes on skill development, job performance, and the broader economic and social benefits of training for low-skilled workers. Studies conducted by Abramovsky et al. (2011), Freitas et al. (2019), and Wotschack (2020a) demonstrated that training programmes significantly enhance the skills and

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job performance of low-skilled workers. These programmes are particularly effective when tailored to the specific needs of the workers and the demands of their job roles.

According to Freitas et al. (2019), the transfer of training among low-skilled workers is significantly enhanced by a supportive work environment where supervisors and peers play a crucial role in reinforcing training, and encouraging the application of new skills and knowledge. The perceived relevance of training content to job tasks is a key determinant of successful transfer, therefore, training programmes should be designed to ensure that the content is practical, applicable, and directly related to the workers' daily tasks and roles. Furthermore, Freitas et al. (2019) also highlighted the broader economic and social benefits of training programmes such as increased productivity and better career progression opportunities. These benefits extend beyond individual workers to their organisations and society at large, contributing to overall economic growth and social well-being. Similarly, Mohr et al. (2016) and Kyndt et al. (2013a) found a strong relationship between job satisfaction, skill utilisation, and productivity. Workers who effectively and efficiently utilise their skills tend to be more satisfied with their jobs and more productive. This highlights the importance of aligning training programmes with actual job requirements to maximise skill utilisation.

Multiple studies (e.g., Helsinger et al., 2023; Hidalgo et al., 2014; Nielsen et al., 2023; Kim et al., 2016) discussed the efficiency of training programmes, emphasising the need for cost- and time-efficient training solutions. These studies advocate for the integration of modern training technologies and methodologies to enhance training efficiency and effectiveness. Nielsen et al. (2023) conducted a mixed-method study in Spain and Italy to assess the effectiveness of training programmes using Kirkpatrick's model, which evaluates outcomes at four levels: reaction, learning, behaviour, and results. The study found that training programmes led to positive outcomes across all four levels, including improved knowledge, changes in workplace behaviour, and tangible organisational benefits such as increased productivity and improved safety standards. According to Nielsen et al. (2023), evaluation of training programmes using comprehensive models (e.g., a four-level Kirkpatrick's model) is essential for understanding training effectiveness and efficiency. Likewise, Freitas et al. (2019), Abramovsky et al. (2011) and Hidalgo et al. (2019) emphasised the role of regular assessments and participant feedback in maintaining the quality and relevance of professional development programmes, stressed the importance of feedback mechanisms to refine and improve training programmes for sustained impact.

To summarise, the systematic literature review identified the key characteristics that contribute to the effective professional upskilling of low-skilled employees; training programmes that are tailored to the needs and existing skill levels of low-skilled employees (Abramovsky et al., 2011; Brown & Bimrose, 2018; Nielsen et al., 2023), practical and interactive training methods and forms (Barnes & Brown, 2016; Freitas et al., 2019; Kim et al., 2016), continuous support and mentorship (Brown & Bimrose, 2018; Helsinger et al., 2023; Nielsen et al., 2023), flexible and accessible learning opportunities (Abramovsky et al., 2011; Helsinger et al., 2023; Hidalgo et al., 2019), recognition and incentives (Barnes & Brown, 2016; Freitas et al., 2019; Kim et al., 2016), integration with career progression paths (Brown & Bimrose, 2018; Helsinger et al., 2023; Nielsen et al., 2023), and robust evaluation and feedback mechanisms (Abramovsky et al., 2011; Freitas et al., 2019; Hidalgo et al., 2019).

