

Assessing ‘Value-Added’ in Short-Term Training Programs ¹

Dr. Kenneth F. Smith, PMP

"The meaning of life is to find your gift.

The purpose of life is to give it away."

Pablo Picasso

Independent accreditation bodies exist to establish quality benchmark criteria for formal academic institutions & trade schools. They also conduct periodic peer reviews to ascertain continuing capability by institutions to meet standards and deliver quality training in their chosen areas of expertise. **Internally, institutions and their faculties** go to great lengths to obtain & maintain their accreditation and reputation, through research, publications, conferences, consultancies, teaching and self-improvement. Every faculty also creates & administers a plethora of intermittent graded tests, practicums and formal examinations of their students vs predetermined standards; for them to qualify for the institution’s various awards, certificates, diplomas and degrees.

However, lesser training entities have no such external ‘Big Brother’ regulatory board watching them to assess their quality, &/or the competency of their faculties to conduct short-term training programs. **These organizations survive on self-promotion** to inform the general public of their capacity to provide high quality short-term seminars & workshops. They assert their competence -- *and that of their instructor-facilitators* – citing testimonials, and relying on informal ‘brand’ recognition & word-of-mouth to sustain their reputation. Their subject-matter specialists² rest on their laurels (*earned elsewhere*), and concurrent external professional activities; unless apprised -- *by bad publicity* -- regarding shortcomings. Quality standards are self-determined & self-imposed. In this environment, ‘Diploma Mills’ inevitably abound.

It is therefore incumbent on ethical entities to proactively -- and stringently -- self-examine the quality of their offerings.

Demonstrated competence -- *in terms of knowledge, understanding & ability* -- is the only true measure of lessons learned, but given the environment and limited duration of most short-term training seminars, **it is not usually practical for instructor-facilitators to administer tests or effectively assess participant competency – particularly with respect to skills.**³ Given the inherent constraints to both giving and receiving, rather than abrogating their responsibilities completely, **short-term training entities and their instructors have to satisfice with substitutes.**

¹ How to cite this article: Smith, K.F. (2025). Assessing ‘Value-Added’ in Short-Term Training Programs, *PM World Journal*, Vol. XIV, Issue VI, June.

² Both full & part-time faculty -- *aka guest lecturers, professors, teachers, instructors or facilitators.*

³ **NOTE:** In addition to each small group’s case exercise, developed ‘hands-on;’ I also created an objective multi-question test for post-course grading which takes another 2 hours to administer. It is occasionally used in company, and off-site overnight residential course settings either in an individual exam mode, or in small-groups. In both instances, it takes a further half-hour to review the correct answers with the participants in a competitive mode. The latter is most exhilarating and rewarding as **it reinforces learning**, rather than simply being a test for memory recall.

To that end, I identified **two generic proxies** for the **value** added by my courses, and developed a **process to assess results**. Admittedly massaging differential ‘**informational-hierarchy**’ levels attained by participants is superficial -- *like treating ‘apples & oranges’ as fruit to assess the composition of a salad* -- and they still don’t address quality. However -- **unless you can share something better** -- a recent workshop is explicated here for your consideration, possible adoption &/or adaptation to meet your needs.

Rationale: Regardless of the topic, **the objective of short-term training sessions is for the entity’s instructor-facilitator to provide pertinent information to participants, for their enlightenment and possible future use.** Added Value is therefore the extent of **participant accretion of knowledge and skill on the topics presented, over the baseline.** As such, **two generic indicators of Value-Added** are:

1. **NTKI** (*pronounced ‘entiky’*): i.e. the amount of **Nice to Know Information** acquired about a topic, and
2. **Utility:** the amount of **Usable Knowledge &/or skill** attained about the topic by individual participants during the training session.

As a **trainer-facilitator** ‘shepherding’ my trainee-flock



the ‘**BAA**’ *bleatings* in ‘**Before & After**’ self-assessments by participants help me determine the **Added-Value** NTKI and Utility levels of *nourishment* they obtain -- *individually and collectively* -- on this five-point rating scale:

Figure 1

Please Use the Rating Scale below to indicate your level of awareness knowledge and/or skill on each of the following topics:		
1	= F = UNAWARE/ UNSKILLED	I DON'T KNOW ANYTHING ABOUT THIS TOPIC.
2	= D = MINIMAL AWARENESS/ RUDIMENTARY SKILL	I HAVE HEARD ABOUT THIS TOPIC, BUT DON'T KNOW ENOUGH ABOUT IT TO DO IT, OR TO USE IT
3	= C = PARTIAL KNOWLEDGE/ SEMI-SKILLED	I HAVE SOME KNOWLEDGE ON THIS TOPIC, AND/OR HAVE WORKED WITH IT IN THE PAST, BUT COULD NOT DO IT NOW WITHOUT FURTHER STUDY, INSTRUCTION &/OR ASSISTANCE
4	= B = WORKING KNOWLEDGE & SKILL LEVEL	I HAVE A GOOD WORKING KNOWLEDGE, AND CAN DO ROUTINE ASPECTS NOW, WITHOUT FURTHER ASSISTANCE
5	= A = EXPERT KNOWLEDGE/ HIGHLY SKILLED	I AM HIGHLY COMPETENT & EXPERIENCED, AND IF REQUESTED COULD ASSIST THE INSTRUCTOR DURING THE WORKSHOP TO HELP TEACH OTHER PARTICIPANTS

It is important to recognize that at the outset of presentations and workshops, participants are already at different levels on the topics presented, and the target range of achievement for each topic in any given orientation & training session may also vary from a mediocre 3 level familiarization, to a working level 4; or rarely, an expert level 5. So computation is cumbersome.

To measure the **added NTKI Value**, I use **25%** between each incremental level⁴ for each topic.

⁴ Just as there are 4 spaces between the four fingers & thumb of a hand

The increased count over the baseline of participants with self-rated topics at levels 4 & 5 is then the Utility Value-Added percentage.

The percentage NTKI Value-Added for each Topic and the average percentage; as well as the Utility number & percentage Value-Added for each individual can then be summarized as shown in this purely illustrative participant sample below.

