Influence of Matching the Training Offered in TVET Institutions with the Industry Expectations on the Employment of the TVET Graduates in Uasin Gishu County, Kenya.

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ABSTRACT

Employment remains a major indicator of socio-economic development in developing countries. Technical and Vocational Education and Training (TVET) institutions are expected to equip trainees with practical skills, competencies, and attitudes demanded in the labour market. Yet many TVET graduates in Kenya remain unemployed, a situation frequently attributed to a mismatch between training and industry expectations. This study examined how matching the training offered in TVET institutions with industry expectations influences the employment of TVET graduates in Uasin Gishu County, Kenya. Adopting a mixed-method approach and descriptive survey design grounded in Human Capital Theory, the study targeted 31 TVET institutions, 360 TVET graduates, and 110 industry experts. Stratified and simple random sampling were used; data were collected through questionnaires, interviews, and document analysis; quantitative data were analyzed in SPSS using descriptive and inferential statistics; qualitative data were analyzed thematically. Regression analysis demonstrated significant positive associations between perceived training-industry alignment and employment ($B = 0.047$, $p = 0.047$; partial $r = 0.11$), self-reported job competence and employment ($B = 0.028$, $p = 0.016$; partial $r = 0.18$), and working in the trained field and employment ($B = 0.194$, $p = 0.012$; partial $r = 0.22$). Qualitative analysis highlighted practice-theory gaps, brief and weakly assessed industrial attachments, limited curriculum co-design with employers, and underdeveloped employability skills as root causes of misalignment. The study concludes that aligning TVET curricula, pedagogy, assessment, and industrial exposure with industry expectations enhances employability. It recommends structured, assessed attachments; annual curriculum refresh with employer panels; externally moderated practical assessments; and prioritized investment in industry-representative equipment and employability practice.

Keywords: TVET, Industry Expectations, Employment, Practical Skills, Employability, Uasin Gishu County, Kenya

INTRODUCTION

Technical and Vocational Education and Training (TVET) is a central strategy for developing skilled human resources capable of supporting industrialization, economic development, and social transformation. TVET equips trainees with practical competencies, technical skills, and employability attributes required in the labour market. Globally, governments invest heavily in TVET to reduce unemployment, alleviate poverty, and support growth. TVET is expected to provide industry with technicians, artisans, and technologists who can operate modern equipment, solve practical problems, communicate effectively, and adapt to changing technologies.

Despite this role, many countries, including Kenya, report high unemployment among TVET graduates, widely attributed to mismatches between training and labour-market requirements. Studies from Ethiopia and elsewhere find gaps between practical skills taught and those expected by employers; graduates with industrial exposure during training show higher competency and employability than peers without such exposure. In Kenya, literature points to inadequate practical competencies, limited industrial exposure, outdated equipment, and the predominance of theoretical pedagogy, compelling firms to retrain recruits and raising operational costs.

In Uasin Gishu County, unemployment among TVET graduates persists despite rising enrolments. Local industries require competent, work-ready graduates able to meet contemporary standards. This study therefore investigates whether and how matching TVET training with industry expectations influences the employment outcomes of TVET graduates in Uasin Gishu County.

STATEMENT OF THE PROBLEM

Employment underpins socio-economic development through income generation, poverty reduction, industrial growth, and improved living standards. TVET institutions were established to provide relevant practical skills for employment and self-reliance. Yet unemployment among Kenyan TVET graduates remains high. Evidence suggests inadequate practical skills, limited industrial exposure, and training–industry mismatches constrain employability and compel employers to retrain new hires.

Existing Kenyan studies have tended to focus on specific occupations or soft skills, leaving limited empirical clarity on how training–industry alignment influences employment in Uasin Gishu County. This study addresses this gap by testing whether perceived training–industry alignment, graduate competence, and field-matched placement are statistically associated with employment among TVET graduates and by exploring qualitative mechanisms underpinning these relationships.

