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Policy Instruments for Workforce Development: An Integrative Review of Governance, Skills Formation, and Policy Transfer

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Abstract

This study examines policy instruments used in workforce development through an integrative thematic review of global evidence. Drawing on peer-reviewed research and institutional reports, the study analyses how technical and vocational education and training, apprenticeships, financing mechanisms, governance structures, labour market intelligence systems, and lifelong learning policies are designed and implemented across different contexts. The findings show that workforce development is best understood as a coordinated skills formation system rather than a set of isolated interventions. Instrument effectiveness is highly dependent on governance, employer coordination, institutional capacity, labour market structure, equity of access, and contextual adaptation. The review also highlights persistent challenges related to skills mismatch, uneven participation in lifelong learning, formal-sector bias, under-recognition of informal skills development, and limitations in policy transfer. Particular attention is given to emerging and transitioning economies, where institutional capacity, informality, and economic structure significantly shape outcomes. The study contributes by synthesising fragmented evidence and identifying transferable principles for more coherent and context-sensitive workforce development policy design.

Keywords

Workforce development; Policy instruments; Skills formation; TVET; Labour market alignment; Emerging economies

1. Introduction

Global labour markets are being reshaped by technological change, demographic transition, global economic restructuring, climate-related transition, and the changing organisation of work. These developments have intensified policy concern with how countries develop, renew, and deploy workforce capabilities.

The World Bank (2019) argues that technological change is increasing demand for higher-order cognitive, socio-behavioural, and adaptable skills while reducing demand for routine forms of labour. More recent evidence from the Organisation for Economic Co-operation and Development (OECD) suggests that these pressures are becoming more complex as countries confront population ageing, artificial intelligence, changing employment patterns, and the twin digital and green transitions (OECD, 2025b). Workforce development has therefore become a central policy issue for governments seeking to improve productivity, strengthen labour market resilience, and support inclusive economic participation.

Workforce development, however, should not be understood narrowly as the provision of training programmes. It is better conceptualised as a policy system through which governments, employers, education and training providers, labour market institutions, and social partners seek to develop, activate, and use skills across the life course. The OECD Skills Strategy frames effective skills systems around the development of relevant skills, the activation of skills in the labour market, and the effective use of skills in workplaces and economies (OECD, 2019b). Similarly, the International Labour Organization (ILO) argues for a human-centred approach to the future of work, emphasising investment in people's capabilities, labour institutions, and decent work (ILO, 2019). These perspectives suggest that workforce development is not merely an educational issue; it is also a governance, economic, institutional, and social policy concern.

Within this broader policy system, governments use different policy instruments to influence workforce outcomes. These instruments include technical and vocational education and training (TVET), apprenticeship systems, work-based learning, training levies, subsidies, tax incentives, labour market information systems, skills anticipation mechanisms, lifelong learning policies, governance structures, and quality assurance frameworks. The effectiveness of these instruments depends not only on their design, but also on the institutional conditions in which they operate. For example, apprenticeship systems depend heavily on employer participation, financing arrangements, quality assurance, and the credibility of qualifications. Similarly, skills anticipation systems are useful only when labour market intelligence is connected to actual policy decisions, curriculum reform, funding priorities, and employer engagement (Cedefop, 2018; ILO et al., 2016).

Despite extensive policy activity in this area, the evidence base remains fragmented across education policy, labour market policy, vocational education, adult learning, human capital development, and future-of-work debates. Much of the available comparative evidence is produced by international organisations such as the OECD, ILO, World Bank, UNESCO, and Cedefop. These sources provide valuable policy evidence, but they often present workforce development through institutional and technocratic frameworks. Academic literature adds an important critical dimension by examining the political economy of skills, employer coordination, policy transfer, inequalities in access to lifelong learning, and informal skills development in emerging and transitioning economies (Allais, 2022; Busemeyer & Trampusch, 2012; Li & Pilz, 2023).

This review therefore examines workforce development policy instruments through an integrative and theoretically informed lens. Rather than treating global best practices as fixed models that can be transferred across contexts, the study analyses the conditions under which policy instruments appear more or less effective. Particular attention is given to governance, institutional capacity, employer coordination, labour market structure, equity of access, and policy transfer. This is especially important for emerging and transitioning economies, where formal training systems often coexist with large informal labour markets, uneven institutional capacity, and significant constraints in financing, data infrastructure, and employer participation.

The aim of this study is to review and synthesise global evidence on policy instruments for workforce development, with particular attention to their design, implementation, governance, and transferability across different contexts. The study is guided by three research questions:

- **RQ1:** What are the main categories of workforce development policy instruments identified in the literature, and how are they conceptualised within skills formation and human capital systems?
- **RQ2:** How are key policy instruments, including TVET, apprenticeships, financing mechanisms, governance structures, labour market intelligence, and lifelong learning systems, designed and implemented across different contexts?
- **RQ3:** What institutional, governance, labour market, and contextual factors shape the effectiveness and transferability of workforce development policy instruments, particularly in emerging and transitioning economies?