Figure 2

PROJECT MANAGEMENT FUNDAMENTALS: CONCEPTS & BEST PRACTICE TOOLS

NAME:		INDIVIDUAL WORKSHEET																																																																																					
<p>KNOWLEDGE/SKILL LEVEL © 2025 Dr. Kenneth F. Smith, PMP</p> <p>Please Use the Rating Scale below to indicate your level of awareness knowledge and/or skill on each of the following topics:</p> <table border="1"> <tr> <td>1</td> <td>= F = UNAWARE/ UNSKILLED</td> <td>= F = UNAWARE/ UNSKILLED</td> <td>I DON'T KNOW ANYTHING ABOUT THIS TOPIC.</td> </tr> <tr> <td>2</td> <td>= D = MINIMAL AWARENESS/ RUDIMENTARY SKILL</td> <td></td> <td>I HAVE HEARD ABOUT THIS TOPIC, BUT DON'T KNOW ENOUGH ABOUT IT TO DO IT, OR TO USE IT</td> </tr> <tr> <td>3</td> <td>= C = PARTIAL KNOWLEDGE/ SEMI-SKILLED</td> <td></td> <td>I HAVE SOME KNOWLEDGE ON THIS TOPIC, AND/OR HAVE WORKED WITH IT IN THE PAST, BUT COULD NOT DO IT NOW WITHOUT FURTHER STUDY, INSTRUCTION A/OR ASSISTANCE</td> </tr> <tr> <td>4</td> <td>= B = WORKING KNOWLEDGE & SKILL LEVEL</td> <td></td> <td>I HAVE A GOOD WORKING KNOWLEDGE, AND CAN DO ROUTINE ASPECTS NOW, WITHOUT FURTHER ASSISTANCE</td> </tr> <tr> <td>5</td> <td>= A = EXPERT KNOWLEDGE/ HIGHLY SKILLED</td> <td></td> <td>I AM HIGHLY COMPETENT & EXPERIENCED, AND IF REQUESTED COULD ASSIST THE INSTRUCTOR DURING THE WORKSHOP TO HELP TEACH OTHER PARTICIPANTS</td> </tr> </table>				1	= F = UNAWARE/ UNSKILLED	= F = UNAWARE/ UNSKILLED	I DON'T KNOW ANYTHING ABOUT THIS TOPIC.	2	= D = MINIMAL AWARENESS/ RUDIMENTARY SKILL		I HAVE HEARD ABOUT THIS TOPIC, BUT DON'T KNOW ENOUGH ABOUT IT TO DO IT, OR TO USE IT	3	= C = PARTIAL KNOWLEDGE/ SEMI-SKILLED		I HAVE SOME KNOWLEDGE ON THIS TOPIC, AND/OR HAVE WORKED WITH IT IN THE PAST, BUT COULD NOT DO IT NOW WITHOUT FURTHER STUDY, INSTRUCTION A/OR ASSISTANCE	4	= B = WORKING KNOWLEDGE & SKILL LEVEL		I HAVE A GOOD WORKING KNOWLEDGE, AND CAN DO ROUTINE ASPECTS NOW, WITHOUT FURTHER ASSISTANCE	5	= A = EXPERT KNOWLEDGE/ HIGHLY SKILLED		I AM HIGHLY COMPETENT & EXPERIENCED, AND IF REQUESTED COULD ASSIST THE INSTRUCTOR DURING THE WORKSHOP TO HELP TEACH OTHER PARTICIPANTS																																																																
1	= F = UNAWARE/ UNSKILLED	= F = UNAWARE/ UNSKILLED	I DON'T KNOW ANYTHING ABOUT THIS TOPIC.																																																																																				
2	= D = MINIMAL AWARENESS/ RUDIMENTARY SKILL		I HAVE HEARD ABOUT THIS TOPIC, BUT DON'T KNOW ENOUGH ABOUT IT TO DO IT, OR TO USE IT																																																																																				
3	= C = PARTIAL KNOWLEDGE/ SEMI-SKILLED		I HAVE SOME KNOWLEDGE ON THIS TOPIC, AND/OR HAVE WORKED WITH IT IN THE PAST, BUT COULD NOT DO IT NOW WITHOUT FURTHER STUDY, INSTRUCTION A/OR ASSISTANCE																																																																																				
4	= B = WORKING KNOWLEDGE & SKILL LEVEL		I HAVE A GOOD WORKING KNOWLEDGE, AND CAN DO ROUTINE ASPECTS NOW, WITHOUT FURTHER ASSISTANCE																																																																																				
5	= A = EXPERT KNOWLEDGE/ HIGHLY SKILLED		I AM HIGHLY COMPETENT & EXPERIENCED, AND IF REQUESTED COULD ASSIST THE INSTRUCTOR DURING THE WORKSHOP TO HELP TEACH OTHER PARTICIPANTS																																																																																				
SELF-ASSESSMENT: BEFORE AND AFTER [BAA]																																																																																							
LEVEL																																																																																							
BEFORE	AFTER	TOPICS																																																																																					
<table border="1"> <thead> <tr> <th></th> <th>% VALUE ADDED OVER BASELINE</th> <th>TOPIC # UTILITY (4 or 5) BEFORE</th> <th>TOPIC # UTILITY (4 or 5) AFTER</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>25</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>50</td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>75</td> <td>1</td> <td></td> </tr> <tr> <td>4</td> <td>100</td> <td>1</td> <td></td> </tr> <tr> <td>5</td> <td>25</td> <td></td> <td></td> </tr> <tr> <td>6</td> <td>50</td> <td>1</td> <td></td> </tr> <tr> <td>7</td> <td>75</td> <td>1</td> <td></td> </tr> <tr> <td>8</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>9</td> <td>25</td> <td>1</td> <td></td> </tr> <tr> <td>10</td> <td>50</td> <td>1</td> <td></td> </tr> <tr> <td>11</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>12</td> <td>25</td> <td>1</td> <td>1</td> </tr> <tr> <td>13</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>14</td> <td>75</td> <td>1</td> <td>1</td> </tr> <tr> <td>15</td> <td>50</td> <td></td> <td></td> </tr> <tr> <td>16</td> <td>50</td> <td>1</td> <td></td> </tr> <tr> <td>17</td> <td>50</td> <td></td> <td></td> </tr> <tr> <td>18</td> <td>50</td> <td>1</td> <td></td> </tr> <tr> <td>19</td> <td>25</td> <td></td> <td></td> </tr> <tr> <td>20</td> <td>25</td> <td></td> <td></td> </tr> </tbody> </table>					% VALUE ADDED OVER BASELINE	TOPIC # UTILITY (4 or 5) BEFORE	TOPIC # UTILITY (4 or 5) AFTER	1	25			2	50			3	75	1		4	100	1		5	25			6	50	1		7	75	1		8	0			9	25	1		10	50	1		11	0	1	1	12	25	1	1	13	0	1	1	14	75	1	1	15	50			16	50	1		17	50			18	50	1		19	25			20	25		
	% VALUE ADDED OVER BASELINE	TOPIC # UTILITY (4 or 5) BEFORE	TOPIC # UTILITY (4 or 5) AFTER																																																																																				
1	25																																																																																						
2	50																																																																																						
3	75	1																																																																																					
4	100	1																																																																																					
5	25																																																																																						
6	50	1																																																																																					
7	75	1																																																																																					
8	0																																																																																						
9	25	1																																																																																					
10	50	1																																																																																					
11	0	1	1																																																																																				
12	25	1	1																																																																																				
13	0	1	1																																																																																				
14	75	1	1																																																																																				
15	50																																																																																						
16	50	1																																																																																					
17	50																																																																																						
18	50	1																																																																																					
19	25																																																																																						
20	25																																																																																						
INDIVIDUAL VALUE ADDED																																																																																							
NTKI		UTILITY																																																																																					
41%		300%																																																																																					
3		12																																																																																					
12		3																																																																																					
3		3																																																																																					
Number of TOPICS																																																																																							

NOTE: Although depicted side-by-side on this template, the Before (i.e. baseline) data is actually collected at the outset, and the After data at the conclusion of the training event.

