

Beyond the External Integrated Summative Assessment a Conceptual Review of Competence Assessment and an Integrated Evidence Based Assessment Model

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DOI: <https://doi.org/10.51583/IJLTEMAS.2026.150900087>

Received: 26 September 2026; Accepted: 01 October 2026; Published: 15 October 2026

ABSTRACT

Occupational certification requires defensible evidence of knowledge, practical capability and performance in context. South Africa's External Integrated Summative Assessment (EISA) provides independent national assessment, alongside internal assessment and workplace evidence required for eligibility. This conceptual review examines how these evidence streams could inform a more transparent final competence decision. Fifteen purposively selected academic and policy sources provide assessment theory, vocational evidence and policy context; they do not constitute a systematically screened corpus.

The synthesis distinguishes evidence from technical and vocational education and training from principles transferred from medical education. It identifies construct coverage, evidence authentication, reproducibility of judgement and unequal workplace opportunities as central design problems. An Integrated Competence Evidence Model is proposed, combining mapped portfolio records, workplace performance, provider assessment and independent external assessment. The portfolio functions as an evidence repository rather than a separately scored domain, preventing the same performance from being counted twice.

Universal percentage weightings are replaced by mandatory competence requirements and qualification-specific calibration. Operational definitions specify evidence sufficiency, authenticity and moderation, while a prospective pilot sets out independent assessment, follow-up workplace observation, reliability analysis and feasibility evaluation. The model is a testable policy proposal, not a validated replacement for EISA. Its value depends on demonstrating stronger decisions without weakening national standards or imposing disproportionate costs.

Keywords: EISA; occupational competence; portfolio assessment; workplace-based assessment; programmatic assessment; QCTO

INTRODUCTION

Background

Occupational education systems are expected to certify that learners meet defined occupational standards. In South Africa, this function falls within the occupational qualification system overseen by the Quality Council for Trades and Occupations (QCTO). The QCTO assessment policy positions the External Integrated Summative Assessment (EISA) as integral to the quality assurance of occupational qualifications and part qualifications, with the aim of ensuring that assessment is nationally standardised and externally quality assured (Quality Council for Trades and Occupations, 2016). The QCTO also describes EISA as a mechanism for ensuring that occupational qualification assessment is standardised, consistent and credible.

The rationale for EISA is therefore understandable. A national occupational qualification system requires public confidence, comparable outcomes and protection against uneven provider-based assessment. External assessment can contribute to these goals by introducing independence into the final certification process.

However, externality is not the same as validity. An assessment may be external and standardised yet still provide only partial evidence of the competence being certified.

The question addressed here is how accumulated evidence is used in the final competence decision. The article does not establish that all EISAs are single-day tests or that internal evidence is ignored nationally. It examines the risk of treating a terminal result as sufficient proof of a broad occupational claim when the relationship between that result and prior evidence is unclear.

The Problem of Competence as a Single Assessment Event

For this article, occupational competence means the integrated ability to apply the knowledge, practical skills and judgement specified by a qualification to representative occupational tasks, under the required conditions and standards. It includes safe performance and adaptation where the occupational specification requires them. Certification concerns this bounded claim; it does not guarantee competence in every future workplace circumstance.

Miller's (1990) framework remains useful because it distinguishes between levels of competence evidence: knowing, knowing how, showing how, and doing. The highest level concerns performance in practice rather than performance under assessment conditions alone. Norcini (2003) similarly argues that workplace-based assessment is important because it examines what practitioners do in the actual context of work. These arguments are relevant to occupational education because the purpose of certification is not only to confirm that a learner can pass an assessment but also that the learner can perform occupationally meaningful tasks.

Where a terminal assessment samples only a narrow range of tasks or conditions, it may under-represent the competence claim. This is a conditional validity risk rather than an observed failure rate for EISA. Both the external event and the preceding evidence should therefore be examined against the qualification's actual outcomes and assessment specifications.

Validity, Authenticity and Fairness Concerns

The strongest critique of an EISA-dominant model is not administrative but methodological. The issue is whether the assessment evidence justifies the inference drawn. Kane (2013) argues that validation concerns the interpretations and uses of assessment results. Applied to EISA, the relevant question is whether the result justifies the conclusion that the learner is occupationally competent across the full range of required knowledge, skills and workplace performance.

This raises three related concerns. The first is validity. If the final external assessment does not adequately represent the occupational competence construct, the certification decision may rest on incomplete evidence. The second is authenticity. Because occupational competence is enacted in work-related contexts, assessment should include evidence of performance in real or realistic conditions. The third is fairness. High-stakes final assessments may be affected by anxiety, language, unfamiliar assessment conditions, access barriers, or day-specific factors that do not necessarily reflect occupational capability.

These concerns do not invalidate external assessment as a whole. They indicate that external assessment should be integrated with other forms of evidence. Baartman, Bastiaens, Kirschner and van der Vleuten (2007) argue that competence-based education requires assessment programmes rather than reliance on a single assessment method. This principle is central to this article's argument.

Rationale for the Review

Debates about EISA often occur in policy and provider settings, where concerns are raised about implementation, cost, learner readiness and assessment logistics. While these concerns matter, they do not provide a sufficiently rigorous basis for reform. A stronger argument must be grounded in assessment theory and evidence.