The article contributes to the literature in three ways. First, it synthesises evidence across multiple workforce development domains that are often examined separately. Second, it applies a skills formation and policy instrument lens to explain why similar instruments produce different outcomes across contexts. Third, it develops a context-sensitive framework for understanding policy transfer, showing that workforce development instruments should be adapted as transferable principles rather than copied as universal best practices.

2. Literature Review

2.1. Conceptualising Workforce Development

Workforce development is increasingly conceptualised as a broad policy domain that extends beyond formal education to encompass the development, activation, and effective use of skills across the life course. OECD (2019b) frames workforce development as a system-level agenda centred on three interrelated dimensions: developing relevant skills, using skills effectively, and strengthening governance mechanisms to support both processes. This perspective moves beyond a narrow focus on training provision and emphasises the importance of coordination across education systems, labour markets, employers, and institutions.

The World Bank (2019) similarly highlights that changing work patterns, driven by technological transformation and economic restructuring, require more adaptable and flexible skill sets. UNESCO (2015) broadens this understanding by positioning education as a public good that contributes not only to employability but also to citizenship, social inclusion, and societal transformation. Taken together, these perspectives suggest that workforce development should be understood as a multidimensional and system-oriented policy field, where skills formation is closely linked to broader economic and social outcomes.

2.2. Theoretical Framework: Skill Formation Systems and Policy Instruments

This study is informed by a skills formation systems perspective, particularly the work of Busemeyer and Trampusch (2012), who argue that national skill formation is shaped by the interaction among states, employers, markets, and collective actors. From this perspective, workforce development policies cannot be evaluated only as discrete programmes or technical interventions. They must be understood as instruments embedded within wider institutional arrangements. The same policy instrument may therefore produce different outcomes depending on the degree of employer coordination, the role of the state, the strength of training institutions, the credibility of qualifications, and the capacity of labour market actors to cooperate.

This framework is especially useful because it shifts attention from the question of whether a particular instrument works to the more important question of under what conditions it works. Apprenticeships, for example, are often presented as strong workforce development instruments because they combine classroom learning with workplace experience. However, apprenticeship systems depend on employers' willingness to train, the availability of incentives, the existence of quality assurance systems, and the perceived value of certification (OECD, 2018b). In coordinated systems where employers, training providers, and public agencies share responsibility for skills formation, apprenticeships may operate as a structured route into skilled employment. In more fragmented or market-led systems, similar programmes may struggle to achieve scale, quality, or equity.

The skills formation perspective also helps explain the limits of policy transfer. Workforce development policy is often influenced by global models and international examples, but instruments that are effective in one setting may not transfer easily to another. Countries differ in labour market structure, employer organisation, fiscal capacity, institutional trust, informal employment levels, and the strength of public administration. Li and Pilz (2023) show that the international transfer of vocational education and training is complex because policies are embedded in institutional, cultural, and labour market conditions. This means that best practices are better understood as transferable principles that require contextual adaptation.

2.3. Policy Instruments for Workforce Development

Policy instruments are the primary tools through which governments and institutions seek to shape workforce development outcomes. These instruments operate across multiple domains, including regulatory, financial, informational, institutional, and partnership-based mechanisms. OECD (2020) identifies governance levers such as cross-government coordination, stakeholder engagement, integrated information systems, and aligned financing as central to effective skills systems. This suggests that the effectiveness of workforce development policy depends less on individual instruments and more on how they are combined and coordinated within a broader system.

Technical and vocational education and training is widely recognised as a central policy instrument, particularly in economies undergoing structural change. UNESCO (2022) positions TVET as a strategic response to digitalisation, sustainability, inclusion, and just transitions. However, TVET systems may struggle when they are poorly resourced, weakly connected to employers, or perceived as low-status routes. Allais (2022) adds an important critical perspective by arguing that TVET reform in sub-Saharan Africa has been persistently constrained by weak industrialisation, limited labour demand, and wider economic structures. This suggests that TVET reform cannot be separated from the economic conditions that create demand for technical skill.

Apprenticeships and work-based learning are also frequently promoted as instruments for improving education-employment alignment. OECD (2018b) shows that apprenticeship outcomes depend on employer engagement, programme quality, financing, and support for disadvantaged groups. Cedefop (2020) further demonstrates that financing arrangements influence employer participation, learner access, and system sustainability. These findings show that apprenticeship systems require structured learning, quality assurance, and credible certification; they do not succeed simply because learners spend time in workplaces. OECD (2018a) further shows that employer engagement is strengthened when skills programmes are aligned with business needs and supported by clear coordination mechanisms.