The NTKI 41% illustrated here reflects the **average Added Value** in knowledge &/or skill by the individual on all topics, while the **300% Utility Value-Added** shows the individual’s confidence in his/her competence on those topics has increased to usable mastery level from the training by nine; i.e. **from 3 to 12**, or **three-fold over the program start**.

This approach is useful whether for a short-session of one or two hours on one or two topics, or for multiple topics over a longer period – *such as my 40-hour Project Management Fundamentals (PMF), and Program & Project Monitoring & Evaluation seminar/workshops.*

The **results of all participants** for all topics is similarly recorded and analyzed in a series of related templates, as illustrated in figures on the following pages; **with data from a recent workshop.**⁵

FYI, I conduct this 40-hour Project Management Fundamentals (PMF) seminar/workshop periodically for the Philippines Chapter of the international Project Management Institute (PMI). The program introduces participants to selected ‘best practice’ tool skill-sets for each of the 5 PMBOK Process Groups, by a series of short presentations, detailed demonstrations and cumulative – *as well as separate, competitive* -- ‘hands-on’ exercises.

This workshop was conducted in a five day Face-2-Face mode. [*Occasionally we still conduct a virtual one to reach out, although some aspects have to be curtailed; so is less effective.*]

Participants were experienced mid-level managers, supervisors and miscellaneous specialists from a single company. Twenty (20) participants were pre-grouped in four teams of five each. Individual personality working-style tests revealed the majority were “TJ” types, and the remainder “TP”s, with several individuals equally compatible with working in either mode.⁶ Working in small groups, the participants concurrently initiated and -- with the tools provided -- developed their own case projects– *step-by-step* – based on real situations, or purely hypothetical scenarios.

To Emphasize, there is no pre-planned case project or ‘school solution’ in this course for participants to follow; although pertinent examples are provided by the instructor from time to time; or – *once in a while* -- other Subject Matter Experts (SMEs).

The focus is on appreciating and acquiring competency to apply generic PM tools and techniques.

Figure 3 on the following page is part of the actual template used to record and analyze this workshop’s **Baseline data** in various ways.

⁵ Organization and Participant names have been deleted for privacy reasons.

⁶ However, there were no “FJ” or “FP” working style personalities, which would be highly desirable in a real project. [NOTE: For further information on TJFP working personality typing, see: Smith, K. F. (2020). Personality-typing Tool to Improve Team-Building, *PM World Journal*, Vol. IX, Issue XI, November.

Figure 3

PMF FACE TO FACE																														
Mar-25																														
PHILIPPINES CHAPTER - ONLINE																														
Enter up to 20 Variable Topic Titles in the Yellow Cells C37 through W37 Below. Then enter up to 40 Participants responses (from a related Questionnaire) in Cells C38 through W77 below.																														
When Complete, Scroll up to see Statistical Summaries																														
Average OVERALL RATING this PERIOD 2.06																														
Based on feedback from Participants 19																														
A = 5 = Outstanding																														
B = 4 = Very Good																														
C = 3 = Good																														
D = 2 = Poor																														
F > 1 = Unsatisfactory																														
AVERAGE: 2.74 1.63 2.89 2.58 2.74 2.11 2.16 3.16 3.00 1.79 1.63 2.47 1.63 1.47 1.42 1.32 1.32 1.89 1.58 1.68																														
DATA BASE "INPUT"																														
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	Matrix	Team	Risk	Proble	Stakeh	Log	WBS	Milesto	Bar	Critical	Develop	Benefit	Calcula	Develop	Baselin	Transfo	Control	Tricolor	McJITLO											
1	4	1	5	4	4	3	3	4	5	5	5	5	5	3	4	3	3	5	5	5										
2	3	1	3	2	2	3	2	3	1	1	1	4	1	1	2	1	1	1	1	1										
3	1	1	2	1	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1										
4	2	1	3	2	3	1	1	3	3	1	1	2	1	1	1	1	1	2	1	2										
5	2	1	2	3	3	1	1	3	4	2	1	3	1	1	1	1	1	2	2											
6	2	4	2	2	1	1	1	3	3	1	1	2	1	1	1	1	1	1	1	1										
7	3	2	3	3	2	2	2	4	3	2	2	3	1	1	1	1	1	1	1	1										
8	3	1	3	3	2	1	1	3	3	1	1	3	1	1	1	1	1	1	1	1										
9	4	1	2	2	2	2	2	3	2	1	1	1	1	1	1	1	1	1	1	1										
10	3	1	3	2	3	1	2	3	3	2	2	2	2	2	2	1	1	1	2	1										
11	3	1	3	4	4	3	3	3	3	2	1	3	1	1	1	1	1	1	1	1										
12	2	2	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2										
13	3	1	3	3	4	3	3	4	3	2	2	3	2	2	2	2	2	2	3	2										
14	2	1	4	3	3	2	3	4	4	3	3	4	3	3	2	2	2	2	4	3										
15	3	3	4	3	3	3	3	4	4	1	1	1	1	1	1	1	1	1	1	1										
16	4	1	2	2	3	4	3	4	3	1	1	2	1	1	1	1	1	1	2	1										
17	3	1	3	2	3	2	3	3	3	2	2	3	1	1	1	1	1	1	2	1										
18	3	3	2	2	2	2	2	3	3	1	1	2	1	2	1	2	1	1	2	2										
19	2	2	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2										
20																														

Highlighting the levels of each participant’s self-assessment on each topic in color in this manner enables rapid recognition. In this case, it is readily apparent only a couple had any inkling of critical path and earned value-related concepts and tools. The remainder of the template – figure 4 -- summarized the **headcount** and **percentage** of participants at each level. [NOTE: One individual showed up late and never completed a baseline self-assessment.]

Figure 4

BASELINE SELF-ASSESSMENT [5-Scale] SURVEY for MULTIPLE VARIABLES Part 1																				
© 2020 Dr. Kenneth F. Smith, PMP																				
SCROLL to Cell A26 and WRITE the SURVEY TITLE & LOCATION in the Yellow Cells B25 & B26.																				
Data Summary																				
COUNTS NUMBER of VALUES in EACH CATEGORY																				
VALUE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
F	1	13	0	1	1	6	5	1	1	9	11	3	12	12	13	14	14	8	12	11
D	6	3	6	8	6	6	6	1	3	7	6	8	4	5	5	4	4	8	5	6
C	9	2	10	8	9	6	8	11	11	2	1	5	2	2	0	1	1	1	1	0
B	3	1	2	2	3	1	0	6	3	0	0	2	0	0	1	0	0	1	0	1
A	0	0	1	0	0	0	0	0	1	1	1	1	1	0	0	0	0	1	1	1
MAX	4	4	5	4	4	4	3	4	5	5	5	5	5	3	4	3	3	5	5	5
MIN	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ST.DEV	0.78	0.88	0.79	0.75	0.78	0.91	0.81	0.74	0.86	1.00	0.98	1.04	1.04	0.68	0.75	0.57	0.57	1.07	0.99	1.08
Data Summary																				
PERCENTAGE of VALUES in EACH CATEGORY																				
VALUE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
F	5%	68%	0%	5%	5%	32%	26%	5%	5%	47%	58%	16%	63%	63%	68%	74%	74%	42%	63%	58%
D	32%	16%	32%	42%	32%	32%	32%	5%	16%	37%	32%	42%	21%	26%	26%	21%	21%	42%	26%	32%
C	47%	11%	53%	42%	47%	32%	42%	56%	56%	11%	5%	26%	11%	11%	0%	5%	5%	5%	5%	0%
B	16%	5%	11%	11%	16%	5%	0%	32%	16%	0%	0%	11%	0%	0%	5%	0%	0%	5%	0%	5%
A	0%	0%	5%	0%	0%	0%	0%	0%	5%	5%	5%	5%	5%	0%	0%	0%	0%	5%	5%	5%

A similar template – shown in Figures 5 & 6 – records and analyzes the class **After** data.