This is a conceptual review with a structured thematic synthesis. Its purpose is to develop and critically examine a model, using a bounded set of academic and policy sources. PRISMA 2020 concerns the reporting of systematic reviews (Page et al., 2021); the present article makes no claim of PRISMA compliance, exhaustive retrieval or a completed systematic screening process.

Annexure A provides the final source register, including each source's evidentiary role and transfer limitations. Search plans and preliminary candidate lists are research working records rather than part of the published evidence base. This distinction permits transparent conceptual development without presenting incomplete research activity as a completed systematic review.

Research Aim and Questions

The article aims to examine whether high-stakes external summative assessment provides sufficient evidence for certifying occupational competence and to develop a more defensible assessment model for the QCTO context.

The primary research question is:

What does the literature indicate about the strengths and limitations of high-stakes external summative assessment in determining occupational competence, and what alternative model would provide stronger evidence of competence in the QCTO context?

The supporting questions are:

1. What validity concerns arise when occupational competence is assessed mainly through a single terminal assessment event?
2. What does the literature suggest about the evidentiary value of portfolio-based, workplace-based and programmatic assessment?
3. How can external assessment be retained while reducing over-reliance on one final assessment event?
4. What model would better balance validity, reliability, authenticity, fairness, provider capacity and national quality assurance?

Contribution of the Article

The article connects assessment validity theory to vocational assessment evidence and the QCTO policy context. It proposes explicit links between occupational outcomes, evidence provenance and final certification judgements. Its additional contribution is a decision protocol and prospective evaluation design that make the model open to empirical challenge.

CONCEPTUAL AND POLICY BACKGROUND

The EISA in the QCTO Assessment System

The QCTO's 2016 assessment policy provides the policy baseline examined here. Section 2.1 requires provider assessment, signed workplace records and supporting evidence before external assessment eligibility (Quality Council for Trades and Occupations, 2016). The reform question is the explicit use and verification of these existing streams in final judgement, not their introduction into an assessment-free pathway.

The applicable Qualification Assessment Specifications must remain the starting point for implementation. The model is a research proposal and does not authorise providers to alter certification requirements. Any pilot affecting official assessment would require the relevant QCTO and assessment-body approval.

Assessment design should connect the breadth of the certification claim to the breadth of evidence available. Kane (2013) supplies the general validity framework for examining that inference. Whether a particular EISA adequately supports it must be assessed qualification by qualification.

Occupational Competence as Integrated Performance

Occupational competence is broader than knowledge recall or task completion under controlled assessment conditions. It includes knowledge, practical skill, judgement, ethical conduct, communication, problem-solving and performance in context. This means that competence is both integrated and situated.

The Assessment Snapshot Problem

The snapshot concern arises when task sampling is too narrow for the interpretation attached to the result. Repeated evidence can increase coverage, but repetition alone does not make a decision valid. A series of weak or duplicated observations may add volume without adding information.

This does not mean that final assessment is invalid. It means that final assessment should be treated as one source of evidence. When the decision is high-stakes and the construct is complex, a broader evidence base is required. Programmatic assessment literature supports this logic, arguing that high-stakes decisions should be based on aggregated evidence across multiple assessment moments rather than on a single isolated assessment (van der Vleuten et al., 2012).

Portfolio and Workplace Evidence

Driessen et al. (2006) investigated possible portfolio-rating bias and found negligible effects from layout and writing style in the procedure studied. Their result supports that particular assessment procedure; it does not demonstrate that presentation bias affected ratings. The transferable lesson is to examine the criteria driving judgements, while recognising that a first-year medical reflection portfolio differs from occupational certification.

Workplace-based evidence is equally important because occupational competence is demonstrated in context. Workplace assessment can include direct observation, work products, logbooks, supervisor reports, safety records and client or stakeholder feedback. Authentic assessment theory supports the use of direct evidence of performance rather than relying solely on indirect proxies (Wiggins, 1990). In vocational education, Gulikers et al. (2008) also show that authenticity is linked to the perceived relationship between assessment and work-related practice.

Programmatic Assessment as an Alternative Architecture

Programmatic assessment treats assessment as organised evidence collection, feedback and judgement. van der Vleuten et al. (2012) propose aggregation across multiple observations and methods. The architecture supplies a possible response to limited task sampling, although its implementation depends on resources and professional judgement.

These principles are treated as transferable design ideas, rather than evidence of effectiveness in South African occupational qualifications. Clinical supervision, assessment resources and professional regulation can differ substantially from TVET settings. Local vocational evidence and policy constraints must determine how the principles are adapted.

In this article, programmatic assessment is not imported uncritically from another field. Rather, its principles are adapted to the QCTO context. The proposed model retains external verification but requires that external judgement interrogate a structured body of portfolio, workplace and provider-based evidence.

Direct Vocational Evidence

Yusop et al. (2022) reviewed TVET assessment approaches and learning outcomes, reporting 29 selected publications from 2015–2021. Their synthesis includes competence, performance, portfolio and workplace

approaches, providing a vocational basis for examining evidence diversity. It does not compare the proposed model with EISA, and diversity of methods is not itself proof of superior certification decisions.

Baartman, Gulikers and Dijkstra (2013) examined assessment self-evaluations across nine higher vocational courses. Reproducibility of decisions and the translation of competences into usable criteria emerged as weaknesses, while work-field involvement was important. This is direct vocational evidence for clearer criteria and calibration, although the study's institutional setting limits transfer to South Africa.