2.4. Skills Mismatch, Labour Market Intelligence, and Lifelong Learning

A persistent theme in the literature is skills mismatch, defined as the gap between the skills produced by education and training systems and those demanded by labour markets. OECD (2016) argues that mismatches and shortages can weaken labour market performance and reduce productivity, underscoring the need for improved systems to assess and anticipate skill demand. Cedefop (2018) and ILO et al. (2016) similarly show that skills anticipation systems are most effective when integrated into policy processes and supported by stakeholder dialogue rather than treated as standalone technical exercises.

The literature also highlights a growing shift toward lifelong learning as a central component of workforce development policy. OECD (2019a) argues that adult learning systems must become more future-ready in response to technological change, globalisation, demographic pressures, and changing labour market demand. ILO (2020) similarly frames lifelong learning as necessary for adaptation across the life course. However, adult learning participation is often uneven, with better-educated and more securely employed workers more likely to benefit from training opportunities. Workforce development policy must therefore address equity of access, not only the expansion of learning opportunities.

Future-of-work pressures add further complexity. OECD (2025a) highlights rising demand for both specialised AI expertise and broad AI literacy, while OECD (2025b) emphasises demographic pressures and the need to sustain labour market participation and productivity. Holla et al. (2026) also indicate that human capital progress depends on environments where people live, learn, and work. These sources suggest that workforce development policy must address digital and AI skills while also attending to demographic change, green transition, social protection, and unequal access to learning.

2.5. Synthesis and Literature Gap

Across the literature, workforce development is consistently treated as a systems-level issue involving multiple interacting policy instruments. Recurring themes include the importance of governance, employer engagement, financing mechanisms, labour market intelligence, lifelong learning, and policy transfer. However, the evidence base remains fragmented across different domains, including TVET, apprenticeships, adult learning, financing systems, and future-of-work policy. This fragmentation makes it difficult to compare instruments systematically or to identify the conditions under which they are most effective.

The present study addresses this gap by synthesising global evidence on policy instruments for workforce development and applying a skills formation lens to explain variation across contexts. It also responds to the limitations of a purely best-practice approach by examining the conditions that shape transferability, particularly in emerging and transitioning economies where formal systems, informal labour markets, and institutional capacity constraints intersect.

3. Materials and Methods

3.1. Research Design

This study adopted an integrative review design to examine policy instruments used in workforce development. An integrative review was considered appropriate because the topic cuts across education policy, labour market policy, vocational education and training, skills development, human capital development, and future-of-work studies. The design also allowed the review to include both peer-reviewed academic literature and high-quality institutional publications from organisations such as the OECD, ILO, World Bank, UNESCO, and Cedefop (Snyder, 2019; Torraco, 2005).

The review was not designed as a meta-analysis because the included sources do not report comparable quantitative effect sizes. It was also not treated as a purely systematic review of empirical studies because important evidence on workforce development policy is often published in institutional reports, policy reviews, comparative studies, and conceptual analyses. However, to address transparency and reproducibility, the review followed a structured search, screening, extraction, and synthesis process. The analysis used a hybrid deductive-inductive thematic approach. The deductive element was guided by the study's policy instrument lens and skills formation framework, while the inductive element involved close reading of the included sources to identify cross-cutting patterns and contextual factors.

3.2. Search Strategy

A structured search strategy was developed to identify relevant academic and policy literature on workforce development policy instruments. Searches were conducted across Scopus, Web of Science, Google Scholar, OECD iLibrary, ILO publications, World Bank publications, UNESCO publications, and Cedefop resources. The search covered literature published between 2012 and 2026. The final supplementary search was conducted on 21 May 2026.

Search terms were developed around four clusters: workforce development, policy instruments, skills systems, and labour market alignment. Boolean search strings included: "workforce development" AND "policy instruments"; "skills development" AND "labour market alignment"; "technical and vocational education and training" OR TVET AND "policy"; "apprenticeship" AND "employer engagement" AND "skills development"; "skills mismatch" AND "labour market information"; "lifelong learning" AND "reskilling" AND "workforce development"; "skills formation" AND "political economy"; "vocational education" AND "policy transfer"; "informal skills development" AND "emerging economies"; and "future of work" AND "skills policy" AND "AI" OR "automation" OR "green transition". Backward and forward citation tracking was also used to identify additional relevant sources.

3.3. Inclusion and Exclusion Criteria

Sources were included if they addressed workforce development, skills development, vocational education and training, apprenticeships, labour market alignment, skills anticipation, lifelong learning, or related policy instruments. They also had to provide conceptual, empirical, comparative, or policy-relevant analysis rather than brief commentary; be either peer-reviewed academic publications or high-quality institutional publications from recognised organisations; contribute to understanding the design, implementation, governance, effectiveness, or transferability of workforce development policies; and be available in English.

Sources were excluded if they focused only on isolated training programmes without broader policy relevance, lacked methodological or analytical clarity, were opinion pieces or non-scholarly web sources, duplicated evidence already captured in a more complete publication, or did not directly address workforce development policy instruments.