With regard to the effective transfer of professional upskilling of low-skilled employees, the findings from this systematic review highlight the multifaceted nature of training transfer. The importance of tailored training programmes and interactive learning methods emphasises the need for customisation and practical application in training design (Abramovsky et al., 2011; Barnes & Brown, 2016; Freitas et al., 2019). Effective transfer is highly dependent on the relevance and applicability of the training content to the job. This alignment ensures that employees see the value in the training and are more likely to apply what they have learned (Barnes & Brown,

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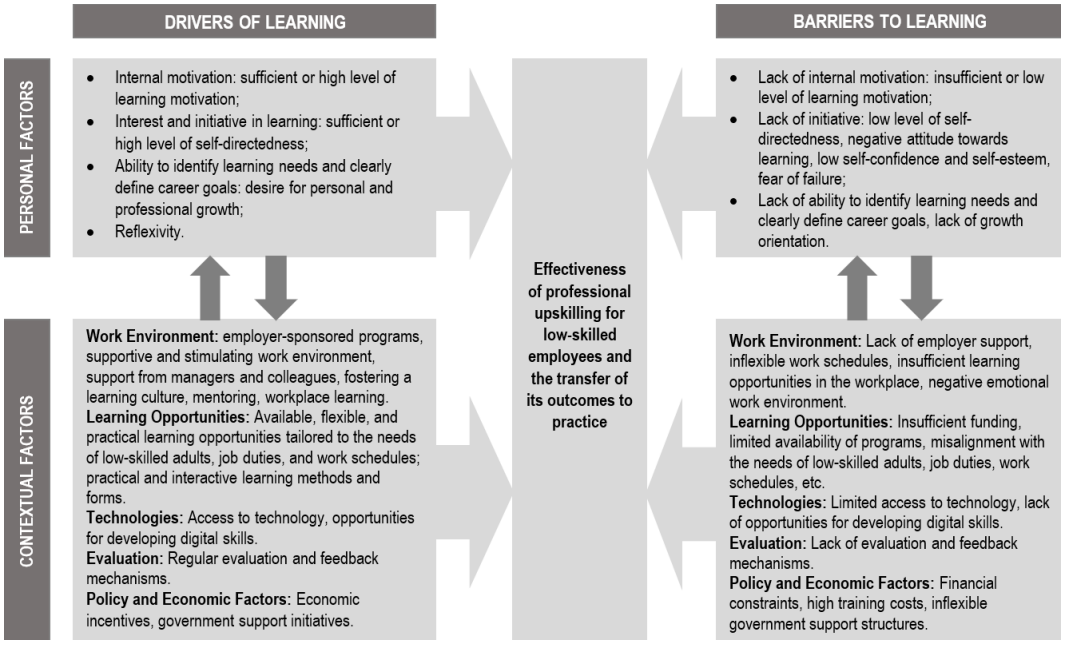
2016; Freitas et al., 2019). Learner engagement and motivation are also crucial, as engaged and motivated learners are more likely to internalise and utilise new knowledge and skills (Brown & Bimrose, 2018; Kim et al., 2016). Finally, organisational support, including managerial encouragement and supportive policies, plays a vital role in facilitating the effective transfer of skills (Freitas et al., 2019; Helsinger et al., 2023). Continuous support and feedback are essential for reinforcing learning and ensuring that employees can effectively apply new skills (Freitas et al., 2019; Helsinger et al., 2023). A supportive work environment that promotes continuous learning and provides opportunities for skill application is critical for sustained transfer (Brown & Bimrose, 2018; Freitas et al., 2019). The most common indicators of effective transfer are improved job performance, behavioural change, job satisfaction and retention. These indicators provide tangible evidence of the impact of professional development programmes and help organisations measure the success of their training initiatives (Abramovsky et al., 2011; Barnes & Brown, 2016; Brown & Bimrose, 2018; Nielsen et al., 2023).

The effectiveness of professional upskilling for low-skilled workers and the transfer of its outcomes to practice are determined by both personal factors such as psychological characteristics including motivation, self-direction, initiative, reflexivity, etc., and contextual factors related to the quality of the work environment, learning opportunities, technologies, evaluation, as well as policy and economic factors (see Figure 4).

Figure 4

Factors Determining the Effectiveness of Professional Upskilling of Low-Skilled Employees and the Transfer of its Outcomes to Practice



Both personal and contextual factors can serve as drivers of and barriers to learning for low-skilled workers. Contextual factors that act as drivers can minimise the negative impact of personal factors that serve as barriers to learning.