Winberg and Garraway (2023) propose authenticity, holism and reflexivity as principles for South African TVET assessment and examine selected NC(V) guidelines. The report offers a locally relevant framework for work-oriented assessment design. Its focus is largely college assessment and selected subjects; it is not an evaluation of EISA or extended workplace assessment.

METHODOLOGY

Review Design

This article is a conceptual review using purposive source selection and a structured thematic synthesis. It draws on fifteen distinct sources: assessment theory and methodological guidance, empirical vocational and medical education studies, a TVET review, a South African vocational assessment report and QCTO policy. The reference count is an inventory of sources used, not a PRISMA inclusion count.

The analysis develops an assessment model and examines its assumptions, competing explanations and implementation requirements. It does not estimate pooled effects, claim literature saturation or quantify the prevalence of EISA problems. The distinction between direct occupational evidence, general theory and cross-sector analogy is maintained in the synthesis and Annexure A.

Review Question

The review was guided by the following question:

What does the literature indicate about the strengths and limitations of high-stakes external summative assessment in determining occupational competence, and what alternative model would provide stronger evidence of competence in the QCTO context?

This question deliberately combines critique with reconstruction. It examines the limitations of a terminal assessment model while identifying principles for an improved model.

Source Identification and Scope

The revision retained the manuscript's foundational assessment sources and added targeted vocational material through public scholarly and official-source searches completed on 2 October 2026. The supplementary searches addressed TVET assessment approaches, assessment quality in higher vocational education and South African vocational assessment practices. Publisher or university records and official policy or report pages were used to verify source identity and the claims drawn from them.

The final source set is purposive and English-language. Sources were chosen for an identifiable contribution to the model: defining the competence claim, exposing an assessment limitation, specifying quality controls or establishing the policy context. The selection is not an exhaustive search of Scopus, Web of Science or ERIC, and database coverage is not claimed.

Foundational works were retained where they supply the theoretical basis of the argument, while the vocational additions address the need for direct occupational context. Recency alone was not treated as evidence of relevance or methodological quality. This approach leaves a risk of selection bias, which limits the strength of general conclusions.

Source Relevance and Boundaries

Relevant sources address competence assessment, interpretation of assessment results, authentic or workplace assessment, portfolio evidence, assessment programmes or occupational assessment policy. The final bibliography contains only sources used in the article, and Annexure A records all fifteen. Unresolved candidate records and preliminary screening labels are excluded from the publication.

Published findings are distinguished from policy requirements and from the author's proposals. A conceptual account informs design logic; a qualitative study describes its particular setting; and an official policy establishes requirements rather than proof of assessment effectiveness. These source types are not interchangeable.

Final Source Register

Annexure A records source identity, context, evidentiary role and principal limitation. It closes the source inventory for this version of the article. No historical title-and-abstract exclusions, retrieval denominators or full-text eligibility counts are asserted.

A PRISMA flow diagram is not applicable to this conceptual review because it would imply a systematic selection process that was not completed. Any subsequent systematic review would constitute a separate, prospectively logged research exercise. Its results must not be retrospectively attributed to the present article.

Critical Interpretation of Sources

Sources were interpreted using relevance, design transparency, construct coverage and contextual transferability. Numerical quality scores are not assigned because the heterogeneous sources do not share a common research design. Table 1 specifies the questions used to bound interpretation; Annexure A applies those distinctions at source level.

Criterion	Appraisal question
Relevance	Does the source address competence assessment or a related assessment model?
Credibility	Is the source peer-reviewed, official or produced by a recognised authority?
Methodological transparency	Are the methods, argument or policy basis clear?
Conceptual contribution	Does the source clarify validity, authenticity, reliability or competence?
Transferability	Can the source reasonably inform occupational assessment?
Evidence strength	Does the source provide empirical, theoretical or policy support?

Table 1 Source Interpretation Criteria

Direct vocational evidence informs local design requirements. Medical education findings inform possible mechanisms and cautions, with explicit limits on transfer. Neither source type validates the proposed occupational model.

Data Extraction and Synthesis

The source register records context, source type, contribution to the argument and limitations. The synthesis is organised around competence representation, sampling, authenticity, portfolio evidence, decision consistency and feasibility. These themes provide a structure for the argument rather than frequencies derived from independently coded study data.

The model is developed by linking these themes to proposed operational requirements. Existing policy is used to distinguish current obligations from suggested changes. Every proposed requirement is assessed against the possibility of duplicated evidence, unverified testimony, uneven workplace access or inconsistent professional judgement.

The analytical sequence is to define the certification claim, identify the evidence needed to support it and specify controls for making and reviewing the decision. The pilot then identifies observations capable of supporting or challenging the model. This is conceptual model development, not an independently replicated qualitative coding study.

Ethical Considerations and Limitations of Method

The article analyses published material and reports no new participant data. No participant consent or fieldwork approval is claimed. The proposed pilot would require institutional ethics review, informed consent and any necessary regulatory approval before recruitment or access to learner records.

The selected sources cannot establish how often particular EISA problems occur, or whether the proposed model outperforms current practice. Publication and selection bias remain possible. Source verification improves traceability but does not make a purposive review exhaustive.

