Future Small Group Activities
Focused on Speed and Results

Theory and Practice of the
New Workplace Improvement Tools

THE GO-GO TOOLS

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Productivity Europe
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Section 1

Introduction

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Introduction

Interviewing its clients, the Japan Management Association (JMA) asked their honest opinions about what they require from employees’ small group activities. All their answers can be boiled down to a single overriding question:

“How should we promote small group activities so as to directly improve our business results?”
Here are some typical comments on the current problems with small group activities and suggestions as to how to overcome them:

- "Small group activities should not be exclusively ‘bottom up’. Managers should specify what topics the groups are to address (the ‘What?’). However, they should still leave the decision as to how to tackle the topics (the ‘How’) up to the groups."

- "The Seven QC Tools do not by themselves lead to significant improvements in profitability. Video and time analysis are the best ways of achieving faster setups. Groups using the Seven QC Tools often produce diagrams which look artificial and cannot really be very useful."

- "The basic aim of small group activities is to develop people’s talents. However, many groups operate without any clear objective or purpose. Perhaps they think facilely that they will eventually achieve what they want as long as they keep on pursuing their activities.”
Suggestions for Solving these Problems

Some specific suggestions for solving these problems were:

- "How can we get small group activities to feed through directly to the company’s business results? TP Management gives us some valuable clues, since it provides many examples of improvement topics being set by a combination of the top down and bottom up approaches."

- "How can we align our employees’ individual development with the improvement directions set for our company? We must clarify the relationships between human resource development and the issues specified in our medium range business plans and add the Dream—Philosophy—Vision—Ideal—Goal—Action—Results—Satisfaction story to the Plan—Do—Check—Act cycle."

- "How can we move on from small group activities which have become stuck in a rigid pattern and are focused more on presentations than on results? We must switch to team projects which produce rapid results by following the ‘Triple W’ approach (go to the workplace, observe what is actually happening in the workplace, and identify the facts in the workplace) and implement practical small group activities which people do while working."
A Definition of Small Group Activities

Small group activities are activities designed to help an organisation achieve its goals; they are carried out autonomously and continuously by small groups which try to solve problems and attain targets by pooling all their members' knowledge and ingenuity.

(Breaking down and communicating the company's business goals helps to keep this process alive.)
If five or more of the following items apply, watch out!

- The content of presentations is meagre, but the presenters are as skilled in presenting as professional actors! The activities last for only about a month, while preparation and practice for presentations takes three months.

- The administration of small group activities is left up to the secretariat, and top management remains aloof.

- Figures and tables are prepared after the solution to a problem has been found. The Seven QC Tools appear in standardised form in presentations even though they may not actually have been used. When they are used, they are inappropriate to the purpose.

- Small group training is given without thought to return on investment. Instructors concentrate on teaching the Seven QC Tools and performing calculations. They think they are doing a good job, but the students switch off. Requests to be taught the necessary problem solving techniques in the workplace are ignored.
Have Your Company's Small Group Activities Become Ritualised? continued

- The activities are organised in such a way that they can be boasted about to other companies, but group members' direct superiors are too busy to monitor the activities.

- Groups are formed with the stated aim of involving everyone, and prolonged activities eventually produce only minor results. The main focus is on encouraging communication among group members; actually solving problems is a secondary goal.

- The secretariat is run by people who have no personal experience of small group activities, not by people who can give practical guidance on how to tackle shop floor issues. No effort is put into developing the theory of how to run small group activities.
Observe and Investigate

Observe and investigate the activities of companies that are achieving excellent results, and promote topic setting and activities directly linked to actual manufacturing and work improvement.

- Let management set the topics (the ‘What?’ and the ‘Why?’), leaving the ‘How’ to the group members.
- Give training in the actual workplace, looking at the actual objects and actual phenomena (the ‘3 actuals’).
- Only teach improvement techniques as they are actually needed (practice Just-In-Time education); some firms authorise small groups to request their own inside or outside instructors.
- Have managers combine the problems and visions of the people on the shop floor with the company’s overall improvement issues when setting and allocating topics.
- Position small group activities as part of people’s regular duties and make group members’ direct superiors responsible for running the activities.
- Make extensive use of effective techniques for drawing out workers’ latent knowledge of the problems and improvement issues the company needs to tackle.
- Make intensive efforts to establish a system for standardising improvement results and ensuring that the standards are obeyed.
Topic Setting and Activity Management

Topic setting and activity management — the two most pressing issues for future small group activities focused on speed and results.

- Set topics based on creating systems for assuring production through processes, e.g. building in quality through the process (zero defects, no uncertainties), autonomous maintenance, improvement of standard times, multiskilling, etc.

