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Aligning Technical and Vocational Education with Local Labour Market Needs in Namibia: Perspectives of Graduates, Lecturers and Employers

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Abstract

Technical and vocational education can strengthen Namibia's transition from training to productive work, but curriculum relevance cannot be judged from qualifications or employment status alone. This article critically reviews published Namibian research and selected international evidence to examine alignment through graduate, lecturer and employer perspectives. A targeted narrative review of journal articles, institutional repository records and official publications retrieved in October 2026 distinguishes reported findings from policy aspirations and analytical proposals. The reviewed evidence identifies recurring concerns about practical learning, workplace access, career preparation, institutional capacity and feedback between training providers and enterprises. Recent graduate evidence also indicates that favourable perceptions of teaching can coexist with weak employment in the trained field. However, differences in samples, instruments and labour market settings prevent pooled estimates or national generalisation. The research gap concerns the limited translation of comparable, locally grounded stakeholder evidence into documented curriculum and placement decisions. The article contributes a three-perspective alignment framework, a regional decision cycle and proposed measures that distinguish competence, occupational matching and employment quality. It argues that lecturers' accounts of instructional feasibility, employers' task requirements and graduates' transition experiences should be interpreted together without treating any perspective as conclusive. Recommendations prioritise structured workplace learning, trade-specific assessment, lecturer development and accountable regional partnerships. Future studies should test the framework with linked stakeholder evidence and longitudinal outcomes rather than infer curriculum failure from unemployment alone.

Keywords: Labour Market Alignment, Graduate Employability, Workplace Learning, Stakeholder Perspectives

1. Introduction

Technical and vocational education and training (TVET) occupies the boundary between education and economic activity. Its value depends partly on whether learners acquire competencies that are useful in actual work, but usefulness also includes the ability to continue learning, adapt to changing tasks and participate in society. In Namibia, the question of alignment therefore extends beyond whether a training centre offers a particular trade. It concerns how occupations are selected, how competencies are taught and assessed, how learners gain experience and how institutions respond when graduates encounter difficulties entering work.

Official labour statistics establish the seriousness of the employment context without identifying the causes of vocational graduates' outcomes. The Namibia Statistics Agency's January 2025 presentation of the 2023 census labour results reports a national unemployment rate of 36.9% and explains that its employment definition follows the nineteenth International Conference of Labour Statisticians framework [1]. The presentation also notes that census labour statistics do not provide the detailed information on working conditions and informal employment normally available from a labour force survey. These qualifications matter: aggregate unemployment is neither a TVET graduate unemployment rate nor a direct measure of curriculum relevance.

Namibia's Skills Development Plan II for 2022–2026 identifies access, relevance and partnership as central priorities for vocational skills development [2]. The policy direction makes local labour market responsiveness a legitimate institutional concern. Nevertheless, identifying priority areas in a planning document and ensuring that individual learners can perform workplace tasks are different achievements. The distance between these achievements is the practical problem addressed here. A programme can be appropriately named and accredited while its equipment, assessment tasks or placement arrangements remain poorly connected to contemporary work.

International evidence provides a useful frame rather than a substitute for Namibian investigation. The World Bank, International Labour Organization and UNESCO identify weak responsiveness to labour demand and institutional limitations as challenges in formal TVET systems in low- and middle-income countries [3]. Their joint analysis encourages attention to learners, enterprises and provider capability. Applying that argument locally requires a careful distinction between deficiencies within training and constraints outside it. An employer may report difficulty finding competent applicants while graduates report difficulty finding vacancies; these statements can coexist when occupations, locations and recruitment channels differ.

The term local labour market is used in this article to mean the geographically and occupationally situated set of opportunities that graduates can realistically access, including opportunities reached through migration. It is not assumed to coincide with a region's administrative boundary. A learner's accessible market may be narrowed by transport costs or widened by family accommodation in another town. Local alignment must therefore consider opportunity structures alongside the competencies specified in curricula.

The purpose of this review is to explain what published evidence can establish about alignment and to develop a framework that connects stakeholder knowledge to institutional action. Graduates contribute experience of transition; lecturers contribute knowledge of learning conditions; employers contribute knowledge of work tasks and recruitment. Their perspectives are complementary, but none provides a complete account. This article treats their comparison as an analytical problem and proposes a practical method for deciding which differences require curricular revision, better workplace support or wider employment policy responses.

1.1 Research gap and rationale

The gap is not an absence of Namibian TVET scholarship or stakeholder research. Hategekimana's earlier work included trainees, instructors, graduates, employers and ministry stakeholders, and identified weaknesses in facilities, communication and the management of transition into employment [4]. It would therefore be inaccurate to claim that this review introduces stakeholder participation to the Namibian literature. The narrower gap concerns the use of comparable stakeholder evidence to make and subsequently evaluate specific decisions at trade and local labour market levels.

Recent evidence further limits broad novelty claims. Julius, Sheyapo and Hasheela's 2026 study directly examines graduates' views of programme relevance and curriculum–industry alignment [5]. Its small, non-probability sample informs the present review but cannot establish national prevalence. Studies of career readiness [6], competency-based implementation [7] and employer expectations [8] examine related problems using different populations and measures. Taken together, they support a question about coordination and interpretation: how can institutions reconcile these different evidence streams without confusing perceptions, demonstrated competence and employment outcomes?

Three unresolved relationships organise this question. First, favourable teaching evaluations may coexist with limited occupational matching. This requires investigation of workplace access and job availability rather than an automatic inference that instruction is ineffective. Second, lecturers and employers may use the same competence label for different tasks or performance thresholds. A curriculum may list communication while employers expect a worker to negotiate a customer complaint or explain a safety incident. Third, collecting graduate information does not demonstrate that it changes a module, equipment purchase or placement agreement. The missing link is often the decision process rather than another list of desirable skills.