Synthesis of the Evidence

Overview

The synthesis examines competence representation, task sampling, authenticity, portfolio evidence, decision consistency and feasibility. These are analytical concerns selected for model development rather than frequencies observed across a systematically screened literature. Their implications are set out below.

Competence Requires More Than Single-Event Performance

The literature supports the view that competence should be assessed across different levels and contexts. Miller's (1990) framework distinguishes between knowledge, application, demonstration and performance in practice. This is relevant because an external final assessment may assess "knows", "knows how" or "shows how", but may provide limited evidence of sustained occupational performance.

External Assessment Supports Credibility but Has Limits

However, externality does not automatically resolve the validity problem. Kane (2013) argues that assessment validation concerns the interpretation and use of assessment results. Therefore, the critical question is not whether the assessment is external, but whether the evidence supports the conclusion drawn from it. If the conclusion is broad occupational competence, the evidence must be sufficiently broad to justify that conclusion.

Portfolio Evidence and Representation

Driessen et al. (2006) found negligible effects of layout and writing style in their portfolio assessment procedure. Oudkerk Pool et al. (2020), in contrast, identified student perceptions of fragmented representation and strategic documentation in a clinical portfolio setting. Together these sources support examination of judgement criteria and evidence coverage; they do not establish occupational portfolio validity.

The implication is that portfolios should not merely be added to the system as administrative files. They should be structured, mapped to occupational outcomes, authenticated, assessed against clear criteria, and moderated. A portfolio of evidence should carry weight only when it provides valid evidence of competence, not merely proof that documents were collected.

Workplace Evidence and Authenticity

Workplace-based assessment contributes to authenticity by examining performance in the context in which competence is expected to be demonstrated. This aligns with Wiggins' (1990) argument that authentic assessment should examine performance directly rather than relying solely on indirect measures. Gulikers et al. (2008) similarly show that authenticity in vocational assessment is linked to the perceived relationship between assessment and working life.

The limitation is that workplaces vary. Some learners may receive more extensive workplace exposure than others. Supervisor judgement may also be inconsistent. Workplace evidence therefore requires structured templates, assessor verification, supervisor orientation and external moderation.

Programmatic Assessment as a Design Analogy

van der Vleuten et al. (2012) propose integrated evidence collection and judgement, while Schuwirth and van der Vleuten (2011) connect assessment to feedback and learning. These medical education accounts offer a design analogy for occupational assessment. Whether aggregation improves the final decision depends on the quality and independence of the observations.

Provider Capacity and Vocational Relevance

Provider capability is an implementation assumption of the model rather than an outcome established by every source. Mapping evidence, authenticating records and moderating decisions require staff time and expertise. If these resources are absent, a richer assessment architecture may become less consistent than a well-run external assessment.

Yusop et al. (2022) support treating assessment method and intended learning outcome as connected choices. Baartman et al. (2013) add a warning that competence-oriented assessment can still suffer from inconsistent judgements. Winberg and Garraway (2023) provide local grounds for examining whether tasks demand integrated reasoning under realistic conditions. These contributions inform the proposed blueprint, while their settings limit claims about national occupational certification.

DISCUSSION

Interpreting the Evidence across Settings

The vocational evidence provides context-specific support for integrated assessment and cautions about reproducibility. General validity theory specifies how a claim should be justified. Medical education provides design analogies, whose effectiveness must be re-established within occupational settings.

Taken together, these sources support a research proposition: final decisions may become more defensible when the evidence supporting each mandatory outcome is visible and independently checked. A competing proposition is that added evidence increases assessor discretion and administrative burden. The pilot must investigate both possibilities rather than assume the first.

Alternative Explanations and Tradeoffs

A well-designed external task may test integrated competence more effectively than a poorly authenticated collection of workplace records. Differences between internal and external results may reflect inconsistent provider standards, limited workplace opportunities or narrow external sampling. The direction of disagreement alone cannot determine which judgement is more valid.

Workplace supervisors may observe repeated routine tasks but miss rare failures or transfer demands. An external assessor may observe fewer tasks under better controlled conditions. These strengths are complementary only when the evidence blueprint identifies what each method adds.

Fairness therefore requires both accessible assessment conditions and comparable opportunities to produce evidence. Learners with limited workplace exposure should not be penalised for missing opportunities they could not control, but competence standards should remain explicit. Remediation and permitted alternative evidence need to be specified before assessment.

The Need for Assessment as a Programme

The literature supports a shift from isolated assessment instruments to assessment programmes. Baartman et al. (2007) argue that competence-based education requires assessment quality to be considered at programme level. van der Vleuten et al. (2012) similarly propose programmatic assessment as a model in which multiple data points are collected over time and used for final judgement.

This approach is directly relevant to EISA reform. A final external assessment can remain part of the system, but it should be one component of a broader decision architecture. Provider-based assessment, portfolio evidence and workplace-based assessment can provide important evidence of development and performance. The external component should then verify, interrogate and moderate that evidence.

Such a shift would also better align with the QCTO's recognition that occupational qualifications vary across contexts, complexity, knowledge, practical skills and work experience (Quality Council for Trades and Occupations, 2016). If occupational qualifications differ, the assessment architecture should be flexible enough to reflect those differences.

Risks of an evidence-based model

Portfolio and workplace assessment introduce their own opportunities for error. Selective documentation may conceal weak performance, while third-party reports can be affected by familiarity, organisational pressure or limited observation. External assessment may therefore reveal weaknesses that an apparently complete portfolio misses.