- Carry out short PDCA projects which help success to breed success (small successes, fast improvement cycles, rapid solutions, establishment of visual systems for promptly displaying the results of small group activities in the workplace).

- Develop people able to work effectively in any situation, and train their powers of observation. Tackle improvement topics as projects, and develop people’s capabilities through practical activities.

- Give group members’ direct superiors responsibility for taking the risk of achieving improvement goals and providing the necessary support.

- Develop managers able to promote small group activities as part of the actual work done in their workplaces. Have them master techniques (e.g. the Go–Go Tools) for organising and managing topics.
Behaviour oriented towards maintaining standards. Have we reviewed the 5M’s and tracked down the causes of defects? Is there any variation? Time related changes? Problems related to differences in lots? Problems related to differences in operators' skills? Production delays?

1. Find out how big the problem is
2. Set improvement targets
3. Perform detailed analysis and express problem visually
4. Formulate and implement improvement plans
5. Standardise and decide how to observe the standards

Measure deviations from standards, and identify gaps between existing situation and new targets.

Decide project period, team members and methods.

Perform workplace analysis using IE, QC and VE methods. Try to clarify the problem using visual techniques.

Use all available knowledge to formulate improvement plans.

Standardisation
Requirements for the Future Development of Small Group Activities

**PHASE 1**
- Promote Small Group Activities Which Lead Directly to Improved Business Results
- Position small group activities as a matter of great concern to top management
- Support small group activities from the top with plentiful management resources
- Learn strategies for connecting small group activities directly to business results

**PHASE 2**
- Make the Results of Small Group Activities Immediately Visible
- Learn methods for ensuring that small group activities achieve reliable results
- Ensure that small group activities produce results quickly
- Learn techniques for promoting small group activities more effectively
- Find out how to run small group activities so that they produce even better results
- Learn highly motivating ways of operating small group activities
- Make small group activities fun

**PHASE 3**
- Develop Small Group Activities Further as an Integral Part of Corporate Management
- Maintain and improve the results of existing small group activities
- Extend small group activities into areas where they are more difficult to practice
Go–Go Tool No.1
Organising the Topics
Go-Go Tool No.1
Organising the Topics

In Japanese, the word ‘go’ means ‘five’. Each of the five tools outlined below has five steps; hence ‘Go-Go Tools’.

- The ‘Pocket Matrix’ Technique
  For sorting out problems

- Summary
  Enables management and workers to cooperate in pooling ideas and evaluating and selecting topics by organising them on a matrix in terms of the production inputs to be improved (5M + I) and the management issues or production outputs (QCDSM).

- Features
  Provides a forum for the simultaneous identification and discussion of workplace problems and management issues.
  Allows pending issues to be accumulated through ‘idea pooling’.
  Enables visual selection of the improvement topics which will produce the biggest results for the least effort.

continued
Step 1

Write the problems (topics) on cards or "post-it" notes.

Examples

- "This job is too tiring/too difficult/ought to be done differently".

- "I want us to become able to do this (dreams), I want this to happen (aspirations)."

- "Inexperienced people find this job too difficult. Nothing gets made unless I am there."

- "My boss thinks this job should be done one way, but I think it ought to be done differently."

- "I don't like being complained at. I want to become as skilled as my more experienced colleagues as quickly as possible."
Step 2

Draw up a matrix-type chart showing the keys for tackling the problem.

<table>
<thead>
<tr>
<th>Production Inputs (5M's + I)</th>
<th>1 Quality/Claims</th>
<th>2 Cost</th>
<th>3 Time/Delivery</th>
<th>4 Safety</th>
<th>5 Morale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Materials (+ Design)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Machines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Measurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Methods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Men/Women</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td></td>
<td></td>
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</tbody>
</table>
Step 3

Stick the "post-it" notes on the chart (managers and workers do this separately).

Include among the topics things which other departments are doing better.

Step 4

Calculate the potential benefits.

Do this one by one, starting with the topics regarded as the most important.

Step 5

Highlight the topics likely to produce the greatest benefits from the smallest labour input.
Section 3

Go–Go Tool No.2
Prioritising the Problems

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Go-Go Tool No. 2
Prioritising the Problems

● The ‘VW’ (Volume–Weight) Technique

For visually displaying the extent of problems and ranking them according to their seriousness.

● Summary

Enables the size, extent and relative importance of problems to be displayed visually.

● Features

● Provides an effective technique for visually recording the size and details of problems.

● Also allows non quantifiable, intractable problems (intuitive impressions, problems with the working environment, etc.) to be brought to light and prioritised.

● Enables the group responsible for each topic and the deadline to be decided and displayed together with the improvement targets and benefits.

continued
Go-Go Tool No.2, Prioritising the Problems continued

- Step 1

  Arrange the problems in order, starting with the most serious.