A regionally sensitive approach is needed because evidence from one institution or urban labour market cannot be assumed to represent another. The authors' location at Nkurenkuru motivates attention to locally accessible opportunities, but this article presents no field findings from Nkurenkuru or Kavango West. It offers a framework for future application there and elsewhere, subject to empirical verification. Such a boundary prevents institutional affiliation from being mistaken for evidence of local participant engagement.

1.2 Objectives and contributions

The review has four objectives: to compare the scope and limits of published stakeholder evidence; to identify mechanisms that may connect training conditions with work transitions; to propose a practical alignment framework; and to specify how future studies could test its claims. The research questions ask what each stakeholder perspective reveals, where previous findings converge or differ, and what evidence would justify a local programme change.

The conceptual contribution is a distinction among curriculum relevance, competence, labour market access and employment quality. The methodological contribution is a proposed common task framework for comparing graduates', lecturers' and employers' accounts while preserving the different meaning of their evidence. The practical contribution is a decision cycle with named responsibilities, documented changes and outcome review. These contributions are analytical proposals, not validated instruments or demonstrated improvements in graduate employment.

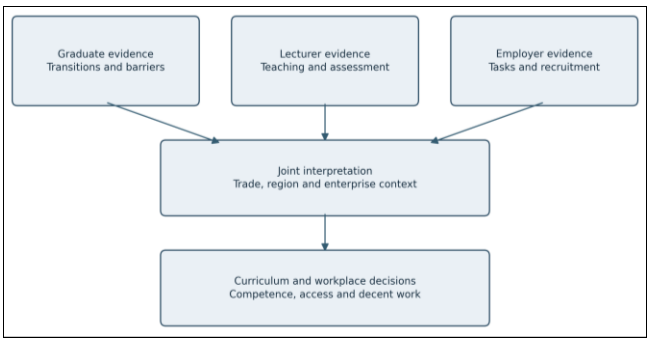
The article's originality lies in combining the reviewed problems into a decision-oriented local framework. Its novelty remains bounded by the targeted search: the review does not establish that no comparable framework exists. Instead, it makes an explicit, testable argument about the evidence required for action. A useful contribution is consequently judged by whether it clarifies decisions and enables credible follow-up research, rather than by asserting that vocational mismatch has never previously been studied in Namibia.

1.3 Conceptual foundations

Human capital theory treats education and training as investment in productive capabilities [9]. It explains why competence development may improve an individual's contribution to work and potential earnings. It does not, by itself, guarantee that the surrounding economy supplies suitable positions or that an employer recognises a qualification. This article therefore uses human capital as one explanatory lens while retaining the institutional and opportunity conditions that influence its conversion into employment.

The OECD's future-ready vocational education framework emphasises responsiveness, flexibility, transitions and innovation [10]. UNESCO's 2022–2029 strategy places skills within wider aims of productive employment, inclusion and sustainable development [11]. These policy frameworks support a broader reading of alignment than immediate vacancy matching. For the present analysis, responsiveness includes adjustment to current tasks, while adaptability concerns the knowledge and judgement needed when tasks change. A programme should not sacrifice transferable understanding merely to reproduce one enterprise's current routines.

Four concepts are kept separate. Curriculum relevance concerns whether programme content addresses justified occupational and societal needs. Competence concerns whether a learner can perform specified tasks to a defensible standard. Labour market access concerns the ability to discover, reach and obtain opportunities. Employment quality concerns the conditions and stability of the work obtained. Evidence about one concept should not be used as though it measures all four.



Source: Original author framework developed for this review

Fig 1: Proposed three-perspective alignment framework. Arrows represent analytical and decision relationships, not estimated causal effects

A graduate can possess competence but face restricted access. An employer can offer placement opportunities while providing little structured learning. A lecturer can teach relevant content but lack enough equipment for every learner to practise. These examples are analytical possibilities, not observations from a new survey. They illustrate why a diagnosis should move from broad stakeholder dissatisfaction to identifiable tasks, access conditions and institutional decisions.

Fig 1 makes joint interpretation the connecting mechanism. Graduate evidence should be examined against the tasks encountered after training; lecturer evidence against teaching and assessment records; employer evidence against actual entry-level requirements. The shared unit is a task or transition problem, not a general satisfaction score. Context is retained throughout, including trade, qualification level, location and enterprise size. The final judgement should explain which evidence supported an action and which uncertainty remained.

2. Materials and Methods

2.1 Review design and information sources

This article uses a targeted narrative review with critical documentary synthesis. It is not a systematic review or meta-analysis. Narrative synthesis is appropriate here because the available materials include empirical journal articles, theses, official statistics, strategy documents and institutional programme information that answer different questions. Snyder [12] explains that review designs should be matched to purpose and documented transparently. Torraco [13] identifies conceptual integration as a possible contribution of a literature review. These methodological sources guide the separation of reported findings from the framework proposed in this article.

Retrieval was conducted on 8 October 2026 using web searches directed towards publisher websites, university repositories and official organisations. Search phrases included "Namibia TVET graduates employers lecturers skills mismatch", "Namibia vocational education labour market alignment", "graduate perceptions relevance employability curriculum industry alignment Namibian TVET centres", and "Namibia TVET training needs managers". Targeted searches covered the Namibia Training Authority, Namibia Statistics Agency, Namibia University of Science and Technology journals, University of Namibia repository, UNESCO, the International Labour Organization and the World Bank. Reference lists on relevant article pages were inspected for methodological and contextual sources.