Figure 5

PMF FACE TO FACE																				
Mar-25																				
Enter up to 20 Variable Topic Titles in the Yellow Cells C37 through W37 Below. Then enter up to 40 Participants responses (from a related Questionnaire) in Cells C38 through W77 below.															Average OVERALL RATING this PERIOD 3.83					
When Complete, Scroll up to see Statistical Summaries															Based on feedback from Participants 18					
AVERAGE: 3.89 4.00 3.89 4.11 3.78 4.11 4.11 3.94 3.94 4.33 4.06 3.78 4.00 3.89 3.72 3.50 3.39 3.50 3.28 3.44																				
DATA BASE "INPUT" QUESTIONS																				
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Organizational Structure	Team Building Tools	Risk Analysis	Solution & Results	Stakeholder Analysis	Log Frame	WBS	Milestones	Bar Charts	Critical Path	Develop CP	Benefit Cost	Calculate CP	Develop EV Budget	Baseline Budget	S Curve	Transform Curve	Control Charts	Tricolor Monitoring	JITLOB
1	5	4	5	5	4	5	5	4	5	5	5	5	4	4	4	3	3	5	4	5
2	3	3	4	4	3	4	4	3	3	4	4	4	3	4	4	4	4	3	3	3
3	2	3	3	3	2	3	2	3	3	3	3	3	3	3	3	3	3	3	2	3
4	4	5	5	5	3	4	4	4	4	4	4	4	3	3	3	3	3	3	4	4
5	4	4	3	4	4	3	4	4	3	4	4	3	3	4	3	3	3	3	2	3
6	4	5	3	4	3	3	4	3	4	5	5	3	5	5	4	3	3	3	3	3
7	3	4	3	3	3	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3
8	5	5	5	5	5	5	5	5	5	5	5	4	5	4	4	4	4	3	3	3
9	5	3	3	4	5	5	4	4	3	5	4	3	3	4	4	4	4	4	4	3
10	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	4	3
11	4	4	4	4	4	5	4	4	5	5	4	5	5	4	4	4	4	4	4	4
12	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	3	3
13	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3
14	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
15	3	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	4
16	4	4	4	4	4	4	5	5	4	5	5	4	5	4	4	5	4	4	4	4
17	4	4	4	5	4	4	4	4	4	5	4	4	5	5	4	4	4	4	4	3
18	4	4	4	4	4	5	5	5	3	4	4	4	5	5	4	4	3	3	3	4
19																				

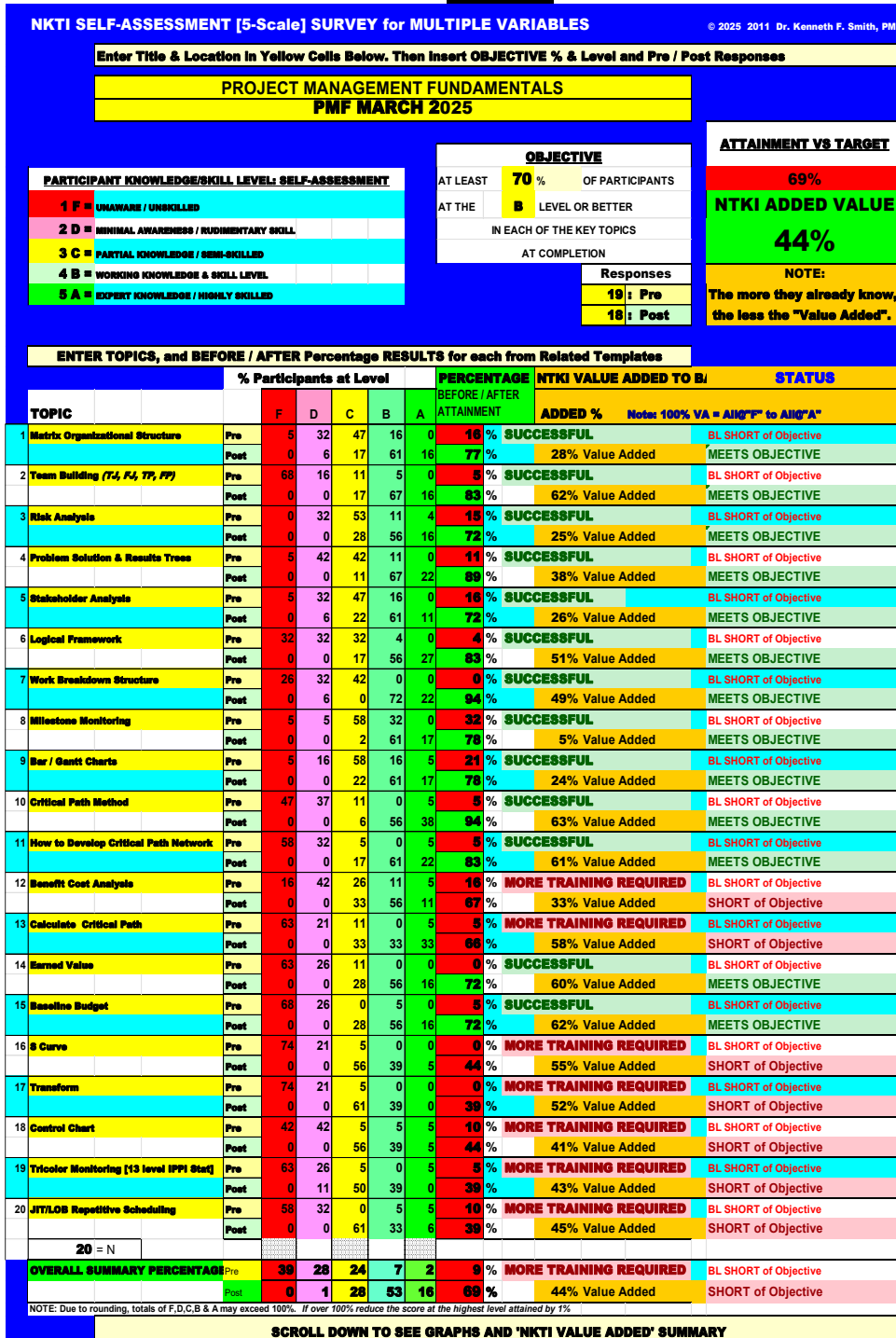
NOTE: One individual apparently missed several sessions and did not bother to follow-up to catch up, while two failed to submit After assessments.