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Discussion

The systematic review underscores the critical importance of acknowledging the diverse backgrounds and needs of low-skilled workers in the design and implementation of adult education and training programmes. The findings align with previous theoretical and empirical studies (Illeris, 2015; OECD, 2019, 2020a, 2020b, 2022; Szarota & Wojciechowska, 2021), which emphasised the need for tailored approaches to effectively address the unique motivations and barriers faced. Illeris (2015) highlighted the role of personalised learning pathways that accommodate subjectively-relevant learning approaches considering the adult learner's values, preferences, skill levels, and socio-economic conditions; reinforcing the systematic review's assertion that understanding the typologies and clusters of low-skilled employees is essential for creating effective educational interventions. The OECD studies (2019, 2022) echoed the need for holistic and personalised guidance that considers the varying socio-economic conditions and skill levels of adults, emphasising that a one-size-fits-all approach is insufficient; instead, educational interventions must be designed to accommodate the specific needs and motivations of low-skilled workers. The systematic review's emphasis on culturally sensitive and tailored approaches is also supported by Szarota and Wojciechowska (2021) and OECD (2019, 2020a, 2020b, 2022), highlighting the need for interventions that are responsive to the specific cultural and social contexts of adult learners.

The review also reveals the significance of understanding and enabling the drivers of learning of low-skilled workers, such as personal motivation, aspirations, and supportive environments. Addressing these drivers can significantly contribute to fostering a culture of continuous learning and development among low-skilled employees: this is also suggested by the recent study conducted in Latvia (BIIS, 2020) about more effective engagement of the low-skilled in learning. The OECD (2020a) also identified personal motivation and the perceived relevance of training as crucial factors influencing the effectiveness of professional development programmes for low-skilled workers.

Furthermore, the review reveals the importance of taking into consideration both intrinsic and extrinsic motivation to engage low-skilled workers in learning effectively. This is consistent with the findings of the OECD study (2022), which confirmed the necessity of considering personal aspirations, socio-economic conditions, and workplace support when designing and delivering training opportunities for low-skilled workers.

Moreover, support for low-skilled employees' learning is the most extensively discussed aspect. The review reveals the crucial importance of a holistic approach to understanding the support for low-skilled employees' learning, including institutional and employer support, along with encouragement from supervisors, peers, family, and community. Providing resources, creating supportive environments, and addressing individual needs can significantly improve the learning outcomes and career prospects of low-skilled employees (OECD, 2019, 2020a, 2020b, 2022).

The review also emphasises the value of self-directed learning in improving the skills, job performance, and career prospects of low-skilled workers. This finding aligns with the recommendations by the OECD (2019), which stressed the need for employers and policymakers to create environments that encourage self-learning and provide the necessary resources and support to help low-skilled workers succeed in their learning endeavours. Such environments are vital for enabling low-skilled workers to take control of their learning journeys, ultimately enhancing their integration into the labour market. The review also underscores the value of self-directed learning in improving the skills, job performance, and career prospects of low-skilled workers.

The review draws attention to the various barriers low-skilled workers face, including dispositional, institutional, economic, structural, and technological challenges. Overcoming

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these barriers requires comprehensive support systems that offer financial assistance, flexible learning paths, and access to necessary technologies. Tailored interventions that focus on specific barriers, such as lack of learning motivation, limited access to resources, and low digital skills are essential for enabling low-skilled workers to overcome these challenges and engage in continuous learning and development.

One area that emerged as underexplored in the review is the role of reflexivity and reflexive practices among low-skilled workers. While this aspect received limited attention, the importance of reflexivity in adult learning was highlighted by Tomassini (2016) and Weber et al. (2016), who advocated for integrating reflexive practices to promote critical thinking and resilience of low-skilled employees. Understanding and fostering reflexivity is crucial in helping low-skilled workers become autonomous learners, better equipped to adapt to changing work demands, and navigate their career paths effectively. This gap in the literature suggests an area for future research, particularly in understanding how reflexivity can enhance the learning and career experiences of low-skilled workers.