2.2 Eligibility and source handling

Sources were eligible when they addressed Namibian vocational education, graduate transition, employer expectations, instructional capability or skills governance. Selected international publications were included when they supplied a directly relevant conceptual or policy comparison. The main contemporary window was 2022–2026, with earlier materials retained for historical comparison and methodological foundations. No empirical publication dated after the retrieval date was used. English-language accessibility was required for this review, creating a language limitation.

Generic commentary without identifiable evidence, duplicate search records and unverifiable claims were excluded from substantive analysis. Repository theses were identified as theses rather than peer-reviewed journal articles. University-graduate employer evidence was retained as adjacent evidence and explicitly distinguished from TVET-specific evidence. Official announcements were used only to establish planned activities; they were not treated as completed survey findings. No employment statistic was inferred from a news headline or copied from a secondary account when an official source was available.

The analysis used accessible publisher text, repository abstracts and selected full-text materials. Some documents could be assessed only from their official summaries or abstracts. Findings from those documents were restricted to what those accessible records actually stated. The complete reference list identifies the cited sources; Table 1

distinguishes the principal empirical comparisons. Search screening totals are not reported because a deduplicated database-level screening log was not maintained. Consequently, the review cannot claim exhaustive coverage or reproduce a systematic review flow diagram.

2.3 Extraction and interpretation

For each central empirical source, the review extracted publication year, setting, participant categories, reported design, main finding relevant to alignment and scope limitation. The interpretive categories were curriculum and assessment, workplace learning, instructional capability, career preparation, regional opportunity and evidence use. These categories were analytical organising devices rather than results of independent participant coding. Findings were compared for conceptual convergence and differences in population or measurement. Numerical results were retained only with their source and denominator context; no pooled effect, significance test or original estimate was calculated.

2.4 Evidence appraisal and research integrity

Evidence was appraised narratively by considering population relevance, sample scope, correspondence between measures and claims, and whether a source described perceptions, performance or outcomes. No numerical quality score was assigned. Small studies can illuminate mechanisms and experiences, but their percentages cannot establish national prevalence. Official statistics describe population conditions, but they do not isolate the contribution of vocational training. Policy documents articulate priorities; their existence does not demonstrate implementation.

This review reports no new interviews, questionnaires or personal records. It makes no claim of participant recruitment, consent, ethics approval or completed fieldwork. Any subsequent empirical application would require an appropriate ethics determination, institutional permissions and participant consent before collection. All figures are original conceptual diagrams. Equations are proposed analytical definitions and are not fitted models.

Table 1: Principal empirical sources and boundaries of comparison

Source	Reported evidence	Boundary for this review
Hategekimana, 2014 [4]	Multi-stakeholder investigation; facilities and transition concerns.	Historical evidence; not a current regional estimate.
Tubaundule *et al*., 2024 [6]	Career readiness study involving 44 trainees in selected trades.	Trainee preparation; not linked graduate–employer outcomes.
Akooko, 2024 [7]	Trainer and trainee evidence from one Windhoek institution.	Institution-specific perceptions and implementation issues.
Nepando, 2023 [8]	Interviews with 20 purposively selected employers.	University graduates; transfer to TVET requires caution.
Aloovi and Sisinyize, 2024 [14]	Manager training needs and organisational capability.	Management perspective rather than direct task performance.
Kapolo, 2024 [15]	Blended learning case with trainees and trainers.	Delivery conditions; not proof of employment effects.
Shilemba, 2024 [16]	Workplace communication at the National Youth Service.	Situated communication findings, not a national skills audit.
Simasiku and Kambonde, 2026 [17]	Formative assessment inquiry with trainees and trainers.	Local instructional evidence; no causal employment estimate.
Julius *et al*., 2026 [5]	Mixed-method online survey of 20 graduates.	Small non-probability sample; limited generalisation.

The matrix supports comparison without merging incompatible denominators. Convergence is strongest when independently situated sources point to a similar mechanism, such as the distance between programme content and opportunities to practise. It is weaker when a general employer concern is treated as a measured deficit in a specific vocational qualification. The subsequent discussion therefore uses cautious terms such as suggests, is consistent with and requires testing, while identifying the decisions that stronger evidence could support.

3. Results and Discussion

3.1 Curriculum relevance and occupational matching

The first synthesis finding is that perceived relevance and occupational matching should be interpreted separately. Julius *et al.* [5] report favourable ratings of instructor knowledge and programme relevance in their sample, alongside only 35% of respondents working in their trained field. Their participants also identified limitations in entrepreneurship content, internship support and facilities. These are findings from that published study, not from the present authors' data. The juxtaposition challenges an evaluation approach that relies on general programme satisfaction as a proxy for labour market alignment.

The analytical implication is that curriculum content, delivery, transition support and job availability need distinct measures. A graduate may value a programme because it developed useful practical skills even when they have not secured a matching job. Conversely, a graduate may obtain work through personal networks while identifying serious instructional gaps. Neither experience can be reduced to a single question asking whether the programme was relevant. A local review should ask which competencies were useful, which were absent, where opportunities existed and how the graduate reached them.

The comparison with older Namibian research indicates continuity in concerns, but not a measured national trend. Hategekimana [4] identified weaknesses in the training environment and management of movement into work. Later evidence has been produced with different participants and instruments. It cannot establish that a particular deficit increased, decreased or persisted at the same rate. The defensible interpretation is that related issues recur in the literature and warrant investigation using comparable indicators across successive cohorts.