Figure 6

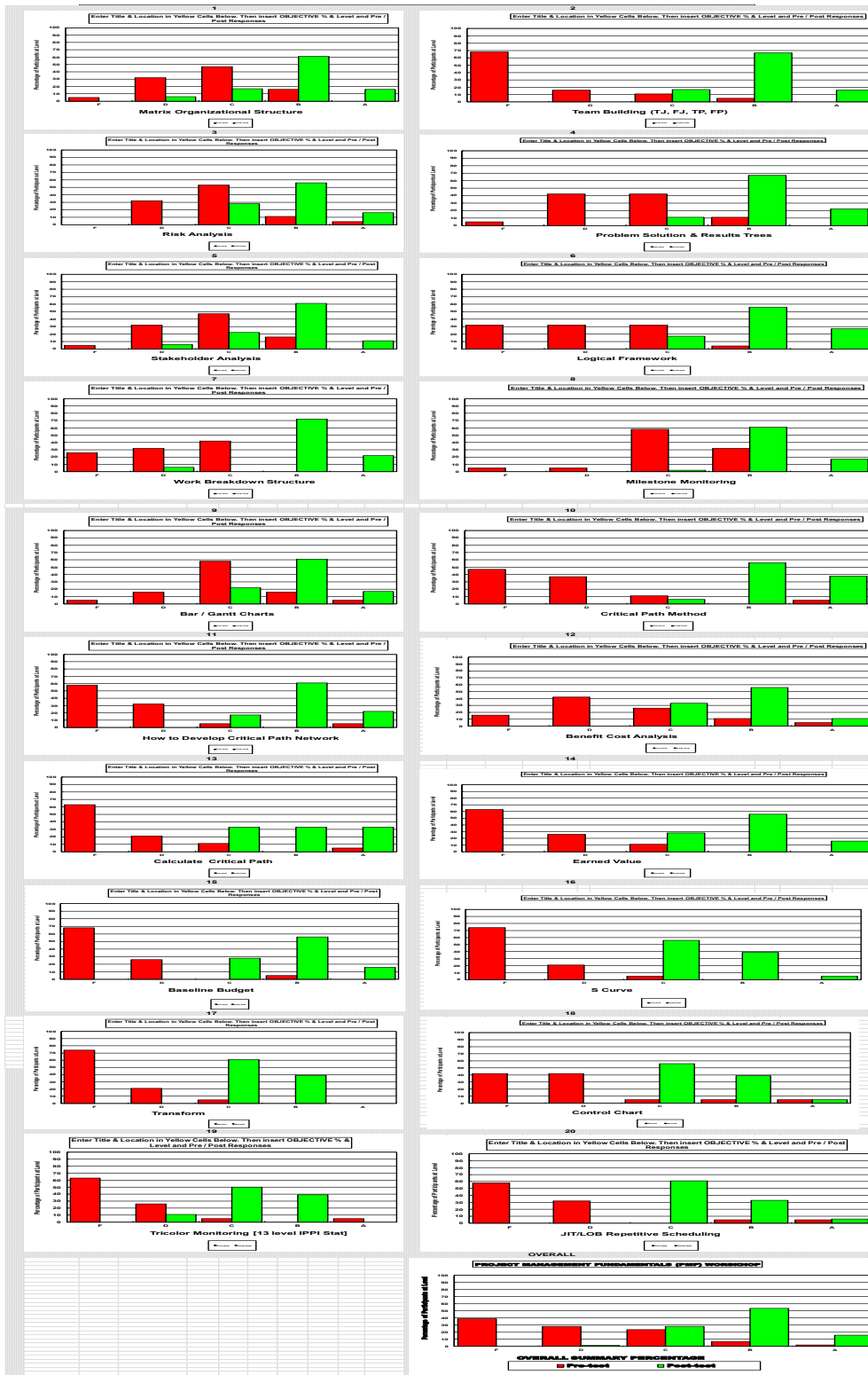
AFTER SELF-ASSESSMENT [5-Scale] SURVEY for MULTIPLE VARIABLES Part 1																				
SCROLL to Cell A26 and WRITE the SURVEY TITLE & LOCATION in the Yellow Cells B25 & B26.																				
Data Summary COUNTS NUMBER of VALUES in EACH CATEGORY																				
VALUE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0
C	3	3	5	2	4	3	0	4	4	1	3	6	6	5	5	10	11	10	9	11
B	11	12	10	12	11	10	13	11	11	10	11	10	6	10	13	7	7	7	7	6
A	3	3	3	4	2	5	4	3	3	7	4	2	6	3	0	1	0	1	0	1
MAX	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	4	5	4	5
MIN	2	3	3	3	2	3	2	3	3	3	3	3	3	3	3	3	3	3	2	3
ST.DEV	0.74	0.58	0.66	0.57	0.71	0.66	0.66	0.62	0.62	0.58	0.62	0.63	0.82	0.66	0.45	0.60	0.49	0.60	0.65	0.60
Data Summary PERCENTAGE of VALUES in EACH CATEGORY																				
VALUE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
F	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
D	6%	0%	0%	0%	6%	0%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	0%
C	17%	17%	28%	11%	22%	17%	0%	22%	22%	6%	17%	33%	33%	28%	28%	56%	61%	56%	50%	61%
B	61%	67%	56%	67%	61%	56%	72%	61%	61%	56%	61%	56%	33%	56%	72%	39%	39%	39%	39%	33%
A	17%	17%	17%	22%	11%	28%	22%	17%	17%	39%	22%	11%	33%	17%	0%	6%	0%	6%	0%	6%

Before & After percentage and numerical values in each category were then transposed to highlight accomplishments and shortcomings for each topic. Figure 7 focuses on the NTKI levels for each topic, and summarizes the overall Value Added, as well as highlighting shortfalls compared to my pre-determined target.

Figure 7



The template also vividly shows the spectrum shift for each topic, with a concluding summary:



Finally, the added UTILITY– i.e. (Topic x Participants) @ Levels 4 & 5 – for each topic are identified, and summarized:

Figure 8

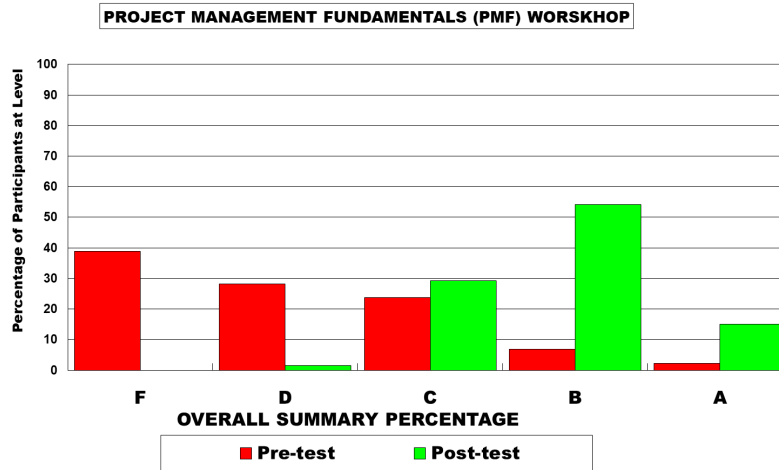
UTILITY SELF-ASSESSMENT [5-Scale] SURVEY for MULTIPLE TOPICS												
Enter Title & Location in Yellow Cells Below. Then Insert number & Level of Pre / Post Responses												
PROJECT MANAGEMENT FUNDAMENTALS PMF MARCH 2025												
PARTICIPANT KNOWLEDGE/SKILL LEVEL: SELF-ASSESSMENT						Total # Utility AFTER 250		TOPIC PERCENTAGE UTILITY VALUE-ADDED				
1 F = UNWARE / UNSKILLED								468% = 206/44				
2 D = MINIMAL AWARENESS / RUDIMENTARY SKILL								NOTE: The bigger the Base, the Smaller the Accomplishment				
3 C = PARTIAL KNOWLEDGE / SEMI-SKILLED								Participants				
4 B = WORKING KNOWLEDGE & SKILL LEVEL								19: Pre				
5 A = EXPERT KNOWLEDGE / HIGHLY SKILLED								18: Post				
ENTER TOPICS, and BEFORE / AFTER NUMERICAL RESULTS for each from Related Templates												
TOPIC		# Participants at Level					UTILITY NUMBERS		UTILITY VALUE		Level B + Level A	
		F	D	C	B	A	Before	After	Before	After		
1	Matrix Organizational Structure	Pre	5	1	6	9	3	12				
		Post	0	1	3	11	3		14	2	Utility Value-Added	
2	Team Building (TJ, FJ, TP, FP)	Pre	13	3	2	1	0	1				
		Post	0	0	3	12	3		15	14	Utility Value-Added	
3	Risk Analysis	Pre	0	6	10	2	1	3				
		Post	0	0	5	10	3		13	10	Utility Value-Added	
4	Problem Solution & Results Trees	Pre	1	8	8	2	0	2				
		Post	0	0	2	12	4		16	14	Utility Value-Added	
5	Stakeholder Analysis	Pre	1	6	9	3	0	3				
		Post	0	1	4	11	2		13	10	Utility Value-Added	
6	Logical Framework	Pre	6	6	6	1	0	1				
		Post	0	0	3	10	5		15	14	Utility Value-Added	
7	Work Breakdown Structure	Pre	5	6	8	0	0	0				
		Post	0	1	0	13	4		17	17	Utility Value-Added	
8	Milestone Monitoring	Pre	1	1	11	6	0	6				
		Post	0	0	4	11	3		14	8	Utility Value-Added	
9	Bar / Gantt Charts	Pre	1	3	11	3	1	4				
		Post	0	0	4	11	3		14	10	Utility Value-Added	
10	Critical Path Method	Pre	9	7	2	0	1	1				
		Post	0	0	1	10	7		17	16	Utility Value-Added	
11	How to Develop Critical Path Network	Pre	11	6	1	0	1	1				
		Post	0	0	3	11	4		15	14	Utility Value-Added	
12	Benefit Cost Analysis	Pre	3	8	5	2	1	3				
		Post	0	0	6	10	2		12	9	Utility Value-Added	
13	Calculate Critical Path	Pre	12	4	2	0	1	1				
		Post	0	0	6	6	6		12	11	Utility Value-Added	
14	Earned Value	Pre	12	5	2	0	0	0				
		Post	0	0	5	10	3		13	13	Utility Value-Added	
15	Baseline Budget	Pre	13	5	0	1	0	1				
		Post	0	0	5	13	0		13	12	Utility Value-Added	
16	S Curve	Pre	14	4	1	0	0	0				
		Post	0	0	10	7	1		8	8	Utility Value-Added	
17	Transform	Pre	14	4	1	0	0	0				
		Post	0	0	11	7	0		7	7	Utility Value-Added	
18	Control Chart	Pre	8	8	1	1	1	2				
		Post	0	0	10	7	1		8	6	Utility Value-Added	
19	Tricolor Monitoring [13 level IPPI Stat]	Pre	12	5	1	0	1	1				
		Post	0	2	9	7	0		7	6	Utility Value-Added	
20	JIT/LOB Repetitive Scheduling	Pre	11	6	0	1	1	2				
		Post	0	0	11	6	1		7	5	Utility Value-Added	
	20 = N											
		Pre	OVERALL TOTAL NUMBERS					44	= Before			
		Post						AFTER = 250	206	Utility Value-Added		

© 2025 2011 Dr. Kenneth F. Smith, PMP

Summary

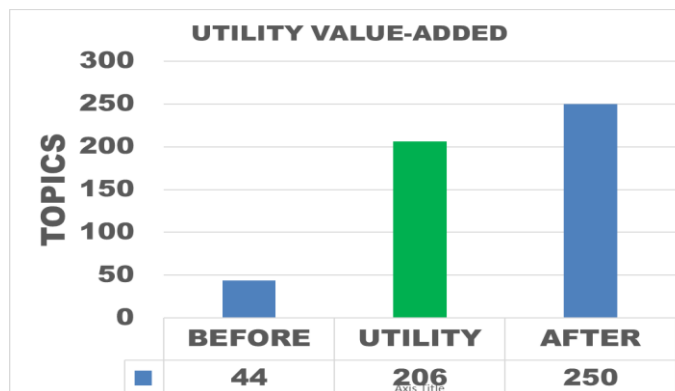
Just as stock exchange indices compare the value, gains, & losses of different corporations with a common currency -- *albeit each with substantively differing portfolios* -- this system attempts to assess the **Value added** by course participants in acquiring knowledge on different topics in terms of quantitative **NTKI & Utility**. [NOTE: Even falling short of the target, a significant amount of value was added.] In essence, in this case there was a **44% overall NTKI Added Value**, with notable spectrum shifts to the right for all topics, as depicted in the graphs.

Figure 9



Furthermore, the **Aggregate Utility Value-Added** was **468%**, or almost five-fold, with an increase of 206 topics that the 18 participants felt they could actually use without further help; from a base of 44 and end at 250.

Figure 10



Nevertheless -- in terms of those reporting participants’ perceived acquisition of directly usable knowledge & skill -- while there was a **slight slippage** (i.e. 69% vs. 70%) from my overall **Target**, there was a **concurrent significant shortfall** from my expectations during the latter part of the workshop in topics dealing with *Earned Value analysis concepts, tools & techniques*.

WEAKNESSES WITH THE SELF-ASSESSMENT ‘BAA’ APPROACH

1. Targeting

Although quantitative target setting is a useful yardstick for measuring performance – *with 70% based on my prior experiences with other classes* – **realistic estimation is largely beyond the instructor’s control**, due to the unknown prior experience of participants in each class with numerous topics.

Furthermore, **in a small class** – such as 20 in this case, *and with only 18 or 19 reporting* – instead of a continuous distribution with fine tuning, each **individual’s relative weight is five or more percent**; giving rise to exaggerated and often misleading results. The small cohort size also precludes further finer-grain statistical assessments as impractical, as with such wide margins of error, any such analysis would be misleading. In this case, the reported overall achievement of 69% is therefore ‘*close enough*’ to the 70% target, and not a concern.

2. Interval Rating Scale

It is relatively easy to go from “1” complete unawareness & unknowing, to “2” having heard of something but still unknowing; then to “3” knowing something. But there is still wide variation in “3” what is known; and another **huge gulf between knowing something about a topic and being able to apply that knowledge** – i.e. **from level 3 to 4**. After toying with differential jumps between levels, to simplify computation, and especially to facilitate comprehension by recipients I set the interval rating scale at an admittedly unrealistic constant 25%.