3.4. Study Selection Process

The study selection process followed a staged screening procedure. The initial search produced 214 records from academic databases and 76 records from institutional repositories, giving a total of 290 records. After 48 duplicate records were removed, 242 records remained for title and abstract screening. At this stage, 168 records were excluded because they were unrelated to workforce development policy, focused only on individual training experiences, addressed employability without a policy-instrument focus, or did not examine workforce development as part of a wider skills system.

Following title and abstract screening, 74 full-text sources were assessed for eligibility. Of these, 32 sources were excluded because they lacked sufficient policy relevance, did not provide substantive analysis, duplicated findings from more comprehensive sources, focused only on narrow programme-level evaluation, or were not directly related to the review questions. The final sample consisted of 42 sources, including 25 peer-reviewed academic publications and 17 institutional reports. A PRISMA-style summary of the identification, screening, eligibility, and inclusion stages is provided in Figure 1.

Table 1

PRISMA-style flow summary for source identification, screening, eligibility assessment, and inclusion.

Stage	Description	Number
Identification	Records identified from academic databases: Scopus, Web of Science, Google Scholar	214
Identification	Records identified from institutional repositories: OECD, ILO, World Bank, UNESCO, Cedefop	76
Identification	Total records identified	290
Screening	Duplicate records removed	48
Screening	Records remaining for title and abstract screening	242
Screening	Records excluded after title and abstract screening	168
Eligibility	Full-text sources assessed for eligibility	74
Eligibility	Full-text sources excluded	32
Included	Sources included in final integrative review	42
Included	Peer-reviewed academic publications	25
Included	Institutional reports and policy publications	17

3.5. Data Extraction

Data were extracted using a structured evidence-mapping framework designed to support comparison across diverse source types. For each included source, the following information was recorded: author or institutional author, year of publication, source type, geographic or institutional context, policy instrument category, methodological approach where applicable, key findings, reported limitations, and relevance to the research questions.

The policy instrument categories included TVET, apprenticeships and work-based learning, financing and incentive mechanisms, governance and institutional coordination, labour market information and skills anticipation systems, lifelong learning and reskilling policies, and policy transfer mechanisms. The extraction process also captured cross-cutting issues such as employer engagement, equity of access, informal employment, institutional capacity, digital transformation, artificial intelligence, green transition, and applicability of global policy models to emerging and transitioning economies.

3.6. Data Analysis and Thematic Synthesis

The analysis was conducted using a hybrid deductive-inductive thematic synthesis approach, informed by established thematic analysis guidance (Braun & Clarke, 2006). The deductive component was informed by the skills formation systems perspective and the policy instrument lens. These frameworks sensitised the analysis to state coordination, employer involvement, institutional capacity, financing, labour market alignment, governance, and policy transfer. The inductive component involved repeated reading of the included sources to identify patterns, tensions, and contextual factors not fully captured by the initial framework.

The coding process was conducted in four stages. First, each source was reviewed and summarised using the evidence-mapping framework. Second, initial codes were assigned to evidence addressing policy design, implementation, outcomes, governance, or transferability. Third, related codes were grouped into broader analytical categories. Fourth, the categories were reviewed against the research questions and refined into final themes. The final thematic structure focused on workforce development as a coordinated policy system; TVET and apprenticeships as institutionally dependent instruments; financing and incentive mechanisms; labour market intelligence and education-employment alignment; lifelong learning and unequal participation; informal skills development and emerging-economy constraints; and policy transfer and contextual adaptation.

3.7. Quality Appraisal and Source Credibility

Given the integrative nature of the review, source quality was assessed using credibility and relevance criteria rather than a single standardised appraisal tool. Peer-reviewed academic publications were assessed according to their relevance to the research questions, conceptual clarity, methodological transparency, and contribution to understanding workforce development policy. Institutional reports were assessed according to the credibility of the publishing organisation, transparency of evidence, relevance to workforce development, and consistency with peer-reviewed literature.

Institutional publications were not treated as neutral or uncontested sources. Reports from organisations such as the OECD, ILO, World Bank, UNESCO, and Cedefop were used for comparative policy evidence, but their claims were interpreted critically and compared with academic literature where possible. Particular attention was given to whether institutional sources assumed formal labour markets, stable employer participation, or strong state capacity, since these assumptions may not hold in many emerging and transitioning economies.

3.8. Methodological Limitations

Several methodological limitations should be acknowledged. First, the review was limited to English-language sources, which may have excluded relevant studies published in other languages. Second, although the review followed a structured search and screening process, it remains an integrative review rather than a full systematic review or meta-analysis. The findings should therefore be interpreted as a theoretically informed synthesis rather than an exhaustive account of all workforce development literature.

Third, the review included institutional reports alongside peer-reviewed academic sources. This was appropriate because workforce development is a policy-oriented field in which major international organisations produce substantial comparative evidence. However, institutional reports may reflect policy consensus positions and may understate contested issues such as political economy, power, inequality, employer resistance, informal work, and implementation failure. Fourth, the included sources varied in purpose, method, and level of evidence. As a result, the review did not attempt to measure aggregate effects across instruments. Instead, it focused on identifying recurring patterns, explanatory conditions, and transferable policy principles.