Curriculum mapping can make this investigation concrete. For each entry-level task, institutions could record the relevant learning outcome, opportunities for supervised

practice, assessment evidence and workplace standard. A task would then be classified as taught and demonstrated, taught but insufficiently practised, encountered only in placement, or absent. This proposed classification makes it possible to distinguish a content omission from a delivery problem. It also permits a lecturer to explain that an outcome appears in the syllabus while equipment constraints prevent the intended learning experience.

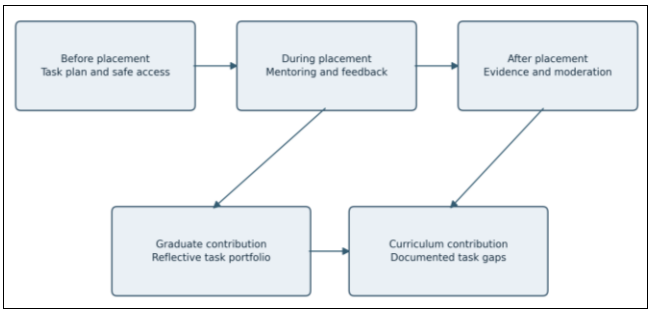
Employers' expectations should be checked against the level of the qualification. A newly qualified worker cannot reasonably be expected to perform every task assigned to an experienced technician without induction. An employer request for advanced diagnostic judgement may justify an additional learning pathway rather than a finding that entry-level training has failed. Similarly, a request for familiarity with one proprietary machine should not automatically displace fundamental principles that allow graduates to learn unfamiliar systems. Task mapping should include the time and supervision expected for a competent beginner.

Comparison with the international systems analysis [3] supports interpreting alignment as an institutional process. The contribution of this review is to make the unit of diagnosis more specific: an identified task, an observable learning opportunity and a documented decision. Proposed changes should be proportionate to the evidence. A practical task gap can support an assessment redesign; low placement access can support a partnership response; weak job availability may require coordination with local economic development. Treating all three as curriculum problems risks spending resources without addressing the relevant constraint.

3.2 Workplace learning and the transition into work

Workplace learning is a potential bridge between formal instruction and occupational practice, but its contribution depends on what learners actually do. Akooko's institution-specific research identifies resource limitations and weak industry partnerships as implementation concerns [7]. The issue for a local alignment study is consequently more precise than whether a programme includes attachment: it is whether attachment provides supervised access to the tasks that the qualification is intended to develop.

The International Labour Organization's Quality Apprenticeships Recommendation, 2023 (No. 208), supports structured learning, formal agreements, learner protection and participation by employers' and workers' organisations [18]. It provides a normative comparator for designing workplace opportunities, rather than evidence that these arrangements have already been implemented in Namibia. Internships and short attachments should not automatically be described as apprenticeships; their duration, employment relationship and assessment arrangements may differ. Institutions should use accurate terminology while applying suitable learning and protection principles.



Source: Original author design; informed by the quality principles in reference [18].

Fig 2: Proposed placement quality pathway linking task planning, supervised practice and curriculum feedback

A placement plan should specify which tasks the learner will observe, assist with and eventually perform under supervision. A named mentor should review progress and provide feedback that a lecturer can interpret. The graduate's portfolio should explain the context of each task, the level of assistance and the evidence of performance. Merely logging attendance cannot show that learning occurred. These proposed procedures also help identify placements that repeatedly expose learners to routine errands while withholding the work needed for competence development.

Fig 2 distinguishes two outputs of a placement. The first is evidence of the individual learner's development; the second is information about the programme. When several learners struggle with an unfamiliar task, the provider should determine whether the issue concerns prior instruction, limited practice or an enterprise-specific requirement. The feedback should return to a curriculum meeting with an identifiable action. Employers also need a channel to explain mentoring constraints and tasks that cannot safely be delegated.

Equity must be considered when selecting hosts. Requiring learners to find their own placements may produce access that reflects personal contacts and financial means. A coordinated allocation process could make opportunities more transparent, but its effectiveness would need evaluation. The proposed study should record who was eligible, who received an offer, who declined and why. This information allows placement availability to be distinguished from affordability and accessibility, preventing a superficially successful programme from overlooking learners who could not participate.

3.3 Lecturer capability and the conditions of instruction

Lecturers connect curriculum intentions to learning activities, but their accounts should be interpreted in relation to the conditions under which they teach. For this article, lecturer includes vocational instructors and trainers where those are the terms used by a source. The distinction is

stated because institutional titles should not obscure comparable instructional responsibilities. Lecturers can describe equipment functionality, learner readiness, assessment demands and the consequences of adapting lessons when resources are unavailable.

Simasiku and Kambonde [17] report that participants in a small Khomas-region study understood and used formative assessment, while identifying a need for trainer professional development. This supports a distinction between awareness of assessment principles and the capability to implement them consistently. It does not establish the effectiveness of formative assessment across Namibia or demonstrate an employment effect. A useful local inquiry would examine actual feedback, opportunities to revise a task and how assessment standards are interpreted by different trainers.

Management capability affects whether instructors can act on labour market information. Aloovi and Sisinyize [14] identify training needs in areas including financial management, risk management, performance evaluation and strategic leadership. Their findings extend the analysis beyond an individual lecturer's knowledge. If an instructor identifies an equipment gap but procurement decisions cannot respond, the programme's responsiveness is limited by organisational arrangements. Professional development alone may not resolve a problem that requires budget authority, maintenance or revised scheduling.