3. Self-Assessments

At the outset, and again at the conclusion, I stressed I wanted honest feedback. However, unlike testing, self-assessment opens the door to possible errors engendered by human nature. Some – *wanting to please, look good in the eyes of others, or simply pre-disposed to exaggeration* – may report achieving the 4 or 5 level. Different degrees of understanding are also embraced by those grazing in the 3rd-level zone. Still others may perfunctorily check the same level for all topics, rather than taking the effort to consider and discriminate between them. Thus, **there may be a few wolves hidden in sheep’s clothing!**



However, the biggest weakness is systemic. Individuals who self-rated as a 3 level at the outset – *albeit a ‘low 3’* – and actually learned a lot during the session may still only self-rate at the 3 level afterwards; so **any ‘added value’ would not be reflected at all!**

Also, in this case, three participants remained anonymous;⁷ while two others were called away to an urgent company meeting at the last minute⁸ and never submitted a final self-assessment, so the **effect of their ‘10%’ is missing!** Consequently, I had to **confine my analysis to available self-assessments at their face value.**

⁷ My Speculation: perhaps to ‘save face’ due to their in-house status *vis a vis* the other participants.

⁸ A constant hazard of company training programs, held in-house on – or near – company premises.

I concluded with brief presentations on **Just-in-time/Line of Balance (JIT/LOB)** -- *which does appear to have been rated appropriately* – and Closeout Procedures. The JIT/LOB technique concept for repetitive project scheduling by developing a cumulative critical path was of interest to the company, but time was insufficient for group application. So I was unconcerned at the low rating. [Closeout Procedures was non-rated.]

POST-MORTEM MUSINGS

Despite those constraints, I still think depicting the spectrum shift of aggregate assessments in learning & competence acquired on various topics was useful.

In this case, with all participants being employees of the same company, they quickly self-organized, and were ready from the outset for ‘norming’ & ‘performing’ level work; without the usual need – *and consequent delay* -- to get acquainted with each other. Indeed, they all seemed to work very congenially with each other within small groups, as well as in plenary sessions with the group at large. Each team created their own case project, then incrementally applied the respective tools & techniques; while I observed, and intermittently assisted, and/or offered to clarify any concerns. Numerous templates were provided for ‘hands-on’ application to facilitate understanding & processing; and I was also available on call – which I did for several individuals.

In addition to their own project, we also had **several competitive generic simulation exercises**⁹ to reinforce the **Critical Path** and **Earned Value methodologies** concepts; and utilization of the **IPPI Stat template**¹⁰ with variables for both status assessment and forecasting. Finally, each team developed and presented a summary Logical Framework of their case project.

Overall -- from my perspective -- classroom performance was great. Indeed, I have conducted versions of this course for many years in different venues; but the **first-draft quality** of their Work Breakdown Structures, CPM Networks and Logframes **was the best I have ever encountered!** Two groups even developed case projects that could subsequently be applied to their regular work. **Nevertheless, this was a Workshop; not simply an introductory orientation.** Consequently, while the **Earned Value Method** – *essential for accurate monitoring and control of integrated work accomplishment, schedule and related costs* -- was a completely new package, paradigm & working method for all, and the **concept was apparently understood**, I was perturbed that **the cluster of tools for applying EVM**¹¹ **were not universally absorbed and readily useful for future application.** Less than half the class “Got it”!

I may have inadvertently contributed to this lacuna, since after discussing the utility of each tool, rather than have the participants compute the data and manually draw the graphs, I provided ready-made templates to do this for them. Thus, **they did not get the ‘hands on’ feel for their usefulness.** Furthermore, **during the simulations, we concentrated on utilizing the IPPSTAT template** for the key **PV, AC & EV indicators, to the detriment of the graphics.**

However, since each group had done such a fine job of demonstrating and presenting their mastery of all the tools, and there was no indication they were tiring or had exceeded their absorptive

⁹ I find it usually takes up to 3 iterations with a tool before most people feel comfortable using it.

¹⁰ See Smith, K.F. (2025). Integrated Project Implementation Performance Monitoring: Only Earned Value Analysis Assesses Status Correctly! *PM World Journal*, Vol. XIV, Issue V, May.

¹¹ i.e. S-Curve, Transform, Control Chart and Tricolor Monitoring [13 level IPPI Stat]

capacity, I still wondered why so many did not ‘*Get It,*’ and remained puzzled by the apparent short-fall during the latter two days. So I dug deeper into the available data for further insight

After rearranging the **After** data by **Groups** – as shown in figure 11 – *the answer quickly became evident.* Rather than all participants being ‘students of all topics;’ when it came to **earned value,** **some members** in groups 3 and 4 had taken the ‘team member’ concept to heart, and *tended to be ‘watchers’ rather than active participants* in group activities. They let one or two others take the lead, and only stepped up and chipped in on a tool when called upon to contribute!

Figure 11

GROUP AFTER SELF-ASSESSMENT [5-Scale] SURVEY for MULTIPLE VARIABLES Part 1																					
PMF FACE TO FACE																					
Mar-25																					
DATA BASE "INPUT"																					
QUEST #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
GROUP	Matrix Organizational Structure	Team Building Tools	Risk Analysis	Solution & Results Trees	Stakeholder Analysis	Log Frame	WBS	Milestone Monitoring	Bar Charts	Critical Path	Develop CP	Benefit Cost	Calculate CP	Develop EV Budget	Baseline Budget	S Curve	Transform Curve	Control Charts	Tricolor Monitoring	JITLOB	
1	1	5	4	5	5	4	5	5	4	5	5	5	5	4	4	4	3	3	5	4	5
2	1	4	4	4	4	4	5	4	4	5	5	4	5	5	4	4	4	4	4	4	4
3	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	3	3
ANONYMOUS! EITHER GROUP 1 OR 2																					
4	ANON	4	4	4	4	4	4	5	5	4	5	5	4	5	4	4	5	4	4	4	4
5	ANON	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3
6	ANON	4	4	4	4	4	5	5	5	3	4	4	4	5	5	4	4	3	3	3	4
7	2	4	4	4	5	4	4	4	4	4	5	4	4	5	5	4	4	4	4	4	3
8	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	3	3
COMPLETE GROUPS																					
9	3	5	5	5	5	5	5	5	5	5	5	4	5	4	4	4	4	3	3	3	
10	3	5	3	3	4	5	5	4	4	3	5	4	3	3	4	4	4	4	4	4	3
11	3	3	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	4
12	3	4	4	3	4	4	3	4	3	4	4	3	3	4	3	3	3	3	3	2	3
13	3	4	5	3	4	3	3	4	3	4	5	5	3	5	5	4	3	3	3	3	3
14	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
15	4	3	4	3	3	3	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3
16	4	3	3	4	4	3	4	4	3	3	4	4	4	3	4	4	4	4	3	3	3
17	4	2	3	3	3	2	3	2	3	3	3	3	3	3	3	3	3	3	3	2	3
18	4	4	5	5	5	3	4	4	4	4	4	4	4	3	3	3	3	3	3	4	4

To rectify this shortcoming, I recommended to the company management that those who did grasp the concepts and the use of these tools should conduct a follow-up ‘in-house’ post-course review for their cohorts in the near future. For myself, in my next workshop – *lesson learned* -- I will have smaller groups composed of not more than three participants.