PURPOSE OF THE STUDY

The purpose of the study was to investigate the influence of matching the training offered in TVET institutions with the industry expectations on the employment of TVET graduates in Uasin Gishu County, Kenya.

OBJECTIVE OF THE STUDY

To examine whether matching the training offered in TVET institutions with the industry expectations influences the employment of TVET graduates in Uasin Gishu County, Kenya.

RESEARCH QUESTION

Does matching the training offered in TVET institutions with the industry expectations influence the employment of TVET graduates in Uasin Gishu County, Kenya?

LITERATURE REVIEW

6.1 Matching TVET Training with Industry Expectations

Globally, industries expect TVET graduates to possess practical competencies, technical expertise, problem-solving skills, communication abilities, and adaptability to technological changes. However, studies indicate that there exists a mismatch between the practical skills taught in TVET institutions and the competencies required in industries.

Yamada and Otchia (2020) established that trainers often emphasize theoretical learning while industries focus on practical competencies and quality performance. The study further noted that practical skills, managerial competencies, and entrepreneurship skills are essential in developing a skilled workforce capable of meeting labour market demands.

Chavan and Carter (2018) observed that trainees who had industrial exposure during training demonstrated better competency and employability compared to those who lacked practical experience. The study recommended the incorporation of industrial attachments, internships, and apprenticeship programs into TVET training.

In Kenya, studies have established that TVET graduates often lack adequate practical competencies expected by industries. Francis et al. (2020) found that graduates in the hospitality industry lacked practical skills, customer care competencies, and managerial abilities required by employers. Similarly, Okumu and Bbaale (2018)

established that the mismatch between training and industry requirements was caused by outdated technologies, inadequate practical lessons, poor industrial exposure, and insufficient trainer competencies.

The Curriculum Development Assessment and Certification Council (CDACC) and the Kenya Association of Manufacturers (KAM) have emphasized the need for competency-based education and training (CBET) to ensure graduates acquire practical competencies aligned with industrial needs. The government has also encouraged regular curriculum review and collaboration between TVET institutions and industries to bridge the skills gap.

Despite these efforts, many TVET institutions still face challenges such as inadequate workshop facilities, limited industrial partnerships, outdated equipment, and insufficient funding, which hinder effective implementation of industry-oriented training.

6.2 Human Capital Theory

The study was guided by the Human Capital Theory. The theory argues that investment in education and training improves the productivity, competence, and employability of individuals. TVET institutions are expected to equip trainees with practical skills and competencies that increase their chances of gaining employment and contributing positively to economic development.

Human Capital Theory emphasizes that proper training leads to acquisition of relevant practical competencies required in the labour market. Therefore, when TVET institutions align their training with industry expectations, graduates become more competent, productive, and employable.

RESEARCH METHODOLOGY

The study adopted a mixed-method research approach and descriptive survey research design. The research design enabled the researcher to collect, analyze, interpret, and present data regarding the influence of matching TVET training with industry expectations on employment.

The study was conducted in Uasin Gishu County, Kenya. The target population comprised 31 TVET institutions, 360 TVET graduates, and 110 industry experts. Stratified sampling and simple random sampling techniques were used to obtain the study sample.

Data were collected using questionnaires, interview schedules, and document analysis. The questionnaires were administered to TVET graduates and industry experts to gather quantitative data. Interviews were conducted to obtain qualitative information regarding the practical competencies of graduates and industry expectations.

Validity of the instruments was ensured through expert review by supervisors and lecturers in the Department of Technology Education. Reliability was tested through pilot testing. Quantitative data were analyzed using descriptive statistics such as frequencies, percentages, means, and inferential statistics including regression analysis with the aid of SPSS. Qualitative data were analyzed thematically.

FINDINGS AND DISCUSSION

8.1 Matching Training with Industry Expectations

8.1.1 Descriptive perceptions of alignment and competence

Graduates reported weak training-industry alignment: 46.4% strongly disagreed that their training matched industry expectations, while only 17.9% agreed. A large majority (76.2%) indicated that employer-required skills were not taught during training. Self-assessed capability was low: 54.2% strongly disagreed that they were competent in their work; only 23.8% strongly agreed that they worked in their trained technical field (Table 1).