The proposed framework therefore separates occupational currency, pedagogical capability and institutional support. Occupational currency concerns familiarity with contemporary tasks and tools. Pedagogical capability concerns sequencing, explanation, feedback and assessment. Institutional support concerns time, resources and decision access. Industry exposure may improve the first without automatically improving the second. Teaching workshops may improve the second while leaving the first outdated. Monitoring only workshop attendance fails to show whether any dimension changed in practice.

A lecturer development plan could start from specific tasks identified through employer and graduate evidence. An instructor might visit a host enterprise to study a diagnostic procedure, develop a training task using locally available equipment and then moderate the assessment with colleagues. The output would be an improved learning opportunity with a traceable rationale. This is a proposed approach, not a report of completed staff development. Evaluation should ask whether learners gained access to better practice and whether the revised task yielded interpretable evidence of competence.

The comparison with the older benchmark research [4] suggests that instructional and organisational conditions have long been recognised as relevant. The present contribution is to place lecturer evidence within the same task framework as employer and graduate evidence. A lecturer's account can then explain why an identified workplace requirement was not sufficiently taught or why it was taught but not retained. It also allows employers to learn which induction responsibilities remain properly within the workplace. Shared interpretation makes institutional accountability more precise without assuming that every graduate outcome is attributable to the trainer.

3.4 Career preparation, communication and digital capability

Career readiness should be distinguished from competence in the trade. Tubaundule *et al*. [6] investigate preparation for job seeking in selected vocational trades, including skills such as presenting experience and preparing for recruitment. This focus is relevant because a technically competent graduate still needs to communicate their capability to a potential employer. However, career preparation should complement occupational learning rather than become a substitute for access to practical training or available jobs.

Employer evidence contributes another view. Nepando [8] reports concerns about hands-on and interpersonal skills among university graduates and recommends broader stakeholder involvement in curriculum design. These findings are adjacent evidence, since university graduates are not interchangeable with vocational graduates. The comparison supports examining what employers mean by work readiness, while avoiding a national claim that all TVET graduates have the same deficits. The study also illustrates the importance of checking recruitment practices against the competencies employers say they require.

The term soft skills can hide tasks that are technically consequential. Shilemba's National Youth Service study [16] identifies problems involving unclear instructions and delayed feedback within workplace communication. For a vocational programme, communication could therefore be assessed through concrete activities: reporting a fault, clarifying an instruction, explaining a maintenance decision or recording a handover. These proposed examples connect communication to work quality and safety. A generic attitude questionnaire would not establish that a graduate can perform them.

Digital learning and digital competence also require separation. Kapolo's blended learning case [15] identifies the importance of accessible platforms, infrastructure, learner support and capacity building. The ability to use an educational platform is not identical to the ability to use a digital tool in a trade. Institutions should specify whether a digital activity supports learning, constitutes an occupational requirement or does both. This prevents the adoption of a platform from being presented as proof that graduates are prepared for technology-intensive workplaces.

For a local curriculum review, entrepreneurship content should be linked to realistic activities rather than promises of self-employment. Learners might cost a service, prepare a quotation, keep records and investigate a customer need. A credible assessment would require them to explain assumptions, identify risks and revise a plan. The proposed approach recognises that business knowledge cannot compensate for absent customers, working capital or infrastructure. Self-employment outcomes should be examined with the same attention to income stability and working conditions as wage employment.

The common implication is that transversal competencies should be embedded in occupational tasks and assessed explicitly. A maintenance assignment could include diagnosis, measurement, documentation and communication with a client. Separate criteria would preserve visibility of each capability. The lecturer and workplace supervisor

could compare evidence against a shared rubric while noting differences in context. Such integration is an analytical recommendation of this review; a future study should test whether it improves performance and transition, rather than assume effectiveness because it appears practical.

3.5 Regional opportunities and limits to a skills-only explanation

Local alignment requires information about employment demand, not only the supply of graduates. Carranza and McKenzie [19] distinguish skills constraints from search and matching problems and argue that a shortage of firms with vacancies may be the binding constraint in some settings. This is an important counterweight to interpretations that treat unemployment as conclusive evidence of deficient education. Their international analysis supports a diagnostic approach; it does not establish which constraint dominates in a particular Namibian town or trade.

For this review, three possible explanations should be examined together. A competence constraint occurs when applicants cannot perform justified entry-level tasks. A matching constraint occurs when suitable workers and opportunities fail to connect because of information, selection or mobility barriers. A demand constraint occurs when sufficient paid work is unavailable. They can coexist, and their relative importance can change over time. Consequently, a curriculum intervention should not be evaluated as though it independently controls employer investment, regional demand or recruitment networks.

A proposed local opportunity map would record employers, actual occupations, entry requirements, recruitment channels and placement capacity. It should include small enterprises and relevant self-employment markets rather than relying solely on large formal employers. Information should distinguish an enterprise's expressed interest in a skill from evidence of recruitment or paid demand. A request for more trained workers is not equivalent to a commitment to hire them. Announced development projects should likewise be separated from confirmed work opportunities.

Regional context can change the balance between specialisation and portability. A locally useful trade may offer a narrow range of nearby positions, while graduates may seek opportunities elsewhere. Training for mobility requires information about qualifications, task standards and practical costs in destination markets. Retention in the home region should not automatically be treated as success or migration as failure. The appropriate outcome depends on the graduate's preferences, the quality of the work and whether the training opened realistic choices.

The Namibia Training Authority's announcement of a second national graduate survey targeted employed, unemployed and self-employed graduates from the 2018–2020 cohorts [20]. Its earlier announcement of provider capacity building for tracer studies [21] indicates recognition of the need for graduate information. These announcements are evidence of intended research and capacity-building activities; they are not used here as findings from completed surveys. The proposed local framework complements such initiatives by specifying how tracer information could be interpreted and acted upon.