Conclusion and Implications

The growing need for skilled employees in contemporary economies underscores the importance of effective upskilling of those with lower qualifications. Historically characterised by limited formal education and job-specific skills, these individuals face considerable difficulties in adapting to evolving social and economic challenges. The findings from this systematic review illuminate nine interconnected and overlapping aspects related to the learning and training of low-skilled employees. Each aspect is critical in understanding and addressing the multifaceted needs of this target group.

It is evident that effective and efficient training for low-skilled employees is characterised by tailored training programmes, practical and interactive training methods, continuous support, flexible and accessible learning opportunities, recognition and incentives, integration with career progression paths, robust evaluation and feedback mechanisms. Implementing these strategies can significantly enhance the impact of training programmes on low-skilled employees' job performance and career progression. The main findings underscore the importance of tailored, effective and efficient, sector-specific training programmes in enhancing the job-related skills, job satisfaction and performance, and overall well-being of low-skilled workers. By addressing specific training needs and utilising culturally sensitive and tailored approaches, stakeholders can maximise the benefits of training programmes for both workers and organisations. Modern training technologies and methodologies are essential for maximising training impact and cost-efficiency.

Key findings highlight that both personal and contextual factors influence the effectiveness of professional upskilling for low-skilled employees. Personal factors include motivation, self-direction, and reflexivity, while contextual factors encompass the quality of the work environment, learning opportunities, and institutional support. The results emphasise the need for holistic approaches that address both personal and contextual factors to enhance the professional development and skill utilisation of low-skilled workers, ultimately contributing to their career trajectories and job satisfaction.

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References

Abramovsky, L., Battistin, E., Fitzsimons, E., Goodman, A., & Simpson, H. (2011). Providing employers with incentives to train low-skilled workers: Evidence from the UK employer training pilots. *Journal of Labor Economics, 29*(1), 153–193. https://doi.org/10.1086/656372

Barnes, S.-A., & Brown, A. (2016). Stories of learning and their significance to future pathways and aspirations. *British Journal of Guidance & Counselling, 44*(2), 233–242. https://doi.org/10.1080/03069885.2016.1145194

BIIS. (2020). *Nodarbināto pieaugušo ar zemu kvalifikāciju efektīvākas iesaistes mācībās izvērtējums* [Evaluation of the more effective engagement of low-skilled adults in learning]. Baltic Institute of Social Sciences. https://www.esfondi.lv/assets/izv%C4%93rt%C4%93jumi/2014_2020/2020/biss_zinojums_pieauguso_izglitiba_2020.pdf

Bimrose, J., Mulvey, R., & Brown, A. (2016). Low qualified and low skilled: The need for context sensitive careers support. *British Journal of Guidance & Counselling, 44*(2), 145–157. https://doi.org/10.1080/03069885.2016.1145190

Brown, A., & Bimrose, J. (2018). Drivers of learning for the low skilled. *International Journal of Lifelong Education, 37*(2), 151–167. https://doi.org/10.1080/02601370.2017.1378934

CASP. (2018). *CASP qualitative studies checklist*. https://casp-uk.net/checklists/casp-qualitative-studies-checklist-fillable.pdf

Cedefop (2016). *Improving career prospects for the low-educated: The role of guidance and lifelong learning.* Publications Office of the European Union. Cedefop research paper; No 54. http://dx.doi.org/10.2801/794545

EPPI-Centre. (2003). *Review guidelines for extracting data and quality assessing primary studies in educational research. Version 0.9.7.* EPPI-Centre, Social Science Research Unit. https://eppi.ioe.ac.uk/cms/Default.aspx?tabid=184#Guidelines

Freitas, A. C., Silva, S. A., & Santos, C. M. (2019). Safety training transfer: The roles of coworkers, supervisors, safety professionals, and felt responsibility. *Journal of Occupational Health Psychology, 24*(1), 92–107. https://doi.org/10.1037/ocp0000125