Beyond that -- as Sherlock Holmes admonished Dr. Watson¹² – I did not question or speculate further.

Constructive feedback is also very important. The PMI Philippines Chapter has a questionnaire for participants to comment on the course and instructor-facilitator performance; which provides feedback for me, from their perspectives.¹³ Negative ‘**Grey Rhino**’¹⁴ comments are also helpful.



Being oblivious to criticism, and not rectifying or addressing pertinent issues and contemporary concerns wherever feasible -- as appropriate¹⁵ -- presenters tend to become self-satisfied, complacent & perfunctory.¹⁶ Their presentations will deteriorate as a consequence.

¹² Sherlock Holmes and Dr. Watson went on a camping trip together. After pitching their tent, and enjoying dinner together with a bottle of wine, they got in their sleeping bags and went to sleep.



In the middle of the night, Holmes awoke; then woke up Watson, and asked “*What do you see?*”

“*I see millions of stars, Holmes*” Watson replied.

“*And what do you deduce from that?*” asked Holmes.

“*Well,*” responded Watson,

“*Astronomically, it tells me that there a millions of galaxies and potentially billions of planets.*”

“*Astrologically, I observe that Saturn is in Leo.*”

“*From a Horological point of view, I deduce the time is approximately a quarter past three in the morning.*”

“*Meteorologically, we will have a beautiful day tomorrow.*”

“*Theologically, I can see that God is powerful, and that we are but a small and insignificant part of the universe.*”

“*What does it tell you, Holmes?*”

“*Elementary, my dear Watson,*” answered Holmes: “*This is one of those moments when logic must first be applied.*”

Can you not see that someone has stolen our tent?!”

¹³ Click on the **W** box to see:



PMF PARTICIPANT
ASSESSMENT.docx

¹⁴ Unlike a **Black Elephant** (*an internal problem everyone recognizes but fails to address*), or a **Black Swan** (*an unknown-unknown for which you cannot prepare and strikes without warning*), a **Grey Rhino** is an early warning of an impending issue from an external source.

¹⁵ “*Failure to repair*” in the military context.

¹⁶ *In that regard, it’s high time the Philippines PMI Chapter heeds the Grey Rhino and finds a young Filipino or Filipina for me to team up with, and mentor as my successor.*

Nevertheless, compliments are always nice to receive, and reinforcing.¹⁷

To Conclude:

While the **qualitative** aspect is still unresolved, despite inherent flaws and potential inaccuracies, **NKTI & Utility indicators are still very useful¹⁸ – if imprecise -- proxies of Added Value** for ‘greenhorn’ training courses, **where the objective is for the participants to attain the Utility level by the course conclusion.**

Nevertheless, this approach is **inappropriate** for assessing general orientation presentations and programs; or conferences where informed participants engage in knowledge-sharing seminars; as newbies would all rise to the 3 level, while others would remain at the 4 or higher level. *For such sessions, the PMI Chapter feedback questionnaire should suffice.*

I leave it to you to determine whether - in your case - the NKTI & Utility juice is worth the participant data squeeze.



¹⁷ **Unsolicited Testimonial from a participant in a prior workshop:**

“I just wanted to take a moment to sincerely thank you for the training—it was incredibly insightful and practical! One of the biggest takeaways for me was understanding how to use the WBS effectively. It gave me a clearer perspective on how breaking down tasks properly makes project planning much more manageable. Learning how to calculate the critical path and apply time scaling also provided a more structured approach to project scheduling and management.

What stood out to me the most was the contrast between traditional computations and the new approach using the tools you provided. The templates you developed were a game-changer! They made scheduling, managing, and monitoring projects significantly more efficient. I especially appreciated how they allowed us to get results without the tedious manual calculations. Plus, having a clear way to determine buffer time in scheduling was helpful.

Since my work focuses on planning and detailed design, I found the discussion on risk analysis particularly valuable. It will help me anticipate potential challenges early on and develop better strategies to mitigate risks before they impact the project.

As a Project Engineer in the Design Management group, these tools will be incredibly useful in streamlining project timelines, optimizing resources, and ensuring smoother coordination between teams. Your approach simplified complex processes, making them easier to apply in real projects.

Overall, I genuinely enjoyed the training and appreciate how you made complex concepts easy to grasp. Thank you for sharing your knowledge with us!”

¹⁸ These, and over 150 other templates for planning, monitoring and evaluating programs & projects are available for free from kensmith@aol.com on proof of purchase of my book **Project Management PRAXIS** (*which explicates these and other tools & techniques*), &/or **MUSINGS on Project Management** which addresses ongoing issues and suggests some remedies. Both are available worldwide from **Amazon**. [Remember, it is always ‘prime time’ somewhere on the planet to read about project management concepts, tools & techniques.]

About the Author



Dr. Kenneth Smith

Honolulu, Hawaii
& Manila, The Philippines



Initially a US Civil Service Management Intern, then a management analyst & systems specialist with the US Defense Department, Ken subsequently had a career as a senior foreign service officer -- management & evaluation specialist, project manager, and in-house facilitator/trainer -- with the US Agency for International Development (USAID). Ken assisted host country governments in many countries to plan, monitor and evaluate projects in various technical sectors; working ‘hands-on’ with their officers as well as other USAID personnel, contractors and NGOs. Intermittently, he was also a team leader &/or team member to conduct project, program & and country-level portfolio analyses and evaluations.

Concurrently, Ken had an active dual career as Air Force ready-reservist in Asia (Japan, Korea, Vietnam, Indonesia, Philippines) as well as the Washington D.C. area; was Chairman of a Congressional Services Academy Advisory Board (SAAB); and had additional duties as an Air Force Academy Liaison Officer. He retired as a ‘bird’ colonel.

After retirement from USAID, Ken was a project management consultant for ADB, the World Bank, UNDP and USAID.

He earned his DPA (Doctor of Public Administration) from the George Mason University (GMU) in Virginia, his MS from Massachusetts Institute of Technology (MIT Systems Analysis Fellow, Center for Advanced Engineering Study), and BA & MA degrees in Government & International Relations from the University of Connecticut (UCONN). A long-time member of the Project Management Institute (PMI) and IPMA-USA, Ken is a Certified Project Management Professional (PMP®) and a member of the PMI®-Honolulu and Philippines Chapters.

Ken has two KENBOOKS: 1. Project Management PRAXIS which includes many innovative project management tools & techniques; and describes a “Toolkit” of related templates, and 2. MUSINGS on Project Management -- a compilation of contemporary concerns in project planning, monitoring & evaluation, with some tools & techniques suggested for their solution. Either or both books are available from Amazon, and their related templates are available directly from him at kenfsmith@aol.com on proof of purchase.

To view other works by Ken Smith, visit his author showcase in the PM World Library at <https://pmworldlibrary.net/authors/dr-kenneth-smith/>