



Effective Brainstorming Techniques for Engineers

CPD Validation Number: SAIMEchE-1002-12/19

This workshop will earn delegates 2 credits in Category 1

This workshop is suitable for SAIMEchE Groups 2, 3a & 3b

The Workshop is Developed and Facilitated by:

Mr. Jac Spies, B.Sc. Mathematics & Mathematical Statistics,

Grad. Business and Project Management (UNISA Business School), MMCSA, MSAIMEchE.

SAIMEchE Group Classification

0 = Non-technical,
e.g., HR, Finance

1 = Candidate
(including GCC) with <
5 years' experience

2 = Professional
(including GCC) with <
15 years' experience

3a = Professional and
Appointment with > 15
years' experience with
specialist interest

3b = Senior
Management with >
15 years' experience

OVERVIEW OF WORKSHOP

To skill Engineers in how to select and apply the right brainstorming technique from the different types of brainstorming that could apply to a specific problem.

Please note that this workshop is for delegates who have little knowledge and experience in brainstorming techniques, which is inter alia also used in SAIMEchE courses 60 (TRIZ and Inventive Problem-Solving Workshop) and 08 (How Technology Evolution Enables Breakthrough Engineering Designs).

TOPICS

- Fundamentals of brainstorming.
- Differentiating between the types of brainstorming.
- Selecting the right brainstorming technique.
- How to apply the different brainstorming techniques.

CONTENT OF WORKSHOP

Understanding the problem

- Mind Maps ... *Mapping the elements of a problem.*
- The Five Bums on a Bench ... *Finding out what you don't know.*
- The Fishbone ... *Identifying the causal factors of a problem.*

Improving on what we've got

- SCAMPER ... *Finding better solutions than the current one.*

Finding new ideas

- Brain Writing 6-3-5 ... *Generating lots of new ideas.*
- The Concept Tree ... *Generating actionable ideas from concepts.*
- Reverse Brainstorming ... *Extending further on new ideas.*

Identifying the main themes and drivers

- Affinity Clusters ... *Finding the main themes between many ideas.*
- Inter-relationship Diagram ... *Finding the drivers in a multi-dimensional problem.*

Extending the mind

- The Nine Windows ... *Extending the mind in space and time.*

WORKSHOP BENEFITS

Brainstorming techniques enables the Facilitator to leverage the knowledge and experiences of collective minds in a team to create new insights and solve problems in a focussed, systematic, and structured manner.

Knowing how to select and apply the right brainstorming technique enables an individual to harness the knowledge and experience of other minds to find synergistic solutions to repetitive or complex problems.

Brainstorming also enables users to overcome psychological inertia, fixed thinking habits, and procrastination.

WHO SHOULD ATTEND

Engineers, technologists, entrepreneurs, designers, inventors, innovators, researchers, product developers, supervisors, and managers.