Gvaramadze, I. (2010). Low-skilled workers and adult vocational skills-upgrading strategies in Denmark and South Korea. *Journal of Vocational Education & Training, 62*(1), 51–61. https://doi.org/10.1080/13636821003605395

Helsinger, A., Narine, D., Cummins, P. A., & Yamashita, T. (2023). Engaging low-skilled adults in education and training: Exploring participation rates, challenges, and strategies. *Widening Participation and Lifelong Learning, 24*(3), 81–112. https://doi.org/10.5456/WPLL.24.3.81

Hidalgo, D., Oosterbeek, H., & Webbink, D. (2014). The impact of training vouchers on low-skilled workers. *Labour Economics, 31*, 117–128. https://doi.org/10.1016/j.labeco.2014.09.002

Illeris, K. (2006). Lifelong learning and the low-skilled. *International Journal of Lifelong Education, 25*(1), 15–28. https://doi.org/10.1080/02601370500309451

Illeris, K. (2015). The development of a comprehensive and coherent theory of learning. *European Journal of Education, 50*(1), 29–40. https://doi.org/10.1111/ejed.12103

Kalenda, J., Vaculíková, J., & Kočvarová, I. (2022). Barriers to the participation of low-educated workers in non-formal education. *Journal of Education and Work, 35*(5), 455–469. https://doi.org/10.1080/13639080.2022.2091118

Kim, H.-J., Hawley, J. D., Cho, D., Hyun, Y., & Kim, J.-H. (2016). The influence of learning activity on low-skilled workers' skill improvement in the South Korean manufacturing industry. *Human Resource Development International, 19*(3), 209–228. https://doi.org/10.1080/13678868.2015.1122895

Kureková, L., Haita, C., & Beblavý, M. (2013). Conceptualizing low-skillness: A new approach. *Sociológia, 45*(3), 247–266. https://ssrn.com/abstract=2402706

Kyndt, E., Dochy, F., Onghena, P., & Baert, H. (2013a). The learning intentions of low-qualified employees: A multilevel approach. *Adult Education Quarterly, 63*(2), 165–189. https://doi.org/10.1177/0741713612454324

Kyndt, E., Govaerts, N., Claes, T., De La Marche, J., & Dochy, F. (2013b). What motivates low-qualified employees to participate in training and development? A mixed-method study on their learning intentions. *Studies in Continuing Education, 35*(3), 315–336. https://doi.org/10.1080/0158037X.2013.764282

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Vol. 82, No. 5, 2024

Kyndt, E., Govaerts, N., Keunen, L, & Dochy, F. (2013c). Examining the learning intentions of low-qualified employees: A mixed method study. *Journal of Workplace Learning*, *25*(3), 178–197. https://doi.org/10.1108/13665621311306556

Liu, H. (2020). Low-numerate adults, motivational factors in learning, and their employment, education and training status in Germany, the US, and South Korea. *ZDM Mathematics Education, 52*, 419–431. https://doi.org/10.1007/s11858-019-01108-x

Mariager-Anderson, K., Cort, P., & Thomsen, R. (2016). 'In reality, I motivate myself!'. 'Low-skilled' workers' motivation: Between individual and societal narratives. *British Journal of Guidance and Counselling, 44*(2), 171–184. https://doi.org/10.1080/03069885.2016.1145191

McQuaid, R., Raeside, R., Canduela, J., Egdell, V., Lindsay, C., & Berry C. (2012). *Engaging low skilled employees in workplace learning. Evidence report 43.* The UK Commission for Employment and Skills. https://dera.ioe.ac.uk/id/eprint/14577/1/evidence-report-43-engaging-low-skilled-employees-in-workplace-learning.pdf

Mohr, S., Troltsch, K., & Gerhards, C. (2016). Job tasks and the participation of low-skilled employees in employer-provided continuing training in Germany. *Journal of Education and Work, 29*(5), 562–583. https://doi.org/10.1080/13639080.2015.1024640