In practical terms, low occupational matching should trigger several questions before a programme is reduced or expanded. Are relevant vacancies scarce? Do graduates have the competence employers require? Are applicants filtered out by experience requirements that exceed entry-level expectations? Do transport and accommodation costs prevent participation? Have graduates moved into related tasks that an overly narrow occupation code fails to recognise? Each explanation implies a different response. A provider can improve training and transition support while also documenting external constraints that require action by economic and employment institutions.

3.6 Governance and the use of evidence

Evidence collection becomes valuable when it informs an accountable decision. The earlier Millennium Challenge Corporation summary of Namibia's vocational education and skills training activity reports implementation challenges affecting the National Training Fund and notes weaknesses in the process for establishing priority skill areas [22]. As an interim, historical programme evaluation, it cannot describe present financing performance. Its relevance here is the distinction between establishing a mechanism and ensuring that decisions within it are supported by credible demand information.

The Namibia Training Authority's 2024–2028 strategic direction links sector development to economic and social relevance and the use of information and communication technology [23]. The practical question is how local providers can convert such direction into recurring decisions. A partnership meeting that produces general agreement to collaborate is less informative than a meeting that records a task gap, an agreed response, an owner and a review date. The proposed framework focuses on these observable decision outputs.

A regional advisory structure could include providers, employers, graduate representatives, worker representatives and relevant public bodies. Membership should reflect the local mix of enterprises and occupations. Where large organisations dominate, the priorities of small firms or unemployed graduates may receive insufficient attention. Representation alone does not guarantee influence. Meeting records should show which evidence was presented, which priorities were disputed, how a decision was reached and why some recommendations were deferred.

Decision quality also depends on distinguishing roles. Employers can describe their work, but educational authorities remain responsible for the coherence and level of qualifications. Graduates can describe barriers, but their retrospective accounts may not establish the cause of a particular learning difficulty. Lecturers can judge instructional feasibility, but that judgement should not shield outdated practice from review. The framework assigns every group a contribution while requiring cross-checking through documents, tasks and outcomes.

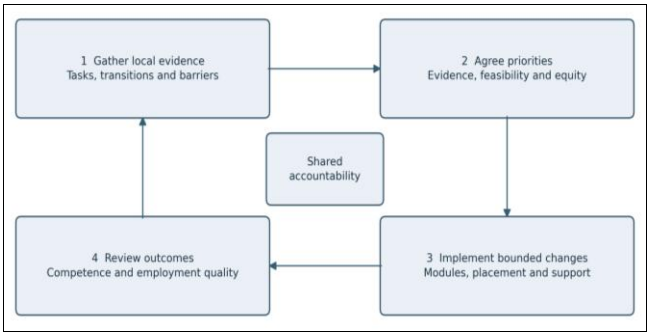
A practical evidence register could give each proposed change a short record: identified problem, source population, supporting evidence, alternative explanation, expected benefit, cost, responsible person and review indicator. Such a register would make the feedback process auditable without requiring a complex information system. It would also help a new manager understand why a module or partnership arrangement changed. Confidential participant information should remain separate from public decision records.

The synthesis therefore suggests that alignment is partly a governance capacity. Institutions need the ability to collect relevant evidence, interpret disagreement, make

proportionate changes and evaluate consequences. The proposed framework is intended to make these functions explicit. It does not assume that more meetings, more data or a digital dashboard will improve employment automatically. Its test is whether identifiable decisions improve opportunities to learn and whether credible follow-up evidence supports the intended outcomes.

3.7 Proposed local alignment decision cycle

Fig 3 translates the conceptual framework into a recurring institutional process. It starts with locally grounded evidence, moves to explicit priorities, implements bounded changes and returns to outcome review. The cycle is proposed for piloting; it has not been evaluated in a Namibian institution. Its central design principle is traceability: every intervention should have a stated evidential basis and every outcome should be interpreted against the problem the intervention was intended to address.



Source: Original author framework.

Fig 3: Proposed institutional feedback cycle. Shared accountability links the stages; the diagram does not imply that employment effects have been demonstrated

The first stage defines the decision unit. A provider could begin with one trade, one qualification level and a clearly specified graduate cohort rather than attempt to redesign its entire programme portfolio. Graduates describe transitions and tasks; lecturers provide instructional and assessment records; employers describe recruitment and work requirements. A vacancy scan and an equipment audit provide additional checks. The intention is to create a common evidence base without pretending that every participant observes the same aspect of alignment.

The second stage identifies priorities using evidence strength, occupational importance, feasibility and equity. A frequently mentioned concern is not necessarily the most consequential concern. A rare safety-critical deficit may require immediate attention, whereas an employer preference for a particular software interface may be addressed through induction. The group should distinguish mandatory standards from optional extensions and short-term demand signals from stable occupational requirements.

The third stage implements an agreed change with a defined scope. Examples include a revised practical assessment, a placement task plan or an accessible graduate follow-up procedure. A baseline should be recorded before implementation. The fourth stage examines whether the intended learning opportunity or transition condition improved and whether unintended disadvantages emerged. If competence improves but matching does not, the group should investigate demand and access before declaring the intervention ineffective. The cycle preserves a distinction between improving training and proving an employment effect.

This proposal adds a decision discipline to the reviewed recommendations. It makes the connection between stakeholder voice and action visible, while allowing disagreements to remain recorded. It also permits an institution to begin with a low-cost change that can be evaluated, instead of assuming that a complete curriculum replacement is necessary. Evaluation should determine whether this discipline is feasible under actual workloads and decision structures.

