

ANNEX 4 – STEP 4 TOOLKIT: SKILLS ANTICIPATION AND CURRICULUM DEVELOPMENT

This toolkit provides practical instruments for implementing Step 4 of the Meaningful Youth Engagement (MYE) Manual. It enables TVET institutions, policymakers, and partners to forecast skill trends, gather evidence from the labour market, and align curricula with emerging economic and technological realities. Step 4 tools collectively create a skills intelligence system that links foresight, data analysis, and standard-setting to curriculum renewal. They ensure youth voices, industry perspectives, and data insights jointly shape future-ready TVET programmes.

TOOL 1: PARTICIPATORY FORESIGHT WORKSHOPS

Purpose:

To convene diverse stakeholders, including youth, employers, educators, and policymakers, to collectively identify **emerging labour market trends**, **future skill needs**, and **innovation priorities** shaping the TVET ecosystem. The foresight process strengthens the responsiveness of curricula, ensuring training remains relevant to future economic, technological, and environmental shifts.

1. Objectives

- Identify future-oriented skills needs (digital, green, entrepreneurial, and soft skills).
- Promote joint visioning among TVET, industry, and youth representatives.
- Translate foresight insights into actionable curriculum and policy reforms.
- Build institutional capacity for continuous anticipation of change.

2. Target Users

- TVET curriculum developers and instructors.
- Industry associations, chambers of commerce, and employer organisations.
- Youth and student representatives, including alumni.
- Policymakers and labour market analysts (CTVET, MoE, GSS, etc.).
- Development partners supporting TVET innovation.

3. When to Use

- During curriculum review or development cycles.
- When new technologies or industries emerge (e.g., green energy, AI, robotics).
- To update occupational standards or revise qualifications frameworks.
- At the start of multi-year institutional strategic planning.

4. Workshop Design and Facilitation Process

Phase	Key Activities	Facilitators / Stakeholders	Expected Outputs
1. Preparation	• Identify key future drivers (technology, climate, demographics). • Select balanced participants (youth, employers, educators, gender/diversity representation). • Prepare background briefs and logistical arrangements.	M&E / Foresight Coordinator, Institutional Lead, Youth Groups	Workshop concept note, participant list, agenda
2. Horizon Scanning	• Present data on economic and technological trends. • Facilitate “Signals of Change” discussions (e.g., What new jobs or tools are emerging?).	Labour Market Expert, Industry Reps, Youth Groups	Trend mapping posters, foresight notes
3. Scenario Building	• Create 2–3 possible future scenarios (e.g., “Digital Ghana 2035”). • Identify skill needs under each scenario (technical, green, soft).	Facilitators, Youth & Employer Groups	Scenario charts and skill clusters
4. Skills Prioritisation	• Use ranking or voting to prioritise most critical future skills. • Group skills into thematic clusters (e.g., Green Manufacturing, Digital Services).	Multi-stakeholder groups	Prioritised Skills List
5. Curriculum Implications	• Discuss how current curricula must change (modules, delivery modes, work-based learning). • Identify occupations needing new standards.	Curriculum Team, CTVET, Instructors, Youth Groups	Foresight-Curriculum Matrix
6. Action Planning	• Develop next steps: who will integrate foresight findings, how, and when.	Institutional Team, Partners, Youth Groups	Skills Foresight Action Plan

5. Foresight-Curriculum Matrix Template

Purpose: to link foresight findings directly to curriculum design.

Future Trend / Scenario	Emerging Occupation / Skill Area	Curriculum Response Required	Priority Level (High/Medium/Low)	Responsible Department / Partner
Renewable Energy Transition	Solar installation, energy auditing	Add “Green Energy Systems” module	High	Electrical Dept / CTVET / Industry
Digitalisation & AI	Data analytics, robotics maintenance	Upgrade ICT core competencies	High	ICT Dept / Employers / MoE
Circular Economy	Waste recovery, repair, reuse	Introduce circular entrepreneurship units	Medium	Curriculum Team / NGOs

6. Facilitation Tips

- Use interactive tools: sticky notes, online polls, group mapping, or “future wheels.”
- Combine qualitative foresight discussions with quantitative labour-market data.
- Ensure youth participants lead part of the sessions to represent future perspectives.
- Provide visual summaries (infographics or sketches) to improve understanding.
- Document gender and inclusion reflections separately.

7. Ethical and Inclusion Guidelines

- Guarantee equitable participation — at least 40% women and inclusion of youth with disabilities.
- Use accessible language and materials.
- Ensure informed consent for photos or recordings.
- Avoid bias toward urban or formal-sector perspectives; include informal economy voices.

8. Expected Outputs

- Skills Foresight Workshop Report (summarising trends, skills priorities, and curriculum implications).
- Foresight-Curriculum Matrix linking insights to curriculum updates.
- Institutional or national action plan for integration of foresight outcomes.
- Strengthened partnerships between TVET, employers, and youth networks.