Nielsen, K., Ng, K., Vignoli, M., Lorente, L., & Peiró, J. M. (2023). A mixed methods study of the training transfer and outcomes of safety training for low-skilled workers in construction. *Work & Stress, 37*(2), 127–147. https://doi.org/10.1080/02678373.2022.2086646

OECD. (2006). *Skills upgrading: New policy perspectives*. OECD Publishing. https://doi.org/10.1787/9789264012516-en

OECD. (2017a). *Building skills for all in Australia: Policy insights from the Survey of Adult Skills.* OECD Publishing. http://dx.doi.org/10.1787/9789264281110-en

OECD. (2017b). Improving productivity and job quality of low-skilled workers. In *OECD Economic Surveys: United Kingdom 2017* (Chapter 2, pp. 105–136). OECD Publishing. https://doi.org/10.1787/eco_surveys-gbr-2017-5-en

OECD. (2019). *Getting skills right: Engaging low-skilled adults in learning*. OECD Publishing. https://www.oecd.org/employment/emp/engaging-low-skilled-adults-2019.pdf

OECD. (2020a). *Raising the basic skills of workers in England, United Kingdom*. OECD Publishing. https://doi.org/10.1787/4ff42de8-en

OECD. (2020b). *The future for low-educated workers in Belgium*. OECD Publishing. https://doi.org/10.1787/0140a728-en

OECD. (2022). *Career guidance for low-qualified workers in Germany*. OECD Publishing. https://doi.org/10.1787/5e6af8da-en

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A., Stewart, L. A., Thomas, J., Tricco, A. C., Welch, V. A., Whiting, P., & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ (Clinical research ed.), 372*, 71. https://doi.org/10.1136/bmj.n71

Raemdonck, I., Tillema, H., de Grip, A., Valcke, P., & Segers, M. S. R. (2012). Does self-directedness in learning and careers predict the employability of low-qualified employees? *Vocations and Learning, 5*(2), 137–151. https://doi.org/10.1007/s12186-011-9072-7

Szarota, Z., & Wojciechowska, Z. (Eds.) (2021). *Learning never ends… Spaces of adult education: Central and Eastern European perspectives.* The University of Warsaw. https://wuw.pl/data/include/cms/Learning_Never_Ends_Szarota_Zofia_Wojciechowska_Zuzanna_red_2021.pdf

Tikkanen, T., & Nissinen, K. (2018). Drivers of job-related learning among low-educated employees in the Nordic countries. International *Journal of Lifelong Education*, 37(5), 615–632. https://doi.org/10.1080/02601370.2018.1554720

Tomassini, M. (2016). Overcoming the low-learning scar effect: Narratives of learning and resilience of Italian low-skilled. *British Journal of Guidance & Counselling, 44*(2), 185–197. https://doi.org/10.1080/03069885.2016.1145193

Weber, P. C., Kochem, A. J., & Weber-Hauser, S. (2016). How low-qualified adults enact their career – findings from a narrative study in Germany. *British Journal of Guidance & Counselling, 44*(2), 158–170. https://doi.org/10.1080/03069885.2016.1152353

Wotschack, P. (2020a). When do companies train low-skilled workers? The role of institutional arrangements at the company and sectoral level. *British Journal of Industrial Relations*, *58*(3), 587–616. https://doi.org/10.1111/bjir.12503

Wotschack, P. (2020b). Drivers of training participation in low skilled jobs: The role of 'voice', technology, innovation and labor shortages in German companies. *International Journal of Training and Development*, *24*(3), 245–264. https://doi.org/10.1111/ijtd.12195

Zanazzi, S. (2018). Investing in skills to overcome the crisis? Low-skilled workers in Italy: European strategies, policies and structural weaknesses. *International Journal of Lifelong Education*, *37*(2), 216–233. https://doi.org/10.1080/02601370.2017.1406542

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