Workplace evidence also carries risk. Workplaces vary in quality, opportunities and supervision. Some learners may have greater workplace exposure than others. Supervisor reports may be inconsistent. Evidence may be difficult to authenticate. These risks mean that a portfolio and workplace-based model must include clear evidence standards, assessor training, moderation and external verification.

The model must make it possible to reject an unsupported competence claim even when the submitted evidence is extensive. Contradictory evidence should trigger further assessment and documented adjudication. Integration has value only when it improves the basis of the judgement.

Provider capacity as the implementation hinge

Provider capacity is the main practical condition for reform. A stronger assessment model requires providers to design valid assessments, guide learners, collect evidence, engage workplaces, authenticate evidence, conduct internal moderation and maintain auditable records. Without these capacities, a broader evidence model could become administratively heavy and inconsistent.

For this reason, assessment reform should be phased. Providers should not be expected to implement complex portfolio and workplace-based systems without training, templates, digital infrastructure and moderation support. Reform should include assessor development, moderator development, workplace supervisor orientation and evidence-management systems.

Proposed Integrated Competence Evidence Model

Rationale

The Integrated Competence Evidence Model is proposed as an evidence and decision protocol for

qualification-specific testing. It links each mandatory outcome to primary evidence, supporting evidence and an independent check. It preserves external assessment while clarifying how prior performance contributes to the final judgement.

Assessment-programme quality offers the broader educational foundation (Baartman et al., 2007), while the medical programmatic model supplies a cross-sector design analogy (van der Vleuten et al., 2012). Authentic performance remains a general assessment objective (Wiggins, 1990). These foundations justify testing the architecture; they do not determine universal numerical weights.

Core structure of the model

The model distinguishes three evidence streams and one repository. The portfolio stores mapped knowledge, practical and workplace evidence; it is not an additional achievement to be scored separately. Each original observation or work product has one identifier and can support several outcomes without being counted repeatedly as independent evidence.

Evidence stream	Purpose	Decision requirement
Provider assessment	Knowledge and integrated practical application	Mapped criteria and internal moderation
Workplace assessment	Performance under occupational conditions	Direct evidence with provenance and corroboration
External assessment	Independent assessment and verification	Required national tasks plus authorised evidence checks
Portfolio repository	Links evidence from all streams	Coverage and authenticity checks; no separate competence score

Table 2 Evidence Streams and Decision Requirements

No universal percentage allocation is proposed because the selected evidence provides no calibration for one. A weighted average can conceal failure in a mandatory safety or practical outcome. The proposed primary decision rule is non-compensatory: every mandatory outcome must meet its published criterion, the evidence must pass quality checks and required external assessment must be completed.

Qualification Specific Calibration

Calibration should begin with a panel including occupational experts, assessors, providers, workplace representatives and the responsible assessment body. The panel should map mandatory outcomes, identify the consequences of incorrect certification and specify observable performance criteria. Learner representatives should review access barriers and the clarity of evidence requirements. This is a proposed consultation process; no completed consultation is reported.

Panel members should first review anonymised evidence independently, then compare their decisions and reasons against agreed criteria. Borderline cases and safety-critical failures should be deliberately included. Where a qualification requires numerical component weights, the panel should propose competing allocations only after outcome mapping, document the rationale and test classification sensitivity on pilot cases. Weights should be revised if small changes produce unstable competence classifications.

Workplace and provider scores must not be combined as independent measures when they refer to the same performance. Every contribution to a composite, if used, should identify its unique evidence and error risks.

Required practical and safety outcomes remain pass conditions that cannot be compensated by higher scores elsewhere.

Structured Portfolio of Evidence

The portfolio should become a formal part of the competence decision. It should not be a loose collection of documents or an administrative entry requirement. It should be a mapped, authenticated and moderated record of evidence.

A credible portfolio should include

Evidence type	Function
Knowledge evidence	Demonstrates conceptual understanding
Practical evidence	Demonstrates applied task performance
Workplace evidence	Demonstrates occupational performance
Reflective evidence	Shows judgement, reasoning and learning
Third-party evidence	Confirms performance through supervisors or stakeholders
Assessor feedback	Records assessment judgement and development
Remediation evidence	Shows how gaps were addressed
Moderator evidence	Confirms quality assurance

Table 3: Portfolio Content

The portfolio is evaluated for outcome coverage, provenance and currency rather than document quantity. It preserves unsuccessful attempts, feedback and subsequent remediation so that the trajectory is not selectively edited. Duplicate uploads and supervisor signatures alone cannot establish independent performance.

Workplace-Based Assessment

Workplace-based assessment should carry formal evidentiary weight because occupational competence is enacted in context. Evidence may include direct observation, logbooks, work products, supervisor reports, compliance records, client feedback and critical incident reflections.

However, workplace evidence must be controlled. The model requires structured templates for workplace evidence, supervisor guidance, assessor verification and moderation. This reduces the risk of workplace evidence becoming inconsistent or unfair.

Simulation may supplement evidence where rare, hazardous or inaccessible tasks cannot reasonably be observed at work, subject to the applicable qualification requirements. The simulation must reproduce the relevant tools, constraints and judgement demands. It must not silently replace mandatory workplace experience.

