NAST Conference Breakaway Session Feedback Template

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

**TECHNICAL MATHEMATICS**

Facilitator Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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.

Group Insights & Recommendations:

1. Engage diverse professionals from various industries for insights and expertise in Technical mathematics.

2. Use labor market data to identify high-demand skills that require knowledge I Technical mathematics.

3. Partner with organizations for practical skills training and certifications.

4. PAT: Incorporate contemporary tools and cutting-edge technologies.

5. Facilitate ongoing interactions between industrial professionals and educators.

6. Ensure teaching methodologies and course content reflect industry advancements.

## 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:

* Self-development in Technical Mathematics through short courses.
* Career awareness programs in schools as early as grade 9.
* Putting up incentives in the form of bursaries for students applying for a specific specialization
* Recruit retrenched red seal employees with at least N4 and make courses available to them as well as helping them apply for SACE.
* Always putting a qualified educator(maths-wise) to offer technical mathematics without any compromise throughout all the grades

## 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:

It is very important that the technical schools forms relationships with the work industry/ companies to have a memorandum of understanding to achieve the intended objectives after the whole process.

Benefits for both parties:

1. Skill development

2. Industry insights

3. Financial support

4. Job opportunities/Internship programs

5. Mentorship programs

## 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:
Policy Development

* Make Departmental Policies in TMAT available as a guideline
* Develop TMAT Vision and Mission and Values (Specific to bridging the skills gap)
* Take all stakeholders on board(Staff, SGB, Learners, Community etc) to make them understand the Subject TMAT.
* Develop School Based Policies in TMAT and align them to Industry goal

Branding

1. Brand Identity: Review and modernize the logo/slogan, and implement physical branding (billboards, brochures, posters, etc.) and media branding (social media, website, etc.) to showcase the school's unique identity.

2. Holistic Development Programs: Establish signature programs (e.g., Tech Maths Club) to foster students' overall growth and prepare them for the future

Community engagements

1. **Collaborate with Industry and Institutions**:
* Build partnerships with local businesses, industries, and higher education institutions to provide internships, job shadowing, and bursary opportunities that develop 21st-century skills.
1. **Empower Communities through Hubs**:
* Offer adult upskilling classes and work with non-profits and parents to support education through workshops, career exhibitions, and enrichment programs.
1. **Promote Inclusive Learning**:
* Partner with professionals and organizations to support learners with special needs through applications for concessions and access to assistive devices

## 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:

* Yes,the tools that will be needed include computers, internet/wifi, projectors, whiteboard, memory sticks, simulations, AI,etc…

Preparations: educators need to be trained on computing skills required to edit a website, use AI effectively, Simulations and other learning platforms

Steps for implementation

1). Training educators

2). Making sure each teacher has necessary tools

3). Train learners

4). Train monitors to monitor/moderate usage of platform

## Summary of Group Feedback

Top 3 Recommendations:

1. Industry Partnerships: Establish strong partnerships with industries to provide practical skills training, internships, and job opportunities.

2. Teacher Development: Provide training and incentives for educators to develop their skills in technical subjects, such as Technical Mathematics.

3. Branding and Community Engagement: Develop a strong brand identity and engage with the community, industry, and stakeholders to promote technical education and its benefits.

Challenges Identified:

- Teacher shortages in specialized technical subjects

- Limited industry exposure and practical skills training

- Need for modernized curriculum and teaching methodologies

Proposals Worth Scaling or Piloting:

- Career awareness programs in schools to promote technical education

- Incentives for students to pursue specific specializations

- eLearning platforms to enhance practical skills training

- Collaborations with industry and institutions to provide internships and job opportunities