3.8 Proposed measures and analytical definitions

The following definitions are proposed for future empirical use. They are not estimates from this review, validated scales or thresholds established by previous studies. Their purpose is to make indicators comparable and prevent different denominators from being mistaken for equivalent outcomes. Indicator values should be reported with sample coverage, non-response and uncertainty.

A common task inventory can record employers' entry-level proficiency requirements and graduates' assessed proficiency on the same anchored scale. For task k, define the gap as follows:

$$G_k = R_k - P_k \tag{1}$$

Here G_k is the task-specific gap, R_k is the required proficiency and P_k is assessed graduate proficiency. A positive gap indicates that the assessed level is below the stated requirement. Employer importance ratings must not be subtracted from graduate confidence ratings: they measure different constructs. Requirements should be checked against qualification level, and proficiency should be supported by performance evidence rather than confidence alone.

An occupational matching indicator can be defined for an observed graduate cohort at a specified follow-up date:

$$M = 100 \times (N_{match} / N_{observed}) \tag{2}$$

Here N_{match} is the number of observed graduates whose paid work meets a pre-specified matching rule, and $N_{observed}$ is the total number of observed graduates with classified labour market status. The rule should recognise relevant task overlap, including related occupations and self-employment. An alternative conditional rate among employed respondents may also be reported, but it must have a different label and denominator. Non-respondents should not silently be coded as unemployed.

Workplace learning coverage can be recorded without claiming learning effectiveness:

$$C = 100 \times (N_{placement} / N_{eligible}) \tag{3}$$

Here $N_{placement}$ counts eligible learners completing a qualifying placement and $N_{eligible}$ counts all learners eligible during the period. The qualifying criteria should specify the task plan, supervision and assessment requirements. Coverage should be accompanied by measures of task exposure and performance; a high value

does not establish competence. Learners unable to take up an offered place should be identified separately so that affordability and access barriers remain visible.

Institutional responsiveness can be examined through the proportion of agreed actions completed:

$$D = 100 \times (N_{completed} \,/\, N_{due}) \quad (4)$$

Here $N_{completed}$ is the number of evidenced actions completed by their agreed review date and N_{due} is the number due in the period. Deferred actions should remain visible, and actions should be classified by consequence rather than treated as equally valuable. This is a process indicator, not an employment impact measure. A provider could complete every minor action while leaving its most important equipment or placement problem unresolved.

The recommended dashboard consequently reports indicators separately. Competence, matching, access, job quality and responsiveness should not be collapsed into an unvalidated composite score. Subgroup reporting should examine relevant differences while protecting identity in small cohorts. Indicator targets should be set after a baseline and stakeholder review rather than invented in advance to give an appearance of statistical precision.

3.9 Empirical research agenda and future testing

A future study should use a linked, multi-site design to test whether the proposed framework produces better explanations and decisions than separate satisfaction surveys. Sites should be selected for meaningful variation in trade, provider type and labour market setting. Inclusion of a Nkurenkuru-area setting would be appropriate if permissions, resources and relevant providers are available; no site participation is assumed here. The research unit should remain explicit: a programme cohort within a defined qualification and local opportunity context.

Graduate recruitment should start from verified completion lists covering a bounded period. Employment, unemployment, further learning and self-employment should be classified separately. Repeated contact through appropriate channels can reduce exclusion of graduates with limited internet access. Response rates should use a stated denominator, with unreachable and ineligible cases recorded. Lecturers should have taught or assessed the selected programme during the relevant period. Employers should recruit for related occupations, host placements or employ graduates; the sample should include enterprises that do not already maintain close provider relationships.

The quantitative component should combine an anchored task inventory, transition measures and available performance evidence. The qualitative component should investigate how participants interpret the same tasks and why transitions succeed or stall. Curriculum documents, assessment tasks, equipment records and placement agreements provide documentary checks. Interviews should seek concrete examples and allow participants to challenge the proposed task categories. Translation or facilitation should be documented, including how technical meaning was preserved.

Sample size should follow the intended estimates and comparisons rather than a convenient total. A national prevalence claim requires a defensible probability design. A purposive regional study can investigate mechanisms but should not present its percentages as representative of Namibia. Where employers assess several graduates or programmes share institutions, analysis should recognise dependence among observations. Group comparisons need equivalent constructs and qualification levels; differences in graduate confidence and employer importance cannot be interpreted as direct proficiency gaps.

Integration should occur at the task and programme levels. A joint evidence display could show the requirement, curriculum location, opportunities for practice, demonstrated competence and graduate account of using the task. Disagreement would prompt a follow-up explanation rather than automatic averaging. For example, a task may be covered in a syllabus but rarely practised; a workplace assessment may use equipment that was unavailable in training. The analysis should report these contextual explanations as well as numerical distributions.

Longitudinal follow-up would help distinguish initial transition from sustained occupational development. The study could track graduates at pre-specified intervals while documenting changes in local vacancies and individual mobility. Employment quality indicators should include relevant working conditions and income stability where consent and data quality allow. Causal claims about a curriculum intervention would require a stronger comparison strategy than observing one cohort before and after a change. A phased implementation could be considered only with a justified design and safeguards against unequal treatment.

Before fieldwork, researchers should obtain the appropriate ethics determination and permissions, clarify voluntary participation and protect participants from consequences related to employment or assessment. Institutional staff should not pressure their learners or colleagues to participate. Employer reports should not be disclosed to providers in a way that identifies individual graduates without consent. The authors' institutional affiliations make reflexive reporting important, but they do not establish a recruitment role, relationship with a TVET centre or access to its records.