Provider-Based Integrated Assessment

Provider-based integrated assessment may include knowledge tests, case studies, simulations, practical demonstrations, oral questioning, projects and reflective tasks. These should be aligned to occupational outcomes and internally moderated. In this model, provider evidence matters more, but it also becomes more accountable.

External Verification Assessment

The proposed external component retains nationally specified assessment and adds a structured audit of mapped prior evidence where authorised. Portfolio review or professional discussion cannot substitute for an official EISA requirement without approved changes to the relevant specifications. Independence must be protected through conflict declarations and separation from the learner's primary training decisions.

The external verification process may include

External activity	Purpose
Portfolio audit	Checks sufficiency, mapping and authenticity
Professional discussion	Tests learner ownership and reasoning
Practical task	Confirms selected practical competence
Scenario-based assessment	Tests judgement and transfer
Workplace evidence sampling	Verifies workplace claims
Panel review	Strengthens reliability of final judgement

Table 4: External Verification

External review should document the outcomes sampled, records checked and reasons for accepting or rejecting the competence claim. Discrepancies between prior evidence and external performance should trigger further evidence collection or reassessment under published rules. The objective is an auditable judgement, not automatic acceptance of provider records.

Decision-Making and Quality Assurance

The final competence decision should be based on structured professional judgement and should consider the full evidence base, not a single score. Learners may be classified as:

Decision	Meaning
Competent	Evidence is sufficient, authentic, current and aligned
Not yet competent: minor gaps	Evidence is broadly sound but specific gaps require remediation
Not yet competent: major gaps	Evidence is insufficient, weak, inauthentic or poorly aligned

Table 5: Classification Table

Providers would conduct internal moderation and preserve the assessment trail. Independent external reviewers would examine selected judgements and all unresolved mandatory-outcome discrepancies. Any proposed division of responsibilities must conform to the applicable QCTO and qualification-specific arrangements.

Operational Definitions and Audit Rules

Evidence sufficiency means that every mandatory outcome has the number, variety and currency of observations specified in the approved blueprint. For the proposed pilot, routine practical outcomes would initially require observations on at least two occasions and one corroborating work product or independent observation; this is a starting design parameter, not a validated national minimum. Safety-critical outcomes

require their specific mandatory demonstration, and contradictory evidence prevents a positive decision until resolved.

Authenticity has two dimensions. Task authenticity concerns correspondence between the assessment task and occupational tools, constraints, standards and judgement demands. Evidence authenticity concerns whether the learner actually performed the recorded work. The proposed audit requires learner identity, task and date, assessor or supervisor identity, provenance of work products and an ownership check through questioning or observation. A signature without an observable evidence trail is insufficient.

Moderation means an independent review of assessment design, evidence and judgements against the published criteria. Internal moderation checks provider consistency; external moderation checks independence and comparability across providers. The pilot would independently double-assess all disputed and borderline decisions plus a pre-specified random sample of remaining cases. Differences, adjudication reasons and any resulting reassessment must be recorded; moderation is not simply the presence of a countersignature.

Currency means that evidence remains relevant to the current occupational procedures and standards. The blueprint must state the permitted age of evidence and the conditions requiring fresh observation. The decision record should show each mandatory outcome, supporting evidence identifiers, quality checks, judgement, moderator review and resolution of any discrepancy.

6.8 Risk-based application

Occupational risk level	Assessment emphasis
Low risk	Portfolio, provider assessment and limited external verification
Moderate risk	Portfolio, workplace evidence, practical assessment and external verification
High risk	Workplace observation, external practical assessment and portfolio defence
Safety-critical	Mandatory external practical assessment, workplace verification and panel judgement

Table 6: Risk Base

These risk categories are proposed design categories, not existing QCTO classifications. Qualification stakeholders should document the consequence of a false competent decision, the observability of critical tasks and available controls. Risk-based sampling cannot waive a mandatory national outcome or external assessment requirement.

Implementation Requirements

The model requires capacity development. Providers need assessment design capability, qualified assessors, internal moderators, workplace coordination systems and digital portfolio tools. Workplace supervisors need orientation. External assessors need training in portfolio audit, professional discussion and evidence-based judgement.

A phased implementation approach is therefore recommended. The first phase should pilot the model across selected occupational qualifications. The second phase should refine the evidence standards and moderation protocols. The third phase should scale implementation, supported by digital evidence infrastructure and provider development.

Implementation should begin with a supplementary research assessment alongside the authorised certification process. A successful pilot would justify further consultation, rather than automatic replacement of existing rules. Adoption depends on demonstrated decision quality, feasibility and regulatory agreement.

IMPLICATIONS AND RECOMMENDATIONS

Implications for QCTO Policy

Policy consultation should examine how the final decision uses internal, workplace and external evidence. The analysis does not establish that current QCTO policy excludes the first two streams. It proposes greater visibility of their relationship to the competence claim and of the reasons for resolving contradictory evidence.

A qualification-level evidence blueprint would specify mandatory outcomes, permitted evidence methods, independent verification and appeal routes. Where this changes official assessment specifications, approval must precede implementation. Public confidence depends on consistent standards as well as richer evidence.

Implications for Assessment Quality Partners

Assessment Quality Partners should define the full evidence architecture for each qualification, not just the final external assessment instrument. This includes specifying portfolio and workplace evidence, provider-based assessment expectations, external verification methods and moderation requirements.