4. Results and Findings

The thematic synthesis produced seven interrelated findings. These findings indicate that workforce development policy instruments are most effective when they are embedded within coordinated systems of skills formation rather than implemented as isolated programmes. Across the reviewed evidence, the effectiveness of instruments such as TVET, apprenticeships, financing mechanisms, labour market intelligence, lifelong learning, and policy transfer was shaped by governance capacity, employer coordination, institutional quality, labour market structure, equity of access, and contextual adaptation.

4.1. Workforce Development Instruments Function Best as Part of Coordinated Skills Systems

The first finding is that workforce development instruments are most effective when designed as mutually reinforcing components of a wider skills system. OECD (2019b) frames effective skills policy around the development, activation, and effective use of skills, supported by governance arrangements that coordinate actors across education, labour markets, workplaces, and public institutions. This systems perspective is reinforced by Busemeyer and Trampusch (2012), who show that vocational training outcomes depend on the relationship among the state, employers, collective actors, and training institutions.

This finding suggests that instruments such as TVET reform, apprenticeship schemes, training subsidies, labour market information systems, and lifelong learning policies cannot be evaluated only as discrete interventions. Their effectiveness depends on how they interact with financing, regulation, employer participation, qualification systems, and labour market demand. The World Bank (2019) similarly argues that changing work patterns require investment in adaptable human capital and institutions that support transitions across the life course, while ILO (2019) locates workforce development within a human-centred future-of-work agenda that includes capabilities, labour institutions, and decent work.

4.2. TVET and Apprenticeships Depend on Employer Coordination, Quality Assurance, and Institutional Trust

The second finding is that TVET and apprenticeship systems are central workforce development instruments, but their effectiveness depends on the quality of institutional design and the strength of employer coordination. UNESCO (2022) positions TVET as a strategic instrument for supporting productive employment, decent work, digital transition, green transition, and social inclusion. However, the evidence also indicates that TVET systems may fail to deliver strong labour market outcomes when they are underfunded, weakly connected to employers, low in social status, or poorly aligned with changing economic demand.

OECD (2018b) shows that apprenticeships can support school-to-work transitions when programmes are structured around clear learning outcomes, employer participation, appropriate incentives, workplace mentoring, assessment standards, and quality assurance mechanisms. Cedefop (2020) similarly indicates that the distribution of costs and benefits among learners, employers, and the state influences participation and sustainability. Allais (2022) adds that TVET reform in sub-Saharan Africa has often been weakened by factors beyond the formal training system, including low levels of industrialisation, limited demand for technical expertise, weak labour markets, and constrained economic development.

4.3. Financing and Incentive Mechanisms Improve Access Only When Governance and Targeting Are Strong

The third finding is that financial instruments can reduce underinvestment in workforce development, but they are effective only when supported by strong governance, targeting, accountability, and quality assurance. Training levies, subsidies, grants, tax incentives, and training funds are commonly used to encourage employers and individuals to invest in skills development. ILO (2020, 2023) identifies financing as a key element of skills systems, particularly where public investment, employer contributions, and collective funding mechanisms are needed to support lifelong learning and training access.

However, financing instruments can produce uneven results. Training subsidies may support participation but not necessarily quality or labour market relevance. Levy systems may be resisted by employers if they are perceived as an additional tax without visible benefit. Training funds may be captured by larger firms with stronger administrative capacity, while small firms, informal enterprises, low-skilled workers, and precarious workers remain underserved. OECD (2020) therefore emphasises that financing must be aligned with governance, stakeholder engagement, and information systems if it is to support coherent skills policy.

4.4. Labour Market Intelligence Is Valuable Only When Connected to Policy and Institutional Decision-Making

The fourth finding is that labour market intelligence and skills anticipation systems are important for addressing skills mismatch, but their usefulness depends on whether information is connected to policy action. OECD (2016) shows that skills mismatch can reduce productivity and weaken labour market performance, making it important for countries to identify current and emerging skill needs. Cedefop (2018) similarly emphasises that labour market and skills intelligence can support better alignment between education, training, and employment, but only when intelligence is linked to governance processes and stakeholder dialogue.

Labour market intelligence performs three main functions: identifying areas of shortage, surplus, or mismatch; supporting education and training planning; and anticipating the effects of technological, demographic, and sectoral change. However, these functions are not automatic. Skills data must be credible, timely, accessible, and institutionally embedded. ILO et al. (2016) and Cedefop (2018) show that effective skills anticipation requires not only technical data tools but also coordination among stakeholders and institutions.