- Step 2

  Plot the problems by size on a block graph, again starting with the most serious.

VW Chart

Problem (inc Topic Title)

Figures

Figures representing guesstimates (Step 3)

Other

Names of groups responsible, plus note of countermeasures (Step 4)

Group responsible

Improvement Targets and Deadlines (Step 5)

continued
● Step 3

If a problem cannot be quantified, but its seriousness is known intuitively, estimate a figure and show this with a dashed line.

● Step 4

Write in the name of the group responsible for addressing each topic and note how it is to be addressed.

● Step 5

Examine each group’s capabilities and the overall balance, decide on the targets and deadlines for each topic and record these on the graph.
Section 4

Go–Go Tool No.3
Identifying the Causes of Important Problems

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Go-Go Tool No.3
Identifying the Causes of Important Problems

- The ‘5–Why’ Technique

For pinpointing causes

- Summary

Enables the true causes of problems to be identified and solutions formulated in the workplace through the use of the 5 ‘Whys’ and 5W1H.

- Features:

  - Forces people to examine the importance of the problem for the company and themselves as individuals before starting to track down its causes. This clarifies the significance of tackling the problem and increases the motivation for solving it.

  - Provides a framework for painstakingly hunting down the ultimate true cause of a problem (basically, one cause and one countermeasure for each problem) and clarifies what has to be improved.

  - Enables the objects of the improvement and the seriousness of the problem to be displayed visually. Allows several dimensions of a problem to be viewed simultaneously.

continued
Go-Go Tool No.3, Identifying the Causes of Important Problems continued

Notes:

- Use this technique together with '5W1H' and the 'Triple W' approach.

- Once the true cause of a problem has been identified, there is no need to keep on writing; stop this procedure and start taking action.

- Make sure you understand the effect of a problem before starting to look for its causes.

Step 1

Write down the problem clearly and concisely in the form of a result (i.e. what actually happened). Include numerical values.

Step 2

Consider the consequences if the problem were left unsolved. On the right of the problem statement, note the direct effects of the problem and its repercussions (analyse the effects).
Step 3

By repeatedly asking "Why?", identify the likely causes one by one and check them out on the shop floor. Ask "Why?" at least five times (when you ask "Why?" and nobody has an answer, brainstorm to collect ideas about possible causes of the problem, write these on cards, arrange the cards in groups, and use these as clues for obtaining answers (this is a useful supplementary technique).

Step 4

On the roots of the '5–Why Tree', note the answer to the fifth "Why?" in terms of 5M + I and 5W1H. If this is done too early, it can act as a constraint and result in the true cause being overlooked.

Note: 5M +I: Materials (+ Design), Machines, Measurements, Methods, Men/Women and Information

Step 5

Looking at the whole picture, rank the true causes of the problem according to their potential benefits if eliminated. Choose problem solving measures which can be implemented relatively simply and with little labour.
Section 5

Go–Go Tool No.4
Obtaining the Facts and
Quantifying the Problems

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Go-Go Tool No.4
Obtaining the Facts and Quantifying the Problems

- The ‘F–F’ (Fact–Finding) Technique

For (i) quantifying problems by employing objective analytical methods, and (ii) promoting improvements by depicting problems and their seriousness visually in order to focus everyone’s efforts and align them in the same direction.

- Summary

For solving problems systematically after checking the facts and quantifying.

- Features

- Familiarises people with improvement aids, facilitating their instant use.

- Promotes rapid, visible improvement in the workplace through the use of video cameras and video printers.

- Minimises the collection of written data and the preparation of materials.

Note: It is important to spell out improvement targets clearly.

continued
Go-Go Tool No.4, Obtaining the Facts and Quantifying the Problems continued

- **Step 1**

  Apply visual analysis techniques such as video analysis and fixed-point photography.

- **Step 2**

  Quantify the problems and the objects of the improvement using industrial engineering, quality control and value engineering methods (e.g. motion study, process analysis, machine operation analysis, time study, the predeterminded time standard method, statistical techniques such as checksheets and Pareto diagrams, cost analysis and pricing analysis).

- **Step 3**

  Apply techniques for re-enacting the operation or reproducing the problem (e.g. ‘pantomime simulation’, slow motion analysis and model testing).

- **Step 4**

  Apply problem quantification techniques (e.g. the VW technique, pie charts, composition diagrams, line graphs, bar charts, ‘pocket matrix’, cartoons, outline diagrams and other types of display).

![Graphs](1. Pie Chart 2. Line Graph 3. Composition Diagram 4. Bar Chart)
Step 5

Apply techniques for clarifying what is to be improved.