TOOL 2: DIGITAL DASHBOARDS AND FEEDBACK PLATFORMS

Purpose:

To support TVET institutions and training authorities in collecting, analysing, and sharing **real-time data** on learner outcomes, labour-market demand, and curriculum performance. Digital dashboards and feedback systems create continuous learning loops between training providers, employers, and graduates — ensuring curriculum relevance and accountability.

1. Objectives

- Enable real-time monitoring of graduate employment and skills demand.
- Integrate feedback from employers, alumni, and students into curriculum reform.
- Facilitate data-driven decisions by linking enrolment, completion, and labour-market indicators.
- Promote institutional transparency and continuous improvement in programme delivery.

2. Target Users

- Institutional M&E and ICT officers.
- Curriculum and quality-assurance departments.
- Labour-market analysts and policymakers.
- Employer associations and industry bodies.
- Youth and alumni networks providing post-training feedback.

3. When to Use

- During curriculum review or institutional performance monitoring.
- For tracer studies or graduate follow-up assessments.
- When preparing annual TVET performance reports or donor reviews.
- In national TVET dashboards or pilot data systems under CTNET/MoE.

4. Core Components of a TVET Digital Dashboard

Component	Description	Example Data / Indicators
1. Graduate Tracking Module	Collects data on graduates' employment, self-employment, or further study status.	% employed within 12 months; sectors of employment; self-employment rate; income range.
2. Employer Feedback Module	Captures employers' satisfaction with graduates' skills and work readiness.	% satisfied employers; top missing skills; new skill demands.
3. Enrolment and Retention Module	Monitors student numbers, gender/disability breakdowns, and completion rates.	# enrolled / completed / dropout; gender ratio; disability inclusion rate.
4. Curriculum Relevance Tracker	Aligns course content with changing labour-market needs.	# curricula updated; % aligned with industry standards; emerging skill areas.
5. Inclusion Dashboard	Highlights equity indicators.	Gender parity index, disability access, and rural enrolment share.
6. Analytics & Reporting Interface	Visualises trends through charts, heatmaps, and progress trackers.	Interactive dashboards, quarterly reports, and downloadable summaries.

5. Data Collection and Integration Process

Step	Action	Responsible Unit	Frequency	Tools / Platform
1. Data Input	Collect learner, graduate, and employer data using digital or mobile forms.	M&E Unit, ICT Team	Ongoing	KoboToolbox, Google Forms, SurveyCTO
2. Data Cleaning	Validate, de-duplicate, and standardise data.	Data Analyst	Monthly	Excel / Power BI / OpenRefine
3. Dashboard Integration	Upload datasets into dashboard or database.	ICT Officer	Monthly / Quarterly	Power BI, Tableau, Google Data Studio
4. Analysis & Visualisation	Generate graphs showing trends and disparities.	M&E Officer	Quarterly	Dashboard software
5. Dissemination	Share dashboard summaries with management, industry, and youth networks.	Communications Unit	Quarterly / Annually	PDF / Web links / Reports
6. Feedback Loop	Integrate findings into curriculum review discussions.	Curriculum Unit	Annual	Review meetings, policy briefs

6. Example Feedback Form Fields

For integration into the digital system:

Section A – Employer Feedback:

- How satisfied are you with graduates' technical skills? (1–5)
- Which skills need strengthening? _____
- Would you employ TVET graduates again? ☐ Yes ☐ No

Section B – Graduate Feedback:

- Are you currently employed or self-employed? ☐ Yes ☐ No
- How relevant were your training modules to your current job? (1–5)
- What additional training would you recommend? _____

Section C – Institutional Data:

- Course / Programme / Batch / Year of Completion
- Gender ☐ Male ☐ Female ☐ Other
- Disability Status ☐ Yes ☐ No (specify: _____)

7. Data-Governance and Ethics

- Comply with national data-protection regulations (e.g., Ghana Data Protection Act 2012 – Act 843).
- Obtain informed consent from all data respondents.
- Store data securely and restrict access to authorised staff.
- Present findings in aggregated form to avoid identifying individuals.
- Ensure digital tools are accessible to users with disabilities (screen-reader compatibility, alt-text, etc.).

8. Inclusion and Accessibility Tips

- Use **mobile-friendly dashboards** for low-connectivity areas.
- Translate interface labels and reports into local languages.
- Integrate **voice-based survey options** for visually impaired respondents.
- Ensure at least **40 % female participation** in feedback-collection processes.
- Display disaggregated data by gender, age, and disability in every chart.