4.5. Lifelong Learning and Reskilling Policies Can Reproduce Inequality Unless Deliberately Inclusive

The fifth finding is that lifelong learning, reskilling, and upskilling are central to workforce development policy, but access to these opportunities is uneven. OECD (2019a) argues that adult learning systems must become more future-ready in response to technological change, globalisation, demographic pressures, and changing labour market demand. The World Bank (2019) similarly argues that workers increasingly need adaptable skills across the life course, while ILO (2019, 2020) emphasises lifelong learning as part of a human-centred approach to the future of work.

However, lifelong learning can reproduce inequality if access is not deliberately widened. Workers with higher levels of education, stable employment, digital access, employer sponsorship, and stronger labour market attachment are often more likely to participate in adult learning. By contrast, low-skilled adults, informal workers, women with care responsibilities, rural workers, unemployed adults, and workers in precarious employment often face greater barriers. OECD (2025a) further highlights the need for both advanced AI expertise and general AI literacy, which intensifies the importance of inclusive access to training.

4.6. Informal Skills Development Is Under-Recognised in Formal Workforce Development Models

The sixth finding is that formal workforce development models often under-recognise informal skills development, especially in emerging and transitioning economies. Many policy instruments assume formal employment, registered firms, recognised qualifications, and structured training institutions. However, in economies with large informal sectors, many workers acquire skills through workplace experience, family businesses, community-based learning, self-employment, micro-enterprise activity, informal apprenticeships, and peer learning.

Allais (2022) is particularly important because she shows that TVET reform in sub-Saharan Africa has been persistently constrained by weak industrialisation and limited formal labour market demand for technical skills. This suggests that skills policy cannot assume that formal training expansion will automatically lead to labour market absorption. Workforce development policy must therefore include mechanisms for recognising prior learning, upgrading informal skills, supporting micro-enterprises, connecting informal workers to certification pathways, and improving transitions into more secure and productive work.

4.7. Policy Transfer Requires Contextual Adaptation Rather Than Direct Replication

The seventh finding is that workforce development policy instruments should be understood as transferable principles rather than universal models. Li and Pilz (2023) show that the international transfer of vocational education and training systems is complex because instruments are embedded in institutional, cultural, economic, and labour market contexts. Busemeyer and Trampusch (2012) similarly demonstrate that skill formation systems vary according to the relationship among states, employers, markets, and collective actors.

This finding challenges the language of global best practices. Instruments such as apprenticeships, training levies, TVET reforms, lifelong learning accounts, and labour market information systems may appear attractive because they have worked in particular contexts. However, their success depends on conditions that may not exist elsewhere. The most transferable principles identified in the review include employer engagement, quality assurance, sustainable financing, labour market alignment, inclusive access, recognition of prior learning, and institutional coordination. These principles must be adapted to governance capacity, labour market structure, levels of informality, employer organisation, and social inequality.

Table 2

Synthesis of findings by research question, evidence base, and analytical implication

Research question	Synthesised finding	Main supporting evidence	Analytical implication
RQ1	Workforce development instruments are interdependent parts of a skills formation system.	OECD (2019b); Busemeyer & Trampusch (2012); ILO (2019); World Bank (2019)	Analyse instruments as part of a wider governance and skills ecosystem.
RQ1	TVET and apprenticeships require employer coordination, institutional quality, recognised qualifications, and credible employment pathways.	UNESCO (2022); OECD (2018b); Cedefop (2020); Allais (2022)	Avoid presenting TVET or apprenticeships as universally effective instruments.
RQ2	Financing instruments can widen participation but require transparent governance, targeting, and quality assurance.	ILO (2020, 2023); Cedefop (2020); OECD (2020)	Treat financing as a governance instrument, not only a funding mechanism.
RQ2	Labour market intelligence supports alignment only when connected to curriculum, funding, qualifications, and employer engagement.	OECD (2016); Cedefop (2018); ILO et al. (2016)	Data must be institutionally embedded to influence policy decisions.
RQ2	Lifelong learning is necessary but can reproduce inequality if access is uneven.	OECD (2019a); ILO (2019, 2020); World Bank (2019); OECD (2025a)	Design lifelong learning around inclusion and targeted support.
RQ3	Informal skills development is under-recognised in formal workforce development models.	Allais (2022); World Bank (2019); ILO (2019, 2020)	Include recognition of prior learning, informal skills upgrading, and micro-enterprise support.
RQ3	Policy transfer requires contextual adaptation rather than direct replication.	Li & Pilz (2023); Busemeyer & Trampusch (2012); OECD (2018b); Allais (2022)	Identify transferable principles and the institutional conditions required for implementation.

5. Discussion

The findings indicate that workforce development policy instruments cannot be understood adequately as discrete tools that can be selected, transferred, and implemented independently of context. Rather, their effectiveness depends on the wider skills formation system in which they are embedded. This discussion interprets the findings through the study's theoretical framework, with particular attention to governance, employer coordination, institutional capacity, labour market structure, informality, lifelong learning, and policy transfer.