This recommendation aligns with QCTO's recognition that no single assessment model is appropriate for all occupational qualifications (Quality Council for Trades and Occupations, 2016). Assessment design should therefore be sensitive to occupational risk, complexity and context. A lower-risk qualification may require a lighter evidence model, whereas a safety-critical qualification may require direct practical observation, workplace verification and stricter external moderation.

Implications for Providers

Providers would need to play a stronger, more accountable role in assessing competence. In an integrated evidence model, provider-based assessment is not merely preparatory. It contributes to the final evidence base. This requires providers to strengthen assessment design, internal moderation, learner guidance, workplace coordination and evidence management.

Provider capacity is therefore central. A shift to portfolio- and workplace-based evidence should not be implemented without assessor training, moderator development, standardised templates and digital evidence systems. Without these supports, the model could become a compliance exercise rather than a competence system.

Implications for Learners and Employers

For employers, the proposed benefit is a more inspectable account of what has been demonstrated and under which conditions. This benefit is a hypothesis rather than an established improvement in workplace readiness. Employer observations in the pilot should test it using the same occupational outcome definitions.

RECOMMENDATIONS

The article makes seven recommendations.

First, the EISA should be repositioned as an external verification process rather than the dominant proof of competence. External assessment should test and validate the learner's total evidence base.

Second, a structured portfolio of evidence should become a formal component of certification. The portfolio should be mapped to occupational outcomes, authenticated, assessed and moderated.

Third, workplace-based assessment should carry meaningful evidentiary weight. Occupational competence should include evidence of performance in real or realistic work contexts.

Fourth, professional discussion or oral defence should be included in the external verification process. This would allow assessors to test learner ownership, reasoning, judgement and ability to transfer learning to new scenarios.

Fifth, QCTO and Assessment Quality Partners should develop national or qualification-level evidence standards. These should define sufficiency, authenticity, currency, validity, reliability, fairness and audit requirements.

Sixth, reform should be implemented through a provider-capacity strategy. Providers need training, templates, digital systems and moderation support before a broader evidence model can be scaled responsibly.

Seventh, the Integrated Competence Evidence Model should be piloted before system-wide adoption. The pilot should assess validity, reliability, feasibility, cost, learner experience, provider workload, employer confidence and moderation requirements.

LIMITATIONS AND FUTURE RESEARCH

Limitations of the Review

This is a purposive conceptual review of fifteen sources, not a systematic review or meta-analysis. It cannot support estimates of overall evidence prevalence or claims of exhaustive coverage. A source register provides traceability but cannot remove selection bias.

The source set contains no comparative evaluation establishing that the proposed model improves EISA certification outcomes. The absence of such evidence in this selected set does not prove that relevant research does not exist. Local performance data and a broader systematic review could change the argument.

Medical education contributes theoretical and empirical insights, but its supervision structures and resources can differ from occupational education. Vocational studies and the South African report improve contextual relevance without establishing model effectiveness. Cross-sector propositions remain conditional.

Limitations of the Proposed Model

The Integrated Competence Evidence Model is a conceptual model. Although it is grounded in assessment literature, it has not yet been empirically tested in the QCTO environment. Its feasibility, cost and reliability would need to be evaluated through pilots.

Evidence quality may deteriorate through strategic selection, duplicated records or inconsistent criteria. The pilot must therefore measure what evidence is actually collected and how decisions are made. Merely counting completed portfolios would not evaluate competence assessment.

8.3 Future research

Future research should move the EISA debate from policy opinion to empirical evidence. Priority studies should examine:

1. learner perceptions of EISA validity and fairness;
2. provider experiences of EISA implementation;
3. employer confidence in EISA-certified learners;
4. relationships between EISA results and workplace performance;

5. reliability of external assessment decisions;
6. quality of portfolio and workplace evidence in occupational qualifications;
7. feasibility of professional discussion as part of external verification;
8. cost and scalability of digital evidence systems;
9. comparative outcomes between EISA-dominant and evidence-based assessment models.

The pilot described in Section 8.4 makes these research priorities operational. Its findings may support, require revision of or reject the proposed model. It must preserve the distinction between research judgements and authorised certification decisions.

Prospective Pilot Design

A mixed-method pilot is proposed across three contrasting occupational qualifications, including one with substantial safety consequences. An initial feasibility sample of approximately 90 learners across six providers would examine implementation variation; it is not a power calculation for national effectiveness. Recruitment should include different workplace settings and document access constraints. A subsequent confirmatory study would calculate sample size from pilot variance, clustering and the smallest policy-relevant difference.

The authorised EISA and certification pathway would continue unchanged during the supplementary research assessment. A separate panel, blinded to the EISA result, would judge mapped evidence using the proposed protocol. Research assessors should not be the learners' primary facilitators. All learners would receive both assessments so that disagreements can be examined within learner, while provider and qualification effects are retained in the analysis.

Two trained assessors should independently rate a pre-specified sample before adjudication, including a random subset and all borderline cases. Agreement on mandatory outcomes and final competence decisions should be reported with confidence intervals, alongside chance-adjusted agreement where appropriate. Continuous ratings, if used, require an appropriate reliability analysis. Agreement between EISA and the model is concordance between methods, not proof of validity.