Table 1: TVET Graduates' Responses on Matching the Training offered in TVET institutions with the Industry Expectations

Item	SA	A	N	D	SD
Industry oriented training offered hence employed	30(17.9%)	10(6.0%)	0(0.0%)	50(29.8%)	78(46.4%)
I am competent in my work	19(11.3%)	21(12.5%)	0(0.0%)	37(22.0%)	91(54.2%)
I working in my technical field	40(23.8%)	0(0.0%)	0(0.0%)	21(12.5%)	107(63.7%)
Skills required by employers are taught in TVET institutions	Yes	No			
	40(23.8%)	128(76.2%)			

Key: SA – Strongly Agree, A – Agree, N – Neutral, D – Disagree, SD - Strongly Disagree

Source: Author (2022)

Industry experts corroborated these perceptions. A majority (69.0%) strongly agreed that unemployment among TVET graduates is due to training–industry mismatch; 83.2% strongly agreed they employ graduates only when roles match the graduates' technical fields; 83.2% indicated an inadequate supply of technically prepared graduates (Table 2).

Table 2: Industry Experts' Responses on Matching the Training Offered in TVET Institutions with the Industry Expectations

Item	SA	A	N	D	SD
Unemployment of TVET graduates due to mismatch	49(69.0%)	15(21.1%)	2(2.8%)	0(0%)	5(7.0%)
Employment of graduates only working in technical fields	51(83.2%)	12(16.9%)	4(5.6%)	0(0%)	4(5.6%)
Inadequate supply of TVET graduates in our technical field	59(83.2%)	5(7.1%)	3(4.2%)	0(0%)	4(5.6%)

Key: SA – Strongly Agree, A – Agree, N – Neutral, D – Disagree, SD - Strongly Disagree

Source: Author (2022)

8.1.2 Inferential associations with employment outcomes

Regression analysis examined the relationship between indicators of alignment and employment status. Perceived training orientation to industry expectations was positively associated with employment (B = 0.047, p = 0.047; partial r = 0.11). Self-reported job competence showed a significant positive association (B = 0.028, p = 0.016; partial r = 0.18). Working in the trained field had the strongest unique association (B = 0.194, p = 0.012; partial r = 0.22) (Table 3). These small-to-moderate effect sizes are typical in labour-market research where outcomes are shaped by multiple constraints. Together, the results indicate that stronger training–industry alignment, higher competence, and field-matched placement are each associated with better employment outcomes.

Table 3: Regression Analysis (Alignment indicators Predicting Employment)

	B	Sig.	Partial correlations(r)
Training was oriented towards industry expectations	0.047	0.047**	0.11
I am competent in my work	0.028	0.016**	0.18
I work in the field I trained in	0.194	0.012**	0.22

*** denote significance at p<0.05*

Key: B – Regression analysis, sig. – significance, r – partial correlation

Source: Author (2022)

8.1.3 Qualitative themes explaining alignment and employability

Interviews with 69 industry experts and open-ended graduate responses revealed four reinforcing themes that explain the quantitative patterns:

1. Practice-theory gap and outdated equipment. Employers frequently described graduates as "undertrained" on contemporary machines (e.g., CNC, PLCs, digital diagnostics). Institutions often relied on outdated or demonstration-only equipment, with limited authentic hands-on time. This undermined probation performance and technical interviews, aligning with low self-reported competence.
2. Insufficient and weakly assessed work-based learning. Attachments were short, irregular, and weakly assessed, often lacking clear learning outcomes, supervisor rubrics, or competency sign-offs. In contrast, where attachments were structured and assessed, employers reported faster onboarding and lower retraining costs consistent with the positive association between perceived alignment and employment.