4. Recommendations

Recommendations are proposed priorities derived from the review and framework, not interventions whose effectiveness has been demonstrated by this article. Initial implementation should concentrate on a small set of trades and evaluate feasibility before expansion. Providers should retain the coherence of national qualifications while adapting learning opportunities to justified local task requirements. An annual review can be supplemented by a response to a significant occupational change, but unverified announcements should not trigger expensive programme expansion.

The first priority is a shared task map. Lecturers and employers should identify entry-level requirements and compare them with actual learning and assessment opportunities, with graduates contributing accounts of tasks and transition barriers. The second priority is structured workplace learning supported by a task plan, a named mentor and a documented assessment process. The third priority is evidence-informed instructor development that connects industrial exposure to practical learning activities. Each priority should produce a visible change that can be reviewed.

Providers should also establish a feasible follow-up process for graduates and a decision record for using the findings. Communication channels should accommodate graduates who cannot regularly access online surveys. Partnership arrangements should include small enterprises and graduate representation. Funding decisions should account for maintenance, consumables, staff time and learner access rather than only the acquisition of new equipment. Local economic and employment institutions should be involved when the evidence points to insufficient opportunities rather than a training deficit.

Table 2: Proposed implementation responsibilities and review evidence

Priority	Proposed lead	Evidence for review
Map tasks and learning opportunities	Programme leader with lecturers and employers	Task map, assessment evidence and unresolved gaps.
Improve placement quality	Placement coordinator and host mentor	Task plans, access records, supervision and portfolios.
Develop instructional capability	Provider management and teaching teams	Revised tasks, moderated assessment and learner access.
Track graduate transitions	Designated research or quality officer	Coverage, labour status, matching and non-response.
Act on stakeholder evidence	Provider advisory structure	Decisions, owners, costs, deadlines and completed actions.
Address opportunity constraints	Relevant local economic and employment partners	Vacancy evidence, access barriers and coordinated responses.

Performance review should distinguish delivery milestones from outcomes. A completed task map is a milestone; improved demonstrated competence is a learning outcome; sustained access to suitable paid work is a labour market outcome. Their relationship should be investigated rather than assumed. The institutional review should document changes that did not work, unintended exclusion and conditions under which successful practices may transfer. This approach gives recommendations a practical basis while retaining the uncertainty inherent in the evidence.

The framework should be introduced as a pilot with a costed scope and a clear review date. A provider should not commit to an elaborate dashboard before confirming that the underlying records are accurate and maintainable. Equally, a low-cost process should not be judged solely by the number of meetings held. The useful test is whether it improves the institution's capacity to identify a problem, implement an appropriate response and learn from the result.

5. Limitations and interpretation

This review has four main limitations. First, it is targeted and narrative. Search coverage was restricted to accessible English-language sources and did not use a comprehensive bibliographic database protocol. The selected materials therefore establish a reasoned synthesis, not an exhaustive inventory. Second, some sources were available only through official abstracts or summaries, limiting appraisal of instruments, analysis and research quality. Claims from such sources were restricted accordingly, and their inclusion does not imply independent verification of underlying participant data.

Third, the evidence is heterogeneous. Graduates, current trainees, trainers, managers and employers of university graduates are not equivalent populations. Studies also differ in setting, cohort and measures. Apparent agreement cannot justify a pooled percentage or a national estimate. Older studies provide historical comparison rather than evidence of present prevalence. The recent graduate study is particularly useful for the topic, but its small non-probability sample does not settle the condition of the national TVET system.

Fourth, the proposed framework and indicators are unvalidated. The review cannot demonstrate that implementation will improve competence, matching or employment quality. It also cannot determine the dominant explanation for graduate unemployment in a particular region. A credible test requires linked stakeholder evidence, attention to non-response and independent measurement of tasks and outcomes. The practical proposals should therefore be treated as candidates for piloting rather than standards already established by research.

These limitations affect the strength of the conclusions, but they also define the next research step. A local study should be designed around unresolved relationships rather than repeat a broad question about whether TVET is relevant. The most useful evidence would show where instruction, workplace opportunity and graduate transition connect, where they diverge and which institutional decisions follow from the comparison.

6. Conclusion

The reviewed literature supports treating alignment between TVET and Namibia's labour market as a continuing institutional task. Published studies identify concerns involving practical learning, transition support, communication and organisational capability. They also show why satisfaction, competence and employment status should not be used interchangeably. The evidence does not establish one national mismatch rate or prove that curriculum shortcomings are the principal cause of unemployment.

The article contributes a framework that compares graduate transition experiences, lecturer accounts of learning conditions and employer task requirements within a common local context. Its accompanying decision cycle connects evidence to priorities, implementation and review. Proposed indicators preserve separate measures of competence, occupational matching, workplace access and responsiveness. This analytical contribution is useful because it identifies what should be measured and which decisions stronger evidence could justify.

Future work should test the framework across selected trades and regions, compare stakeholder accounts using equivalent task definitions and follow graduates over time. Institutions can begin with bounded improvements in assessment and workplace learning while recording the limits of their influence over job availability. The central conclusion is that credible alignment requires evidence about both training and accessible opportunities, together with an accountable process for using that evidence.

7. Author Declarations

This review uses published and publicly accessible documentary sources and reports no new participant data. Funding, competing interests, author contribution statements and any acknowledgements must be confirmed by the

authors before submission; no unverified declarations of financial support, institutional approval or individual research roles are made here.

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