Independent workplace observations approximately eight to twelve weeks later would provide additional evidence on performance and transfer, subject to access and consent. Observers should use the occupational outcome rubric and remain blinded to earlier classifications where feasible. This follow-up is an imperfect external criterion, affected by workplace opportunity and support; it should not be labelled a gold standard. A panel would examine discordant cases without assuming that either assessment is correct.

Construct coverage, authentication failures, missing mandatory evidence, assessor time, moderation time, learner workload, cost per learner, reassessments and appeals should be measured. Fairness analysis should examine language, disability accommodations and workplace access where lawful, consented and adequately represented. Small subgroups should be described without unsupported significance claims. Interviews with learners, assessors, supervisors and employers would identify why the protocol succeeds or fails.

Before recruitment, the protocol should register the decision rules, sampling, planned analyses, treatment of missing evidence and feasibility thresholds. Stakeholders should agree acceptable reliability, unresolved-discrepancy and workload thresholds rather than selecting them after results are known. Progression would require complete mandatory-outcome coverage, documented adjudication and acceptable feasibility under those pre-agreed criteria. Failure would trigger redesign or rejection of the model.

Ethics review, informed consent and regulatory permission must precede data collection. Participation should not disadvantage learners or alter certification through research-only decisions. Records should be de-

identified, stored with controlled access and retained under a defined schedule. Findings should report adverse consequences and negative results as well as any improvement.

Research Boundaries

The model provides a defensible proposition for evaluation rather than a demonstrated reform. Greater evidence volume may increase costs or amplify judgement inconsistency without improving accuracy. Scaling should depend on the pilot's pre-specified decision-quality and feasibility criteria.

CONCLUSION

This conceptual review examined how occupational certification can connect accumulated competence evidence with independent external assessment. Existing QCTO policy already requires internal assessment and workplace evidence before EISA eligibility. The proposed contribution is to make their relationship to the final competence claim more explicit and auditable.

Selected vocational studies, assessment theory and cross-sector evidence support attention to construct coverage, authenticity and judgement consistency. They do not establish that all EISAs under-represent competence or that longitudinal evidence is invariably superior. The performance of any architecture depends on its task sampling, criteria and safeguards.

The Integrated Competence Evidence Model therefore uses mapped evidence, mandatory outcome requirements and independent external checks. It treats the portfolio as a repository, avoids double counting and leaves numerical weighting to qualification-specific calibration. Its operational definitions and pilot design identify how the proposition can be tested.

Reform should proceed only where evidence shows that the model improves the defensibility of decisions at acceptable cost and without weakening national requirements. Provider development, workplace access and independent moderation are necessary conditions to investigate. The next step is a regulated pilot and consultation, not an unvalidated system-wide change.

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ANNEXURE A FINAL SOURCE AND CLAIM REGISTER

The register lists all fifteen cited sources and distinguishes their roles in the conceptual argument. It is a source-use inventory, not a systematic-review selection log. Inclusion denotes use in this article rather than eligibility in a PRISMA corpus.

Source	Type and context	Contribution and location	Boundary
Baartman et al. (2007)	Conceptual framework; competence-based education	Programme-level assessment quality; Sections 1.3 and 5.3	Theory; not a test of EISA
Baartman et al. (2013)	Empirical self-evaluation; higher vocational education	Criteria and reproducibility; Sections 2.6 and 4.7	One institution; contextual transfer required
Driessen et al. (2006)	Empirical portfolio study; medical education	Negligible presentation effects in studied procedure; Sections 2.4 and 4.4	Reflection-focused procedure; not occupational validation
Gulikers et al. (2008)	Empirical study; Dutch vocational education	Perceived task authenticity; Sections 2.4 and 4.5	Perceptions do not establish certification accuracy
Kane (2013)	General validity theory	Interpretation and use of results; Sections 1.3 and 5.1	Conceptual reasoning; no EISA outcome data
Miller (1990)	Conceptual framework; clinical competence	Knowledge, demonstration and practice distinction; Sections 1.2 and 2.2	Clinical analogy; no occupational effect estimate

Norcini (2003)	Assessment account; clinical workplace	Workplace performance as evidence; Sections 1.2 and 4.2	Different supervision and resource conditions
Oudkerk Pool et al. (2020)	Qualitative study; clinical portfolios	Fragmented representation and selection; Sections 4.4 and 5.4	Learner experience in one clinical setting
Page et al. (2021)	Systematic-review reporting guideline	Defines reporting boundary; Section 1.4	Methodological source; not competence evidence
QCTO (2016)	Official South African assessment policy	Internal evidence and external requirements; Sections 1.1 and 2.1	Policy baseline; not implementation effectiveness data
Schuwirth and van der Vleuten (2011)	Programmatic assessment account; medical education	Learning and judgement architecture; Section 4.6	Cross-sector design analogy
van der Vleuten et al. (2012)	Conceptual model; medical education	Aggregation and decisions; Sections 2.5 and 6.1	Local occupational validation required
Wiggins (1990)	General authentic assessment argument	Direct performance evidence; Sections 2.4 and 6.1	Conceptual rationale; no EISA comparison
Winberg and Garraway (2023)	South African TVET framework report	Authenticity, holism and reflexivity; Sections 2.6 and 4.7	Selected NC(V) guidelines; not EISA evaluation
Yusop et al. (2022)	Systematic review of TVET assessment	Method and learning-outcome diversity; Sections 2.6 and 4.7	Its study counts belong to that review only

Table A1 Source roles and transfer limitations