NAST Conference Breakaway Session Feedback Template

**Theme: Innovating Technical Education for a Changing World**

**MECHANICAL technology: WELDING AND METAL WORK**

Facilitator Name: F H Lottering

Rapporteur Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: 01 July 2025

Session Topic (Extension):

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## 1. Aligning Curriculum with Industry Needs

How can technical education align the curriculum with industry's needs?  
Please provide practical strategies and planning for improved relevance and responsiveness.

• Establish curriculum review panels including representatives from industry to ensure alignment with current technologies.

• Incorporate modular, competency-based units focusing on practical outcomes aligned with workplace expectations.

• Revise and update practical assessment tools regularly to reflect industry-relevant standards.

• Create dual-certification pathways with SETAs or industry bodies to validate both academic and workplace skills.

• Integrate simulation-based training for advanced techniques like robotic and CNC welding.

• Conduct annual surveys with industry partners to identify skills gaps and training priorities especially with new technologies

## 2. Addressing Teacher Shortages in Specialized Technical Subjects

Specific ideas and suggestions to address teacher shortages in specialized technical subjects.  
Consider recruitment, training, and retention strategies based on current realities.

Group Insights & Recommendations:

• Introduce bursaries and learnerships for artisans who commit to becoming educators.

• Collaborate with universities to create PGCE programs for artisans and technicians.

• Provide scarce-skill incentives such as housing or salary top-ups to attract technical teachers.

• Create mentorship programs pairing experienced teachers with new or transitioning educators.

• Offer compulsory online continuous professional development modules tailored for Mechanical Technology educators.

Advocacy on our Technical Subjects to recruit our learners.

## 3. Enhancing School-Industry Partnerships

How can technical schools participate in and benefit from school-industry partnerships?  
Include workplace exposure opportunities for learners.

Group Insights & Recommendations:

• Form advisory boards at each school with local industry partners who co-develop learning opportunities.

• Implement structured learner placements during school holidays for job shadowing or internships.

• Host industry days at schools to expose learners to real-world applications and career pathways.

• Encourage companies to co-sponsor practical projects and competitions aligned with curriculum outcomes.

• Negotiate use of company training centres during off-peak times for learner practical assessments.

• Establish recognition awards for companies who provide sustained support to technical education.

Involve MERSETA in identifying companies to form partnership with schools.

## 4. Gaining Recognition as Special-Focus Schools

How can technical schools gain greater recognition as special-focus schools?  
Explore branding, policy, and community engagement approaches.

Group Insights & Recommendations:

• Brand technical schools as ‘Innovation Hubs’ showcasing unique learner projects and community impact.

• Use targeted social media and digital storytelling to profile successful alumni and school programs.

• Host community outreach programs that demonstrate the technical school’s role in local development.

• Develop a school-based brand identity (logo, tagline, uniform distinction) emphasizing technical focus.

## 5. Integrating eLearning in Practical Subjects

Will the integration of eLearning platforms in practical subjects be effective?  
How can we prepare for this future-oriented shift? Identify tools, training needs, and implementation steps.

Group Insights & Recommendations:

• Invest in VR/AR platforms simulating welding environments for safe, scalable training.

• Train teachers in hybrid instruction models using LMS platforms for theoretical content.

• Develop online modules in collaboration with industry experts to ensure practical applicability.( Opportunity for multi certificates

• Use mobile-compatible platforms to ensure learners in under-resourced areas can access digital content.

• Establish ICT support teams in schools to maintain hardware and software used in practical subjects.

• Pilot the integration of e-portfolios for learners to track progress and showcase practical work.

## Summary of Group Feedback

Top 3 Recommendations:

* Establish curriculum review panels including representatives from industry to ensure alignment with current technologies.
* Introduce bursaries and learnerships for artisans who commit to becoming educators. Collaborate with universities to create PGCE programs for artisans and technicians.
* Host industry days at schools to expose learners to real-world applications and career pathways.

Challenges Identified:

• - Limited qualified technical teachers and incentives for recruitment.

• - Gaps between curriculum design and real industry practices.

• - Inadequate digital infrastructure for implementing eLearning in practical subjects.

Proposals Worth Scaling or Piloting:

To design, pilot and scale a flow-based learning approach that enhance student engagement, motivation and academic performance.

• - Industry-aligned modular welding certification frameworks.

• - Mentorship and bursary schemes for artisan-to-teacher transitions, advocacy on our Technical Subjects to recruit our learners.

• - Provincial rollout of VR welding simulation labs and blended learning programs,