3. Employability and cross-functional skills as hiring thresholds. Troubleshooting under time pressure, safety culture, documentation, teamwork, and customer communication were treated by employers as minimum thresholds. Graduates noted these areas were discussed but not practiced under realistic shop-floor constraints, contributing to weaker hiring signals.

4. Limited curriculum co-design and feedback loops. Employers reported being consulted "for formality," with specific recommendations (e.g., machine-specific modules, fault-tree analysis, maintenance logs) not fully integrated. Graduates perceived curricula as slow to respond to new technologies and standards.

8.2 Implications

The convergence of descriptive, inferential, and qualitative evidence indicates that curriculum relevance, assessed practical competence, and structured industrial exposure are pivotal for employability. Annual program-level industry panels should refresh practical content and standards. Structured, longer (12–16 week) attachments with defined outcomes, employer rubrics, and competency sign-offs should be embedded as graduation requirements. Practical assessments should include externally moderated, Objective Structured Clinical Examination (OSCE)-style stations simulating shop-floor constraints. Institutions should prioritize one or two industry-representative machines per core module, complemented by certified simulators where capital is prohibitive. Employability practice-troubleshooting, safety, documentation, teamwork, and customer communication-should be graded and rehearsed under time and quality constraints.

8.3 Influence on Employment of TVET Graduates

The regression evidence shows that matching training to industry expectations has a statistically significant, positive association with graduate employment (training orientation $B = 0.047$, $p = 0.047$; competence $B = 0.028$, $p = 0.016$; field-matched work $B = 0.194$, $p = 0.012$). These findings are consistent with Human Capital Theory: investments in relevant, practical competencies increase productivity and employability. Graduates with stronger practical competencies, structured industrial exposure, and demonstrable employability skills had higher probabilities of securing jobs; employers preferred candidates who demonstrated practical ability, confidence, adaptability, and competence in industrial tasks.

CONCLUSION

Matching TVET training with industry expectations significantly influences the employment of TVET graduates in Uasin Gishu County. The results show consistent associations between perceived alignment, competence, field-matched placement, and employment. Qualitative evidence attributes misalignment to outdated equipment, brief and weakly assessed attachments, limited curriculum co-design, and underdeveloped employability skills. While effect sizes are modest, they are robust and actionable. Targeted reforms to curricula, assessment, equipment parity, and structured attachments should improve employment outcomes.

RECOMMENDATIONS

The study made the following recommendations:

1. Curriculum co-design and annual refresh: Institutionalize annual, program-level industry panels to review and update at least 20% of practical content to reflect current standards and technologies, with documented minutes and revised syllabi.

2. Structured, assessed industrial attachments: Make 12–16 week attachments mandatory, with explicit learning outcomes, employer rubrics, and competency sign-offs that contribute to graduation and appear on transcripts.

3. Externally moderated practical assessments: Introduce Objective Structured Clinical Examination (OSCE)-style practical examinations simulating time, safety, and quality constraints; ensure external industry assessors moderate at least 30% of final practical grades.

4. Equipment parity and simulation: Prioritize acquisition or shared access to a small set of industry-representative machines per core module; where unaffordable, deploy certified simulators and facility-sharing agreements.

5. Embedded employability practice: Integrate graded modules requiring troubleshooting under time pressure, safety documentation, maintenance logs, teamwork across shifts, and customer communication, practiced in realistic workflows.

6. Trainer upskilling: Require periodic industrial attachments and Continuous Professional Development (CPD) for trainers to maintain currency with emerging technologies and industrial practices.

7. Industry participation in assessment: Involve employers in competency evaluation and capstone assessments to strengthen hiring signals.

LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The observed partial correlations (0.11–0.22) indicate meaningful but not exhaustive explanatory power; unobserved factors (e.g., local demand shocks, job-search intensity, household constraints) may also affect employment. Future studies should estimate multivariate models controlling for gender, program area, cohort year, attachment duration and quality, and institutional resources. Quasi-experimental evaluations of structured, assessed attachments and external OSCE-style assessments would help isolate causal impacts on employment.

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