5.1. From Policy Instruments to Skills Formation Systems

A major implication of the review is that workforce development policy should move beyond an instrument-by-instrument approach. Although TVET systems, apprenticeships, financing mechanisms, labour market information systems, and lifelong learning policies are often discussed as separate interventions, the evidence suggests that they operate most effectively when aligned within a coherent skills formation system. OECD (2019b) emphasises the development, activation, and effective use of skills, while Busemeyer and Trampusch (2012) show that skills systems are shaped by institutional relationships among the state, employers, markets, and collective actors.

This systems perspective helps explain why many workforce development reforms produce limited results. A country may expand TVET provision, introduce apprenticeship schemes, or invest in labour market information systems, but these instruments will have limited impact if they are not supported by employer participation, credible qualifications, stable financing, curriculum responsiveness, and institutional trust. World Bank (2019) and ILO (2019) both indicate that workforce development must be connected to institutions that support adaptation, capability development, and decent work.

5.2. Employer Coordination as a Central Condition of Effectiveness

Employer coordination is central to workforce development. Employer participation is especially important in TVET, apprenticeships, work-based learning, occupational standards, and skills anticipation. OECD (2018b) shows that apprenticeships can support transitions into employment, but their effectiveness depends on programme quality, employer engagement, workplace learning conditions, and clear institutional responsibilities. Cedefop (2020) further shows that the distribution of costs and benefits among employers, learners, and public authorities influences whether apprenticeship systems are sustainable and attractive to participants.

The skills formation framework adds explanatory depth. Busemeyer and Trampusch (2012) show that vocational training systems differ according to the coordination among states, employers, and collective actors. In coordinated systems, employers are more likely to participate when institutions reduce risk, distribute training costs, and create shared expectations around skill formation. In more fragmented systems, employers may underinvest because of cost pressures, fear of poaching, limited trust in training institutions, or weak sector-level coordination.

5.3. The Limits of Technocratic Best-Practice Models

The review raises questions about the language of global best practices. Institutional reports provide valuable comparative evidence and practical policy lessons, but the findings suggest that policy instruments should not be treated as transferable packages that can be copied across contexts. Li and Pilz (2023) show that VET transfer is complex because vocational education arrangements are embedded in institutional, cultural, economic, and labour market contexts. This supports the broader skills formation argument that policy instruments function differently depending on the relationship between the state, employers, markets, and collective actors (Busemeyer & Trampusch, 2012).

The stronger contribution of this review is therefore to reframe best practices as transferable principles. These include employer engagement, sustainable financing, quality assurance, labour market alignment, inclusive access, recognition of prior learning, and institutional coordination. However, these principles require contextual adaptation. This distinction is especially important for emerging and transitioning economies, where governance capacity, labour market structure, informality, and financing constraints may differ significantly from the contexts in which many policy models were first developed.

5.4. Informality and the Formal-Sector Bias in Workforce Development Policy

One of the most important implications of the review is that formal workforce development models often under-recognise informal skills development. Many policy instruments assume formal firms, formal employment contracts, recognised qualifications, and structured training institutions. Yet in many emerging economies, workers acquire skills through informal apprenticeships, self-employment, family enterprises, community-based learning, peer learning, and micro-enterprise activity. Allais (2022) is especially important here because she argues that TVET reform in sub-Saharan Africa has been persistently constrained by factors outside the training system itself, including weak industrialisation, limited formal labour demand, and the structure of economic development.

The World Bank’s future-of-work analysis is relevant because it argues that social protection and human capital systems should not depend only on formal wage employment (World Bank, 2019). Similarly, ILO (2019) emphasises decent work, lifelong learning, and institutions that protect workers during economic and technological transition. These perspectives suggest that workforce development in emerging economies must include recognition of prior learning, informal skills upgrading, flexible certification, micro-enterprise support, and bridges between informal learning and formal qualification systems.

5.5. Lifelong Learning, Equity, and the Future of Work

The findings confirm the growing importance of lifelong learning, reskilling, and upskilling in response to technological change, artificial intelligence, automation, platform work, demographic transition, and green transformation. OECD (2019a) argues that countries need future-ready adult learning arrangements that can respond to changing labour market demand. ILO (2019, 2020) similarly positions lifelong learning as part of a broader human-centred approach to the future of work. World Bank (2019) also emphasises the need for workers to develop higher-order cognitive, socio-behavioural, and adaptable skills as work changes.

However, lifelong learning can reproduce inequality when participation is concentrated among those who already have higher levels of education, stronger digital access, stable employment, employer sponsorship, and better information. OECD (2025a) indicates that governments are developing policies for both advanced AI expertise and general AI literacy, while OECD (2025b) links labour market adaptation to demographic pressures and the wider challenge of sustaining participation and productivity. Workforce development policy should therefore avoid reducing the future of work to narrow digital training and should instead include foundational skills, occupational skills, digital and AI literacy, socio-emotional capabilities, worker protections, and equitable access to learning across the life course.