- Clearly state what the problem countermeasure consists of (in noun and verb form).

- Give the improvement target in comparison with the situation before improvement.

- Note the target on the diagram prepared in Step 4.
Section 6

Go-Go Tool No.5
Formulating Improvement
Proposals and Taking
Specific Action

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Go-Go Tool No.5
Formulating Improvement Proposals and Taking Specific Action

- The ‘Idea Mapping’ Technique

For (i) clarifying what is to be improved and where the relevant ideas are to be found, and (ii) selecting the best proposals and deciding how to implement them.

- Summary

Employs the 5W1H approach to formulate and communicate problem solution plans after clarifying what is to be improved and evaluating improvement ideas simply.

- Features

- Clarifies the location of problems and their causes and includes brainstorming for gathering improvement ideas.

- Provides evaluation techniques for selecting the best improvement proposals and offers a fair, acceptable and simple system for displaying them, prioritising them and indicating their feasibility.

- Provides a format for selecting project teams appropriate to the improvement projects to be tackled.

continued
Step 1
Illustrates the principles diagrammatically (break down the object of the improvement into its separate elements).

Express elements in subject and verb form
Go-Go Tool No.5, Formulating Improvement Proposals and Taking Specific Action

- **Step 2**
  
  Brainstorm to gather ideas for countermeasures relating to each element.

- **Step 3**
  
  Rank the ideas according to the following scheme (use coloured cards):
  
  1. **(Colour)**
     - A: Blue  = easy; implement immediately
     - B: Green = possible; some investigation needed, but appears feasible
     - C: Yellow = difficult, but can be done
     - D: Red   = too difficult
  
  2. **(Number)**
     - 5 = extremely important
     - 4 = very important
     - 3 = important
     - 2 = fairly important
     - 1 = not very important

- **Step 4**
  
  Evaluate the ideas and select the best.

  ![Idea Evaluation Table](image)

  **Key:**
  - ○ = Good
  - ○ = Quite Good
  - △ = Problematic

  **Proposals**
  - Proposal X  A = 5
  - Proposal Y  B = 5
  - Proposal Z  C = 4

  **Note:**
  - Cost factors: the cheaper the better.
  - Human factors: the easier, safer, simpler and more fun, the better.
  - Time/Technical factors: the quicker and easier, the better.

  (Example) Select this proposal

6.3
Step 5

Draw up an action plan for implementing the selected proposal.

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</thead>
<tbody>
<tr>
<td>Topic</td>
<td>Person or group responsible</td>
<td>Target</td>
<td>Schedule</td>
<td>Location</td>
<td>Reason/Category</td>
</tr>
</tbody>
</table>
AN OVERVIEW OF THE GO-GO- TOOLS

1. To make improvements, we first need some topics.
   - The Pocket matrix Technique (for sorting out topics)
   - Pocket Matrix Technique
     ① List problems
     ② Prepare matrix
     ③ Fill in matrix
     ④ Identify benefits
     ⑤ Highlight key topics

2. What are the topics' priorities? What value is there in tackling them?
   - The VW (Volume-Weight) Technique (for establishing problems' sizes and priorities)
   - VW Technique
     ① Arrange the problems in order of seriousness
     ② Plot them on a block graph
     ③ Incorporate estimates
     ④ Assign responsibility
     ⑤ Set targets and deadlines

3. What are the adverse effects of each problem? If these are serious, analyse the facts in order to pinpoint the problem's single true cause and formulate a single solution to it.
   - The 5-Why Technique (for checking true causes by the Triple- W approach)
   - 5-Why Technique
     ① Define problem
     ② Consider consequences
     ③ Clarify causes
     ④ Identify true cause
     ⑤ Choose countermeasure

4. Analyse the facts objectively, and use diagrams solely for clarifying problems.
   - The FF (Fact-Finding) Technique (for carrying out combined fact-finding and improvement analysis)
   - FF Technique
     ① Use video analysis and other visual techniques
     ② Apply IE/QC/VE methods
     ③ Do pantomime simulation
     ④ Quantify problem
     ⑤ Clarify desired improvement

5. Identify what is to be improved, and the principles involved. Use practical techniques to evaluate improvement proposals. Select the best of these and plan their implementation.
   - The Idea Mapping Technique (for formulating proposals based on the principles diagram, and selecting the best of these)
   - The Idea Mapping Technique
     ① Illustrate the principles involved
     ② Brainstorm for ideas from all viewpoints
     ③ Rank ideas using coloured cards (preliminary evaluation)
     ④ Evaluate ideas in terms of cost, time, technical difficulty and human factors
     ⑤ Use the 5W1H technique to draw up an action plan

GO - OUT (Take Action)