9. Expected Outputs

- Live TVET Digital Dashboard accessible to management and partners.
- Quarterly data reports linking training outcomes to labour-market demand.
- Visual summaries for decision-makers (heatmaps, charts, tables).
- Evidence base for curriculum revision and policy adaptation.

TOOL 3: OCCUPATIONAL STANDARDS DEVELOPMENT COMMITTEES

Purpose:

To guide the establishment and functioning of **Occupational Standards Development Committees (OSDCs)** that bring together youth, employers, trainers, regulators, and other key stakeholders to define, review, and validate competencies for emerging and priority occupations. These committees serve as a bridge between the labour market and training systems, ensuring curricula remain relevant, inclusive, and future-ready.

1. Objectives

- Facilitate structured collaboration between industry, training institutions, and policymakers in defining occupational standards.
- Capture employer and youth perspectives in competency development and validation.
- Ensure occupational standards reflect green, digital, and entrepreneurial skill dimensions.
- Institutionalise feedback and continuous improvement in curriculum development processes.

2. Target Users

- National and institutional curriculum development bodies (e.g., CTNET, NTC, NaSIA).
- Sector Skills Bodies (SSBs) and professional associations.
- Employers, trade unions, and chambers of commerce.
- TVET instructors, master craftspersons, and alumni.
- Youth representatives, including apprentices and trainees.

3. When to Use

- During the development of new or revised competency-based curricula.
- When emerging occupations are identified through foresight or market analysis.
- As part of national or regional skills standardisation initiatives.

4. Committee Composition and Structure

Stakeholder Group	Suggested Representation	Role / Contribution
Industry / Employers	3–5 members (large, medium, small firms)	Define required competencies, performance standards, and occupational trends.
TVET Institutions	2–3 instructors / curriculum developers	Translate occupational functions into learning outcomes and assessment criteria.
Youth / Apprentices / Alumni	2 members (1 male, 1 female)	Provide learner perspective on training relevance and accessibility.
Government / Regulators (CTVET, MoE)	1–2 members	Ensure compliance with National TVET Qualifications Framework (NTVETQF).
Persons with Disabilities / Inclusion Expert	1 representative	Advise on accessibility and inclusion of learners with disabilities.
Development Partners / Observers	Optional	Provide technical guidance and support.

5. Key Functions of the OSDC

1. **Job Analysis:** Break down target occupations into key functions, duties, and tasks.
2. **Competency Definition:** Identify knowledge, skills, and attitudes required for each task.
3. **Standard Drafting:** Develop units of competency aligned with NTVETQF levels.
4. **Validation:** Review draft standards through stakeholder consultations and pilot testing.
5. **Endorsement:** Submit validated standards to the accrediting body for approval.
6. **Review and Update:** Periodically review standards to reflect evolving industry needs.

6. Step-by-Step Development Process

Phase	Key Activities	Lead Responsibility	Outputs / Deliverables
1 – Preparation	Identify priority occupations; secure institutional mandate; form committee.	CTVET / Lead Institution	List of priority occupations, committee TORs
2 – Occupational Analysis	Conduct desk reviews, interviews, and task analyses to understand job functions.	Industry & Curriculum Team	Job Profiles and Task Matrices
3 – Competency Drafting	Convert job functions into units of competency with elements and performance criteria.	Curriculum Experts / OSDC	Draft Occupational Standards
4 – Validation Workshop	Organise stakeholder workshop to review and refine standards.	CTVET / Sector Skills Body	Validated Draft Standards
5 – Endorsement and Publication	Submit final standards to approval authority; publish and disseminate.	CTVET / MoE	Approved Occupational Standards
6 – Implementation and Review	Integrate standards into curriculum design and review periodically.	TVET Institutions / SSB	Updated Curricula and Assessment Tools

7. Template: Competency Unit Format

Unit Title:	_____
Sector:	_____
NTVETQF Level:	_____
Unit Description:	Brief overview of occupational function.
Elements of Competency:	1. _____ 2. _____ 3. _____
Performance Criteria:	1. _____ 2. _____ 3. _____
Required Knowledge:	_____
Required Skills:	_____
Attitudes / Values:	_____
Evidence Guide:	Examples of performance evidence required for assessment.

8. Ethical and Inclusion Guidelines

- Ensure **gender balance** and representation of youth and persons with disabilities.
- Provide accessible venues and materials for all committee meetings.
- Avoid conflict of interest in decision-making or standard endorsement.
- Recognise contributions of all committee members (certificates, public acknowledgement).
- Embed cross-cutting themes: green skills, digital competencies, entrepreneurship, and inclusion.

9. Expected Outputs

- Validated Occupational Standards aligned with NTVETQF levels.
- Documentation of job analyses, task matrices, and performance criteria.
- Updated curricula and learning materials based on approved standards.
- Strengthened collaboration between industry and training providers.
- Institutional capacity built for future standard development cycles.