5.6. Implications for Emerging and Transitioning Economies

The findings have particular relevance for emerging and transitioning economies. These contexts often face multiple interacting constraints: demand for higher-level skills, limited fiscal space, uneven institutional capacity, high informality, weak labour market data, fragmented employer engagement, and persistent inequality in access to quality training. Allais (2022) shows why TVET reform cannot be separated from industrialisation, labour market demand, and wider economic development. This is a critical corrective to approaches that treat skills supply as the main barrier to workforce development.

For these contexts, workforce development policy should prioritise system-building rather than policy copying. This includes strengthening governance institutions, improving labour market intelligence, supporting employer coordination, investing in TVET quality, creating flexible financing models, recognising informal skills, and ensuring that lifelong learning reaches disadvantaged groups. UNESCO (2022) is useful here because it links TVET to digital, green, inclusive, and just transitions. However, the effectiveness of such transitions depends on whether national systems can translate broad policy ambitions into institutional capacity, financing, employer engagement, and accessible learning pathways.

5.7. Contribution to Knowledge and Policy

This review contributes to workforce development literature by synthesising evidence across policy instruments that are often examined separately. It also contributes by applying a skills formation lens to explain why similar instruments produce different outcomes across contexts. Rather than treating workforce development as a technical exercise in selecting best practices, the review shows that policy instruments are mediated by governance arrangements, employer coordination, labour market structure, institutional capacity, informality, and social inequality.

The review also contributes to policy discussion by reframing global best practices as transferable principles. A best-practice model implies that an instrument can be copied from one context to another. A transferable principle recognises that policy learning is possible, but only through adaptation. For policymakers, this means workforce development reform should begin with diagnosis of institutional and labour market conditions before selecting instruments.

6. Conclusion

This integrative review examined policy instruments for workforce development, with particular attention to their design, implementation, governance, and transferability across different contexts. The review found that workforce development instruments are most effective when they operate as part of coherent skills formation systems rather than as isolated policy interventions. Instruments such as TVET, apprenticeships, financing mechanisms, labour market intelligence systems, lifelong learning policies, and governance arrangements can support skills development and labour market alignment, but their effectiveness depends on the institutional conditions in which they are embedded.

The review makes three main contributions. First, it synthesises evidence across several policy domains that are often examined separately, including vocational education, apprenticeships, financing, labour market information, lifelong learning, and policy transfer. Second, it applies a skills formation perspective to show that workforce development outcomes are shaped by the interaction among the state, employers, training institutions, labour market actors, and wider economic structures. Third, it challenges the uncritical use of global best practices by arguing that workforce development policies should be understood as transferable principles that require contextual adaptation.

A central conclusion is that the success of workforce development policy depends less on the adoption of any single instrument and more on the coherence of the wider system. TVET and apprenticeships require employer coordination, credible qualifications, quality assurance, and demand for skilled labour. Financing mechanisms require transparent governance, targeting, and accountability. Labour market intelligence systems require institutional pathways through which evidence informs curriculum, funding, and policy decisions. Lifelong learning policies require deliberate attention to inclusion so that reskilling opportunities do not primarily benefit already advantaged workers.

The review also highlights the importance of informal skills development, especially in emerging and transitioning economies. Many workforce development models assume formal employment, registered firms, recognised qualifications, and structured training institutions. However, in contexts where informal employment, self-employment, micro-enterprise activity, and community-based learning are significant, formal-sector models may exclude large sections of the workforce. Workforce development policy in such contexts should therefore include recognition of prior learning, informal skills upgrading, flexible certification pathways, micro-enterprise support, and stronger links between informal learning and formal qualification systems.

Several limitations should be recognised. The review was limited to English-language sources and included both peer-reviewed literature and institutional policy reports. While this was appropriate for a policy-oriented integrative review, institutional sources may reflect particular policy assumptions and should be interpreted critically. The review also did not attempt to measure aggregate effects across instruments because the included sources varied in design, method, and purpose. Future research could strengthen this field by conducting comparative country studies, sector-specific analyses, and empirical evaluations of how workforce development instruments operate in contexts with high informality and uneven institutional capacity.

Overall, the review concludes that workforce development policy should be approached as a system-building agenda. Effective policy design requires more than expanding training provision or adopting internationally recommended instruments. It requires aligning education and training systems with labour market realities, strengthening governance and employer coordination, widening access to lifelong learning, recognising informal skills, and adapting policy instruments to context. Workforce development is therefore not simply a technical matter of selecting the right tools; it is an institutional and strategic process of building the conditions under which skills can be developed, recognised, used, and renewed across the life course.

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Conflict of Interest

The author declares that there is no conflict of interest related to the research and publication of this paper.

Use of Artificial Intelligence (AI) Statement

The author used artificial intelligence tools to support language editing, organisation of content, and refinement of academic expression. All AI-assisted outputs were critically reviewed, verified, and revised by the author. No AI tools were used to generate original data or conduct independent analysis. The author takes full responsibility for the accuracy, integrity, and interpretation of the work.

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