

12 Critical Elements of Critical Observation & 18 Critical Elements of Problem Solving

No book, just a simple set of practices and beliefs that work

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| 1 Reliability Know the difference between reliable and unreliable observations and statements of facts | 7 Observation Element From a series of observations, we can come to establish items, but beware of what you can't see but know to exist | 13 Understand the Issues Be clear about the problem and remember that people have different views/perspectives of the issues | 19 Measurement Systems Helps establish priorities, selecting problems, measure the current state of performance and solution effectiveness | 25 Keep Solutions Simple The way to success is to solve complexity is by addressing hundreds of little problems |
| 2 Persistence Observe objectively, thoroughly, collect sufficient factual or textual evidence | 8 Fact Element From a series of facts (true/not true), or from an absence of fact, we make decision | 14 Understand Interests Interests are the needs that you want satisfied by any given solution | 20 Structured Methodology Identify problem, describe it, root cause analysis, select alternatives, implement | 26 Use Hypothesis Make a best guess as to the solution to the problem at the beginning |
| 3 Patterns & Relationships Watch for patterns and relationships when observing and discovering | 9 Inference Element Testing the validity of our inferences is a key part of the critical thinking process | 15 List & Evaluate Options Brainstorm creative options and then rank them (pluses & minuses) | 21 Team Selection Method Who should be on the team of six must have background knowledge and skills | 27 Ask the Grey Beards Don't be afraid to ask others who may have done this before |
| 4 Shoshin Beginners Mind Having an attitude of openness, eagerness, and lack of preconceptions | 10 Assumptions Element From our assumptions that may be personal, team held or widely held | 16 Select an Option Select the best balanced achievable option, can they be bundled up? | 22 Supportive Infrastructure Management Champion, Time to Work Problem, Ideas Supported, Recognition | 28 Don't Re-invent Unlike in school, plagiarism can be good, avoid not invented here |
| 5 Forming Opinions Keep an open mind, look at the evidence, don't be swayed by histories | 11 Opinions Element Taking out opinions, we use the principles of logic to develop and check them | 17 Document Agreements Don't rely on memory, document how you got there and the next steps | 23 Documentation System Problem solving efforts can be stored, people informed and retrieved easily | 29 Gaining Momentum Pluck the low hanging fruit first; solve the easy problems first |
| 6 Creating Arguments Arguments are not the last word, they are part of an ongoing debate in a scholarly process to determine outputs | 12 Arguments Element When we want to challenge our arguments or of others, we employ specialised tools and techniques | 18 Agree Contingencies Conditions may change. Make contingency agreements. Monitor compliance and follow-through | 24 Lessons Learnt Avoid the spiral of working the same problems over and over again but recording the good/not so good issues | 30 Consider Time Ensure that the solution can be implemented in a reasonable period of time to avoid loss of momentum |

References

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